

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VALVE CORPORATION,
Petitioner,

v.

IMMERSION CORPORATION,
Patent Owner.

IPR2024-00508
Patent 9,116,546 B2

Before WILLIAM V. SAINDON, MICHAEL R. ZECHER, and
CHRISTOPHER L. OGDEN, *Administrative Patent Judges*.

SAINDON, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background and Summary

Valve Corporation (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1–18, 21–24, and 26–29 (“the challenged claims”) of U.S. Patent No. 9,116,546 B2 (Ex. 1001, “the ’546 patent”). Immersion Corporation (“Patent Owner”) did not file a Preliminary Response.

We have authority to determine whether to institute an *inter partes* review under 35 U.S.C. § 314(b) and 37 C.F.R. § 42.4(a). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), 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.” For the reasons provided below, we determine that Petitioner has satisfied the threshold requirement set forth in 35 U.S.C. § 314(a). Because Petitioner has demonstrated a reasonable likelihood that at least one claim of the ’546 patent is unpatentable, we institute an *inter partes* review. 37 C.F.R. § 42.108(a) (2023).

Our findings of fact, conclusions of law, and reasoning discussed below are based on the evidentiary record developed thus far, and made for the sole purpose of determining whether the Petition meets the threshold for initiating review. This decision to institute trial is not a final decision as to the patentability of any challenged claim or the construction of any claim limitation.

B. Real Parties in Interest

The parties each indicate that they are the sole real party in interest. Pet. xi; Paper 4, 1 (Patent Owner's Mandatory Notices).

C. Related Matters

The '546 patent has been asserted against Petitioner in *Immersion Corporation v. Valve Corporation*, No. 2:23-cv-00712 (WDWA). Pet. xi; Paper 4, 1.

D. Prior Art and Asserted Grounds

Petitioner's grounds rely on the following prior art references:

Name	Reference	Exhibit No.
Brock	US Pub. 2002/0120188 A1, pub. Aug. 29, 2002	1008
Rosenberg	US Pub. 2007/0106457, pub. May 10, 2007	1009

Petitioner asserts that the challenged claims would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–18, 21–24, 26–29	102	Rosenberg
1–18, 21–24, 26–29	103	Rosenburg
1–3, 5–7, 9–11, 13–16, 21–23, 26–28	102	Brock
1–3, 5–7, 9–11, 13–16, 21–23, 26–28	103	Brock

E. Overview of the '546 Patent

According to the '546 patent:

A haptic representation system is provided that generates a haptic effect in response to sensor input. The sensor input is mapped to a haptic signal. The haptic signal is sent to an actuator configured to receive the haptic signal. The actuator utilizes the haptic signal to generate the haptic effect.

Ex. 1001, code (57). In one example, the '546 patent operates to “vibrate according to a presence of an electromagnetic field, the intensity of the electromagnetic field, or other attributes of the electromagnetic field.” *Id.* at 8:26–28.

F. Challenged Claims

Claims 1–18, 21–24, and 26–29 are challenged. Claims 1, 5, 9, 13, 21, and 26 are independent. Claim 1 is reproduced below.

1. A non-transitory computer-readable medium having instructions stored thereon that, when executed by a processor, cause the processor to generate a haptic effect, the generating the haptic effect comprising:

receiving input from a sensor, wherein the input comprises extra-sensory information, wherein the input further comprises one or more interaction parameters, and wherein each interaction parameter comprises a value;

mapping the received input to a haptic signal; and

sending the haptic signal to an actuator to generate the haptic effect;

the mapping the received input to the haptic signal further comprising modulating the haptic signal when new input is received, wherein the new received input comprises an update of at least one value of at least one interaction parameter of the received input; and

the sending the haptic signal to the actuator to generate the haptic effect further comprising sending the modulated haptic signal to the actuator to modulate the generated haptic effect.

Ex. 1001, 17:11–30.

II. ANALYSIS

A. Legal Standards Used in the Merits Analysis

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)); *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

A claim is unpatentable under 35 U.S.C. § 103 if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious . . . to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). 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 skill in the art; and (4) when in evidence, objective evidence of non-obviousness, i.e., secondary considerations. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner asserts that:

A person of ordinary skill in the art (POSA) would have a bachelor’s degree in electrical engineering, computer science, or a related field, plus at least two years of industry experience or

graduate-level academic experience with human-computer interaction.

Pet. 7 (citing Ex. 1003 ¶¶ 40–45). This level of skill appears reasonable in view of the disclosures in the '546 patent and asserted prior art. We adopt Petitioner's proposed level of skill for purposes of this Decision.

C. Claim Construction

We apply the claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b). That is, “the words of a claim ‘are generally given their ordinary and customary meaning.’” *Phillips*, 415 F.3d at 1312. “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1313. In addition, we must also “consider the patent’s prosecution history.” *Id.* at 1317.

Independent claim 1 requires “modulating the haptic signal when new input is received.” Petitioner asserts that there are two potential constructions of this phrase. Pet. 21–22. Petitioner asserts that we do not need to decide which construction is correct, however, as the prior art meets the claims under either construction. *Id.* at 21.

