

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

R.J. REYNOLDS VAPOR COMPANY,
Petitioner,

v.

FONTEM HOLDINGS 1 B.V.,
Patent Owner.

Case IPR2016-01691
Patent 9,326,548 B2

Before JO-ANNE M. KOKOSKI, KRISTINA M. KALAN, and
KIMBERLY McGRAW, *Administrative Patent Judges*.

KALAN, *Administrative Patent Judge*.

DECISION
Denying *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

R.J. Reynolds Vapor Company (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–14 of U.S. Patent No. 9,326,548 B2 (Ex. 1001, “the ’548 patent”). Paper 6 (“Pet.”). Fontem Holdings 1 B.V. (“Patent Owner”) filed a Preliminary Response. Paper 8 (“Prelim. Resp.”).

We have jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Upon considering the Petition and the evidence of record, we determine that Petitioner has not shown a reasonable likelihood that it would prevail in showing the unpatentability of at least one of the claims challenged in the Petition. Accordingly, we deny the Petition and do not institute *inter partes* review.

A. *Related Proceedings*

The parties indicate that the ’548 patent is asserted in *Fontem Ventures B.V. v. R.J. Reynolds Vapor Co.*, Case No. 2:16-cv-003049 (C.D. Cal. 2016). Pet. 4–5; Paper 4, 2. The ’548 patent also is challenged in IPR2016-01692. Pet. 6; Paper 4, 8.

B. *The ’548 Patent*

The ’548 patent, titled “Electronic Cigarette,” is directed to an electronic cigarette having a battery assembly and an atomizer assembly within a housing, with the battery assembly electrically connected to the atomizer assembly. Ex. 1001, Abstract. A liquid storage component is in contact with a porous component of the atomizer assembly, and a heating wire is in an air flow path through the run-through hole. *Id.* According to

the '548 patent, prior art devices had various disadvantages, including low atomizing efficiency, being structurally complicated, and not providing ideal aerosol effects. *Id.* at 1:36–38.

Figure 1 of the '548 patent is reproduced below:

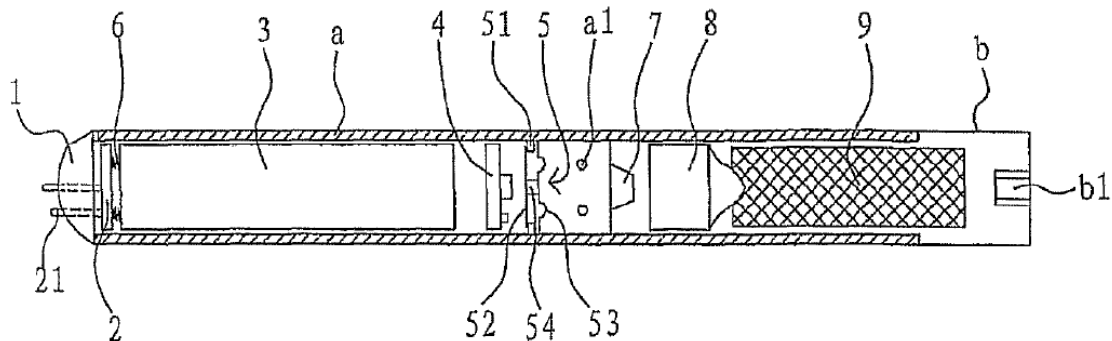


Figure 1

Figure 1 is a side section view of an electronic cigarette. *Id.* at 1:62. Hollow, integrally formed shell (a) includes a battery assembly, atomizer assembly, and cigarette bottle assembly. *Id.* at 2:48–50. The battery assembly connects to the atomizer assembly in shell (a), and the detachable cigarette body assembly (which fits with the atomizer assembly) is located in one end of shell (a). *Id.* at 2:51–55. The battery assembly includes operating indicator 1, battery 3, electronic circuit board 4, and airflow sensor 5. *Id.* at 2:57–60. The atomizer assembly is atomizer 8, which includes a porous component and a heating rod. *Id.* at 3:25–27. The cigarette bottle assembly includes hollow cigarette shell holder (b), and perforated component for liquid storage 9. *Id.* at 4:2–4. Air channel b1 is located in the center on the surface of one end of cigarette shell holder (b), and extends inward. *Id.* at 4:12–14.

