

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GARMIN INTERNATIONAL, INC.,
Petitioner,

v.

CARDIACSENSE LTD.,
Patent Owner.

IPR2025-00195
Patent 7,980,998 B2

Before JEFFREY N. FREDMAN, ANNETTE R. REIMERS, and
TIMOTHY G. MAJORS, *Administrative Patent Judges*.

MAJORS, *Administrative Patent Judge*.

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

I. INTRODUCTION

Garmin International, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–8 and 10–16 of U.S. Patent No. 7,980,998 B2 (Ex. 1001, “the ’998 patent”). Pet. 1, 21–22. Cardiacsense Ltd. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). With the Board’s authorization, Petitioner and Patent Owner also filed, respectively, a Reply to the Preliminary Response (Paper 8) and a Sur-reply to the Preliminary Response (Paper 9).

Inter partes review may not be instituted unless there is a reasonable likelihood that the petitioner will prevail with respect to at least one of the claims challenged in the petition. *See* 35 U.S.C. § 314(a). For reasons explained below, we conclude that Petitioner shows a reasonable likelihood that it will prevail with respect to at least one of the ’998 patent’s challenged claims. We institute *inter partes* review on all challenged claims. *See SAS Inst. Inc. v. Iancu*, 584 U.S. 357, 362–63 (2018).

Findings and conclusions at this stage are preliminary and based on the current record. Any final decision will be based on a full trial record.

II. BACKGROUND

A. *Real Parties-in-Interest*

Petitioner identifies itself as the real party-in-interest. Pet. 80. Patent Owner identifies itself as the real party-in-interest. Paper 4, 2.

B. *Related Matters*

The parties identify the following lawsuit involving assertion of the ’998 patent: *Cardiacsense LTD v. Garmin International, Inc.*, No. 2:24-cv-11368 (E.D. Mich.). Pet. 80; Paper 4, 2. Patent Owner also identifies other “active” lawsuits between itself and various third parties as being related to this *inter partes* review. Paper 4, 2 (identifying additional cases).

Patent Owner submits a March 10, 2025, minute order from the district court in *Cardiacsense LTD v. Coros Wearables, Inc.*, No. 2:24-cv-11011 (C.D. Cal.). Prelim. Resp. 6 n.1 (citing Ex. 2002). The minute order states that the “Court DENIES the Motion to Dismiss” and that a more detailed order will be issued. Ex. 2002. Patent Owner states that this motion to dismiss involved a challenge to the ’998 patent’s claims under 35 U.S.C. § 101. Prelim. Resp. 6 n.1; Ex. 3002 (Order Denying Motion to Dismiss). The Board is also aware of a March 31, 2025, order from the district court in the separate litigation between Petitioner and Patent Owner granting (without prejudice) a motion to dismiss under § 101. *See generally Cardiacsense Ltd, v. Garmin International, Inc.*, No. 2:24-cv-11368 (E.D. Mich.), Docket No. 9; Ex. 3003 (Order Granting Motion to Dismiss Without Prejudice (dated Mar. 31, 2025)). Although patentability under § 101 is not at issue in this proceeding, the parties should promptly keep the Board informed of substantive court orders in the related litigations, especially any orders construing the claims or addressing the patentability of the claims.¹

¹ On May 5, 2025, the Board designated as informative the decision in *Hulu, LLC v. Piranha Media Distribution, LLC*, IPR2024-01252, Paper 27 (Acting Director Stewart, Apr. 17, 2025) (vacating institution decision and denying the petition on a discretionary basis). We note at least the following differences between the instant case and *Hulu*. First, unlike *Hulu*, Patent Owner here has not sought discretionary denial of the Petition based on a district court’s prior determination that the claims were unpatentable under 35 U.S.C. § 101. *See, e.g., Hulu*, IPR2024-01252, Paper 10, 20–31 (Preliminary Response); *see generally id.* Paper 19 (Director Review Request). Second, in *Hulu*, the district court had already rendered a “final judgment . . . granting Petitioner’s motion to dismiss and dismissing with prejudice Patent Owner’s infringement claim.” IPR2024-01252, Paper 27 at 2. Here, by contrast, the court’s grant of the motion to dismiss was *without prejudice* and leave was expressly given for Patent Owner to refile its complaint. Ex. 3003, 18.