The first potential construction adds the word “continuous” or “continuously” to the limitation, requiring “continuously modulating the haptic signal based on a continuous updating of the value of at least one interaction parameter.” *Id.* at 21 (emphasis omitted). Petitioner asserts that it adds the term “continuous” or “continuously” because that term appears before the word “modulating” in the specification. *Id.* at 21 (citing Ex. 1001, 9:32–35, 15:41–44). Petitioner also asserts that, during original

prosecution, the phrase “continuously modulating” appeared in a dependent claim that was later amended into claim 1, but the word “continuously” was left out. *Id.* at 22 (citing Ex. 1002, 44, 141–142, 152).

In our view, on this record, the first construction is too narrow. It adds limitations from the specification that are not found in the claims, namely, the term “continuous” or “continuously.” *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 843–44 (Fed. Cir. 2010) (“[A] claim is not limited to the embodiments described in the specification unless the patentee has demonstrated a clear intention to limit the claim’s scope with words or expressions of manifest exclusion or restriction.”) (internal quotation marks omitted). There is no requirement that the claims must recite all the features of the specification, and we are not persuaded on this record that the claim requires this absent word.

The second potential construction offered by Petitioner states that it “would not require the ‘new input’ mapping to the modulated haptic signal to be received immediately after earlier input that was mapped to a haptic signal.” Pet. 22. Petitioner states that the second construction would cover situations where an input sensor is mapped to a haptic signal but later new inputs are not mapped to a haptic signal, and then even later new sensor input is mapped to a haptic signal. *Id.* Petitioner does not provide further explanation, and it is not clear to us on this record what the construction would be. Instead, the second potential construction merely seems to be an example of a situation in which Petitioner asserts the claim limitation would be met.

In sum, we do not adopt either of Petitioner’s proposed constructions. We do not offer our own construction at this time, however, because we

believe that construing the claim limitation is unnecessary for the purpose of institution. Instead, we will focus on the plain language itself, “modulating the haptic signal when new input is received,” when reviewing Petitioner’s prior art grounds.

We do not explicitly construe any terms in this Decision at this time because the issue of whether Petitioner has shown a reasonable likelihood can be resolved without explicitly construing the claims. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

*D. Anticipation or Obviousness in View of Rosenberg
(Claims 1–18, 21–24, 26–29)*

Petitioner asserts that Rosenberg anticipates or renders obvious claims 1–18, 21–24, 26–29. Pet. 8–43. There is no Patent Owner preliminary response. We focus our analysis on independent claim 1.

Independent claim 1 is directed to instructions causing a processor to generate a haptic effect. Input is received from a sensor, the input is mapped to a haptic signal, and then the haptic signal is sent to an actuator. Claim 1 also requires that mapping the input to the haptic signal comprises “modulating the haptic signal when new input is received.”¹ For example, the device could vibrate according to a “presence” or “one or more attributes” of an electromagnetic field (Ex. 1001, 8:23–28), and the mapping

¹ According to Petitioner’s characterization of the prosecution history of the ’546 patent, this “modulating” limitation was added to overcome the prior art. Pet. 5 (citing Ex. 1002, 138–157).

“can be done continuously as [new] sensor input is received” (*id.* at 7:65–68).

Petitioner’s ground relies on Rosenberg, which is a portable navigation device for enabling users to find geospatial orientations within the physical world using their tactile senses. Ex. 1009, code (57). The device provides tactile sensations as the device passes through the earth’s magnetic field. *See, e.g., id.* ¶ 8. For example, the magnitude of the tactile sensation is varied depending on the degree of alignment between the device’s orientation and a target orientation (e.g., magnetic north). *See, e.g., id.* ¶ 68. Another embodiment provides “tick-mark” sensations as the device is rotated, so that the user feels cardinal directions, intermediate incremental directions therebetween, and is able to feel the difference between the two. *Id.* at ¶¶ 50–52.

In its analysis of claim 1, Petitioner explains where Rosenberg describes the claimed receipt (Pet. 14–16) and mapping (*id.* at 16–19) of an input signal to a haptic signal, which is then sent to an actuator (*id.* at 20). Petitioner asserts that Rosenberg’s variable magnitude alignment sensation and variable frequency alignment sensation embodiments both satisfy the “modulating” limitation. *Id.* at 24. These embodiments in Rosenberg allow the user to sweep the device around in order to find the target direction, where the sensations are varied in magnitude and/or frequency as the user points the device in a direction closer in alignment with the target direction. *Id.* (citing Ex. 1009 ¶¶ 68–71; Ex. 1003 ¶ 110).

Petitioner’s analysis persuasively demonstrates a reasonable likelihood of success of showing that the subject matter of claim 1 is unpatentable. That Rosenberg varies, or modulates, its haptic effect based

on the input signal, and specifically the degree to which the input signal represents a value close to a target value, persuades us on this record that Rosenberg describes the recited “modulating” limitation. On whole, reviewing the Petition and the evidence cited therein, we determine that Petitioner has established a reasonable likelihood that claim 1 is anticipated by, or would have been obvious in view of, Rosenberg.

III. CONCLUSION

For the reasons given above, we determine that Petitioner has established a reasonable likelihood of success in showing that claim 1 would have been anticipated by, or obvious in view of, Rosenberg. Accordingly, we institute *inter partes* review on all challenged claims and grounds. 37 C.F.R. § 42.108(a) (“When instituting . . . review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”).

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that an *inter partes* review of claims 1–18, 21–24, 26–29 of the ’546 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), the *inter partes* review of the ’546 patent commences on the entry date of this Decision, and 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.

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