Figures 17 and 18 of the '548 patent are reproduced below:

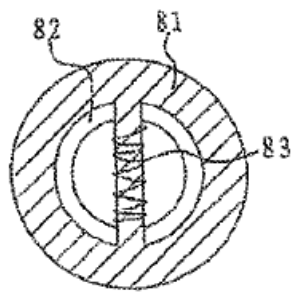


Figure 17

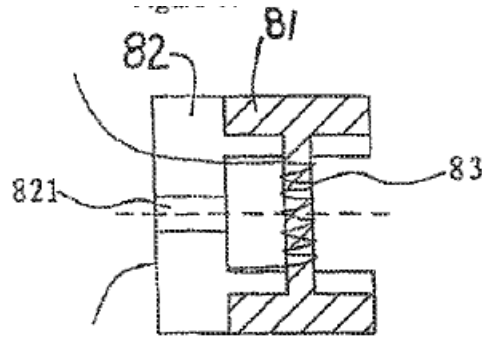


Figure 18

Figure 17 is a diagram of the axial structure of the atomizer in one embodiment, and Figure 18 is a side section view of the atomizer shown in Figure 17. *Id.* at 2:29–32. In this embodiment, the atomizer assembly includes “a frame (82), the porous component (81) set on the frame (82), and the heating wire (83) wound on the porous component (81).” *Id.* at 5:63–65. As described in the ’548 patent, the “frame (82) has a run-through hole (821) on it. The porous component (81) is wound with heating wire (83) in the part that is on the side in the axial direction of the run-through hole (821). One end of the porous component (81) fits with the cigarette bottle assembly.” *Id.* at 5:65–6:2.

C. Challenged Claims

Petitioner challenges claims 1–14 of the ’548 patent. Claim 1 is reproduced below:

1. An electronic cigarette, comprising:
 - a battery assembly having a cylindrical battery and an operating indicator;
 - an atomizer assembly in an elongated cylindrical housing, with the battery assembly electrically connected to the atomizer assembly, and with the cylindrical battery coaxial with the atomizer assembly;

- a liquid storage component in the housing;
- the atomizer assembly including a porous component set on a frame having a run-through hole;
- a heating wire coil electrically connected to the battery;
- an air flow path in the atomizer assembly parallel to a longitudinal axis of the housing, with the air flow path through the run-through hole to an outlet, with the heating wire coil wound on the porous component and in the air flow path and with the heating wire coil oriented perpendicular to the longitudinal axis; and
- the porous component in contact with the liquid storage component.

Ex. 1001, 6:12–30.

Of challenged claims 1–14, claims 1, 8, and 11 are independent. Claims 2–7 depend, directly or indirectly, from claim 1. Claims 9 and 10 depend directly from claim 8. Claims 12–14 depend directly from claim 11.

D. The Asserted Ground of Unpatentability

Petitioner challenges the patentability of claims 1–14 of the '548 patent under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application Publication No. 2009/0095311 A1 (“the '311 Publication”), published on April 16, 2009. Ex. 1002.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable constructions in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard). Under the broadest reasonable construction standard, claim terms are presumed to have their ordinary and customary meaning, as would be

understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Only those terms in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Petitioner proposes that we construe (a) the term “frame” to mean “rigid structure;” (b) the term “porous component” to mean “a component of the atomizer assembly in the electronic cigarette that includes pores and is permeable to liquid, such as cigarette solution from the cigarette solution storage area;” and (c) the term “housing” within the term “an elongated cylindrical housing” to not be limited to “a one-piece shell.” Pet. 14–15. Patent Owner states that it disagrees with Petitioner’s proposed constructions of the terms “frame” and “porous component,” but “does not address those terms here” because “[t]he meanings of those terms are not relevant to resolution of the Petition.” Prelim. Resp. 8. Patent Owner asserts that the term “housing” needs no construction, or, alternatively, “proposes that ‘housing’ be construed to have its plain meaning, namely, ‘a casing.’” *Id.* at 10.

For purposes of this Decision, based on the record before us, we determine that it is necessary to address the interpretation of the claim term “housing” as set forth in claims 1, 8, and 11. We determine that, for purposes of this Decision, no other term requires express construction.

“housing”

Petitioner notes that, in a “prior wave of litigations,” “[t]he district court ruled that ‘housing’ ‘need not be construed, other than to specify that it need not be a ‘one-piece shell.’” Pet. 15 (quoting Ex. 1017, 8–10).

Petitioner proposes that we construe “housing” as not being limited to a one-piece shell, consistent with the district court’s ruling. *Id.* Patent Owner agrees that “the term ‘housing’ should not be limited to a one-piece housing,” and asserts that “housing” “needs no construction,” or, alternatively, that it “be construed to have its plain meaning, namely, ‘a casing.’” Prelim. Resp. 10.

We agree with the parties that “housing” is not limited to a one-piece shell. The Specification states that “[t]he battery assembly connects with the atomizer assembly and both are located in a housing,” with a bottle assembly “located in one end of the housing” that “fits with the atomizer assembly.” Ex. 1001, 1:47–50. The Specification describes, with reference to Figures 1–10,

an aerosol electronic cigarette [that] includes a battery assembly, an atomizer assembly and cigarette bottle assembly, and also includes a shell or housing (a), which is hollow and integrally formed. The battery assembly connects with the atomizer assembly and both are located in the shell. The cigarette bottle assembly is located in one end of the shell, which is detachable. The cigarette bottle assembly fits with the atomizer assembly.

Id. at 2:48–55. The Specification further describes that “the battery assembly and atomizer assembly are mutually connected and then installed inside the integrally formed shell (a) to form a one-piece part,” and one end of cigarette holder shell (b) “plugs into the shell (a).” *Id.* at 3:61–62, 4:9–10. Moreover, the embodiments described in the Specification include at least two pieces—shell (a), containing a battery assembly and atomizer assembly, and shell (b), containing a cigarette bottle assembly. *See id.* at 2:48–55, 4:1–14, 5:31–42. These disclosures indicate that at least shell (a) and shell (b) together form a “housing” as set forth in the challenged claims.

That a “housing” is not limited to a one-piece shell is further confirmed by the language of the claims. Claims 1 and 8 recite “an atomizer assembly in an elongated cylindrical housing” as well as “a liquid storage component in the housing,” and claim 11 similarly recites “an atomizer assembly and a liquid storage component in an elongated cylindrical housing.” *Id.* at 6:15–19, 6:51, 7:1, 7:11–12. The Specification describes that the cigarette bottle assembly “includes a hollow cigarette holder shell (b), and perforated component for liquid storage (9) inside the shell (b).” *Id.* at 4:1–3. Because the cigarette bottle assembly includes the liquid storage in shell (b), and the claims require that the liquid storage component is also in the housing, the housing must include both shell (a) and shell (b), and the term “housing” cannot be limited to a one-piece shell.

Upon review of the Specification, we do not find an explicit or special definition for the claim term “housing.” Therefore, for purposes of this Decision, we determine that “housing” does not require an explicit construction.

B. Anticipation by the '311 Publication

Petitioner contends that the subject matter of claims 1–14 is unpatentable under 35 U.S.C. § 102(b) as anticipated by the '311 Publication, which published on April 16, 2009. Pet. 16–42. The '311 Publication is the publication of U.S. Patent Application Serial No. 12/226,818, filed October 29, 2008 (“the '818 Application,” Ex. 1009). *Id.* at 1.

The '548 patent claims priority to the '818 application (and thus, the '311 Publication) as follows:

Continuation of application No. 13/740,011, filed on Jan. 11, 2013, which is a continuation of application No.

13/079,937, filed on Apr. 5, 2011, now Pat. No. 8,365,742, which is a division of application No. 12/226,818, filed as application No. PCT/CN2007/001575 on May 15, 2007, now Pat. No. 8,156,944.

Ex. 1001, at [60].

U.S. Patent Application Serial No. 13/079,937 (“the ’937 Application,” Ex. 1010) was filed as a divisional of the ’818 Application on April 5, 2011; a substitute specification (Ex. 1011, 7–37) was filed on August 7, 2012. Pet. 53. U.S. Patent Application No. 13/740,011 (“the ’011 Application,” Ex. 1012) was filed as a continuation of the ’937 Application on January 11, 2013. *Id.* at 55. U.S. Patent Application No. 14/244,376 (“the ’376 Application,” Ex. 1013), which matured into the ’548 patent, was filed as a continuation of the ’011 Application on April 3, 2014. *Id.*

Accordingly, Petitioner’s challenge is based on the ’548 patent allegedly not being entitled to priority to the ’818 Application. *Id.* at 1–4, 42–67. Petitioner’s contentions are based on the limitations of claims 1–14 directed to an electronic cigarette in which the atomizer assembly is located in a “cylindrical housing” and in which the battery is “coaxial” with the atomizer assembly. *Id.* at 2. Petitioner argues that Patent Owner cannot demonstrate “that claims 1–14 are entitled to a filing date prior to April 17, 2010,” because the ’818 Application “narrowly describes the ‘invention’ as an electronic cigarette with the battery assembly and the atomizer assembly located together in the same one-piece shell,” and, thus, does not provide written description support for claims 1–14, which “encompass an electronic cigarette in which the atomizer assembly is located in a ‘cylindrical housing’ while there is no limitation specifically directed to the location of the battery assembly, other than the battery is merely ‘coaxial’ with the atomizer

assembly.” Pet. 1, 2. In other words, Petitioner argues that the ’818 Application does not provide support for an electronic cigarette “having the battery assembly and the atomizer assembly located in separate shells, or one in which the battery is merely coaxial with the atomizer assembly, as broad claims 1–14 of the ’548 patent permit.” *Id.* at 3.

“It is elementary patent law that a patent application is entitled to the benefit of the filing date of an earlier filed application only if the disclosure of the earlier application provides support for the claims of the later application, as required by 35 U.S.C. § 112.” *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1306 (Fed. Cir. 2008) (citations omitted); *see also Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859, 871–72 (Fed. Cir. 2010) (holding the later-filed application, with claims that were not limited to a “blue noise mask,” was not entitled to the priority filing date of the parent application, which was “limited to a blue noise mask”); *ICU Med., Inc. v. Alaris Med. Sys.*, 558 F.3d 1368, 1377–78 (Fed. Cir. 2009) (holding that “spikeless” claims “added years later during prosecution” were not supported by the specification which “describe[d] only medical valves with spikes”); *Tronzo v. Biomet, Inc.*, 156 F.3d 1154, 1158–60 (Fed. Cir. 1998) (holding the generic shaped cup claims of the later-filed child application were not entitled to the filing date of the parent application that “disclosed only a trapezoidal cup and nothing more”). “To satisfy the written description requirement the disclosure of the prior application must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, [the inventor] was in possession of the invention.” *PowerOasis*, 522 F.3d at 1306 (citations omitted). The sufficiency of written description support is based on “an objective inquiry into the four corners of the

specification from the perspective of a person of ordinary skill in the art.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc).

Petitioner has the burden to persuade us that the ’311 Publication is invalidating prior art. We make our decisions on institution based on whether the information presented in the petition and the patent owner’s preliminary 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.” 35 U.S.C. § 314(a). “In an *inter partes* review, the burden of persuasion is on the petitioner to prove ‘unpatentability by a preponderance of the evidence,’ . . . and that burden never shifts to the patentee.” *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (quoting 35 U.S.C. § 316(e)). The burden of production can shift to the patent owner, however. *See id.* at 1379. This shift happens where it is “warranted because the patentee affirmatively seeks to establish a proposition not relied on by the patent challenger and not a necessary predicate for the unpatentability claim asserted—effectively an affirmative defense.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1376 (Fed. Cir. 2016). Although the burden of persuasion never shifts, Patent Owner has the burden of production after Petitioner claims that the patent is not entitled to rely on the filing date of the parent application. *See Dynamic Drinkware*, 800 F.3d at 1380 (“The burden of production then shifted to National Graphics to argue or produce evidence that either Raymond does not actually anticipate, or, as was argued in this case, that Raymond is not prior art because the asserted claims in the ’196 patent are entitled to the benefit of a filing date (constructive or otherwise) prior to the filing date of

Raymond. National Graphics produced evidence that the invention claimed in the '196 patent was reduced to practice prior to the filing date of Raymond, and thus contended that the asserted claims were entitled to a date of invention prior to that of the Raymond patent.”). Here, Petitioner has asserted that the '311 Publication discloses each limitation of the challenged claims, and the '818 Application does not provide written description support for those same claims, as evidenced by the disclosure of the '311 Publication. Thus, Petitioner has the burden of persuasion, based on all of the evidence, on both of these assertions. *See Dynamic Drinkware*, 800 F.3d at 1378.

Petitioner contends that the '818 Application describes and claims an electronic cigarette that is limited to having the battery assembly and the atomizer assembly in the same shell for several reasons. Pet. 1–4, 46–67. These reasons include that: (1) the “Abstract” describes the invention as including both the battery assembly and the atomizer assembly in one end of a hollow, integrally formed shell (a) (*id.* at 49–50); (2) the “Contents of the Invention” section describes the invention as one in which the battery assembly and the atomizer assembly are both located in a hollow, integrally formed shell (*id.* at 50); (3) the '818 Application also “touts that a benefit of ‘this invention’ is an electronic cigarette with a ‘very simple structure’ that has ‘just one connection between two parts,’ namely, between the shell (a) and the cigarette holder shell (b)” (*id.*); and (4) all the embodiments described in the “Specific Mode for Carrying Out the Invention” section “contemplate[] a shell (a) in which both the battery assembly and the atomizer assembly reside.” *Id.* at 52.

Patent Owner argues that “the ’818 application reasonably conveys to a person of ordinary skill in the art that the inventor was in possession of the claimed ‘atomizer assembly [] in an elongated cylindrical housing’ and ‘cylindrical battery coaxial with the atomizer assembly.’” Prelim. Resp. 17. Patent Owner also argues that the ’818 Application shows “the claimed ‘atomizer assembly [] in an elongated cylindrical housing’ and ‘cylindrical battery coaxial with the atomizer assembly,’” noting that Figure 1 “shows the internal components of the electronic cigarette, including the atomizer 8 and accompanying components located within the cylindrical elongated housing, which is composed of shell (a) and (b).” *Id.* at 19. Thus, in Figure 1, the “housing encases the components of the atomizer assembly of the electronic cigarette.” *Id.* Therefore, according to Patent Owner, “the ’818 application illustrates the atomizer assembly located within an elongated cylindrical housing, which is formed from shell (a) and (b), with the cylindrical battery coaxial with the atomizer assembly.” *Id.* at 19–20.

“[A] specification’s focus on one particular embodiment or purpose cannot limit the described invention where that specification expressly contemplates other embodiments or purposes.” *ScriptPro LLC v. Innovation Assocs., Inc.*, 833 F.3d 1336, 1341 (Fed. Cir. 2016). Here, there are notable similarities between the disclosure of the ’818 Application and the disclosure of the ’548 patent. Just like the ’548 patent specification, the ’818 Application contemplated embodiments of an electronic cigarette in which the battery assembly and the atomizer assembly are in a housing that is completed when multiple shells are connected. In particular, the ’818 Application discloses that the electronic cigarette includes a battery assembly connected to an atomizer assembly within shell (a), and a cigarette

bottle assembly that fits with the atomizer assembly located in a detachable end of the shell. Ex. 1009, 18–19. The '818 Application describes an embodiment where “the battery assembly and atomizer assembly are mutually connected and then installed inside the integrally formed shell (a) to form a one piece part,” which is plugged into the cigarette bottle assembly contained within shell (b). *Id.* at 20. Figure 1 of the '818 Application illustrates the atomizer assembly in an elongated cylindrical housing, as well as the cylindrical battery coaxial with the atomizer assembly. *Id.* at 27.

In accordance with claims 1–14 of the '548 patent, the '818 Application discloses an “atomizer assembly [] in an elongated cylindrical housing” and a “cylindrical battery coaxial with the atomizer assembly.”¹ Thus, we agree with Patent Owner that “the '818 application conveys to a person of ordinary skill in the art that the inventor was in possession of the claimed ‘atomizer assembly [] in an elongated cylindrical housing’ and ‘cylindrical battery coaxial with the atomizer assembly’ when the '818 application was filed.” *Id.* at 19 (citing Ex. 2001 ¶¶ 34–35). Claims 1–14 require that the battery assembly be coaxial with the atomizer assembly and that the atomizer assembly be within a housing, and, as set forth above, “housing” is not limited to a one-piece shell. Upon review of the '818 Application’s disclosure, we are not persuaded that the “atomizer assembly

¹ Additionally, in describing the cigarette bottle assembly as including “a perforated component for liquid storage (9) inside the shell (b),” and “[o]ne end of cigarette holder shell (b) plugs into the shell (a),” (Ex. 1009, 20) the '818 Application discloses “a liquid storage component” in the housing, as the challenged claims also require, and “a porous component” in contact with the liquid storage component, as required by claims 1–10; the '818 Application also describes and depicts the “fifth preferred embodiment” of Figures 17 and 18 (Ex. 1009, 22, 31) claimed in the challenged claims.

[] in an elongated cylindrical housing” and “cylindrical battery coaxial with the atomizer assembly” limitations recited in the challenged claims lack written description support in the ’818 Application.

Petitioner also contends that the patentee broadened the disclosure, because the ’937 Application was filed with a substitute specification that removed limiting language from the ’818 Application. Pet. 53–55. According to Petitioner, “the Applicant submitted a substitute specification, which substantially revised the great grandparent ’818 application” and the “revisions included numerous deletions apparently intended to broaden the disclosure to encompass an electronic cigarette in which the battery assembly and the atomizer assembly are not necessarily located in the same shell, but could be located in separate shells of a multi-shell housing.” *Id.* at 53 (citing Ex. 1011, 7–37). We agree with Patent Owner that the relevant inquiry is “whether the ’818 application provides written description for the claimed ‘atomizer assembly [] in an elongated cylindrical housing’ and ‘cylindrical battery coaxial with the atomizer assembly.’ That analysis requires a comparison of the ’548 patent claims to the ’818 application’s disclosure, not a comparison of the specifications.” Prelim. Resp. 38. As discussed above, Petitioner has not sufficiently persuaded us that the ’818 Application does not convey with reasonable clarity to those skilled in the art that the applicant was in possession of the invention as of the filing date of the ’818 Application, specifically, that the applicant was not in possession of the claimed “atomizer assembly [] in an elongated cylindrical housing” and “cylindrical battery coaxial with the atomizer assembly.” Therefore, on the record before us, we determine that Petitioner fails to establish that the

priority date of claims 1–14 of the '548 patent is no earlier than April 17, 2010. Pet. 9.

III. CONCLUSION

We have considered the Petition and Preliminary Response, and the evidence relied upon by the parties, and are not persuaded that the '311 Publication is prior art to the '548 Patent. Thus, we are not persuaded that Petitioner has established a reasonable likelihood of prevailing in challenging claims 1–14 of the '548 patent.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is *denied*.

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