C. The '998 Patent (Ex. 1001)

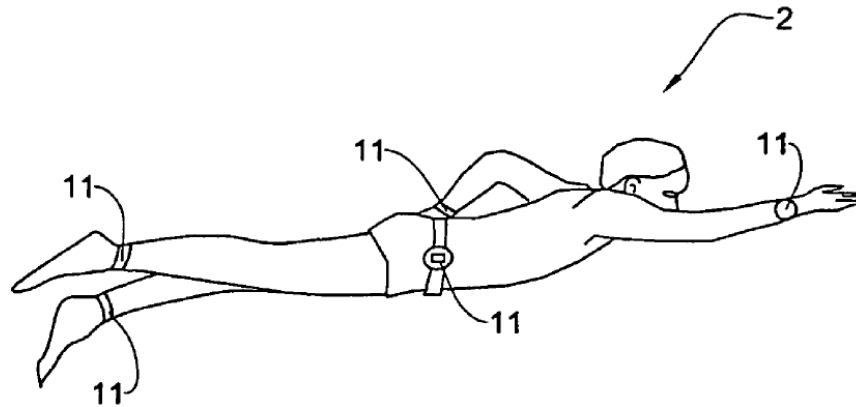
The '998 patent is titled “Training and Instructing Support Device.” Ex. 1001, code (54). According to the patent, the “present invention relates to methods, systems and devices for monitoring activities performed by a person, and for allowing communication with respect thereto, in particular where such activities include[] sports, e.g. swimming.” *Id.* at 1:12–15.

The '998 patent discloses that,

[a]ccording to yet another aspect [of] the present invention, a personal device for measuring a training activity of a trainee, is provided. Such a device is adapted to measure parameters associated with the movement of a body part of the trainee during the training activity, and comprises a sensing unit which includes accelerometer means, a compass, and optional gyroscope means, means for attaching the sensing unit to the body part, and a processor adapted to receive from the sensing unit said parameters, and to calculate, based thereon, data indicative of the training activity.

Id. at 3:65–4:7. The patent discloses that the personal measuring device comprising the sensing unit may be adapted for being worn by the trainee, such as on the wrist like a watch. *Id.* at 8:24–32 (explaining that other wearable devices are also contemplated, including headbands and goggles); *see also id.* at 10:60–11:11 (disclosing that multiple devices, comprising multiple sensing units, may be worn by the trainee on multiple limbs).

Figure 3 of the '998 patent is reproduced below.



Id. at Fig. 3. Figure 3 above shows participant 2 (e.g., swimmer) equipped with a total of five sensing units (11) worn on the wrists, ankles, and waist.

Id. at 10:60–11:11.

According to the '998 patent, the sensing unit “may comprise accelerometers, gyroscopes, compasses, or any combination thereof.” *Id.* at 10:23–24. In one example related to Figure 2, the patent explains,

the sensing unit 11 comprises an arrangement to determine the movement of the body part along six degrees of freedom, and includes an accelerometer module 70 adapted to measure linear acceleration of the measured body part along three orthogonal axes, and a gyroscope module 80 adapted to measure angular acceleration of the body part around the three orthogonal axes, i.e[.], with respect to yaw, pitch and roll.

Id. at 10:30–37. Figure 2B of the patent is reproduced below.

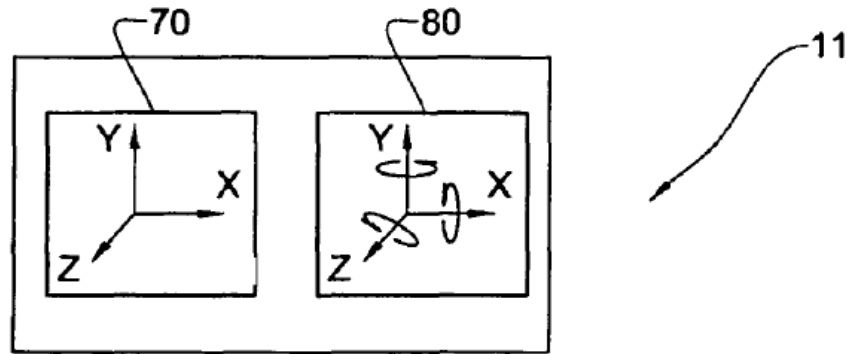


FIG. 2B

Id. at Fig. 2. Figure 2B above is a schematic depicting a measuring device's sensing unit 11, which sensing unit comprises an accelerometer module 70 and gyroscope module 80 that together can measure linear and angular acceleration with respect to orthogonal axes X, Y, and Z. *Id.* at 10:30–40. The patent discloses that, “[i]n [an]other example, a compass (not shown) may be used whose advantage is in that its measurements are provided relative to the earth electromagnetic field as an external reference point (outside the sensor).” *Id.* at 10:50–53.

The '998 patent discloses that each personal measuring device comprises a processor operatively connected to the sensing unit that can derive or calculate various data “D” from measured parameters “P.” *Id.* at 7:66–8:2. According to the patent, where the activity is swimming, “data may relate to statistics and summary results for swimming sessions or laps.” *Id.* at 12:34–35. The data may include, for example, hand or leg lifting height for each stroke, and distance traveled per stroke. *Id.* at 12:36–42.

The '998 patent discloses that, in embodiments, each personal measuring device includes a presentation unit adapted to present information (including data (D)) to the trainee. *Id.* at 8:2–10 (disclosing information

may be presented visually, audibly, or through other means), 13:52–66 (describing the presentation unit with a vibrating element that may provide data/instructions to the trainee by vibratory pulses felt by the skin). Further, the '998 patent discloses that the measuring device may measure parameters and communicate data to the trainee according to predetermined rules. *Id.* at 9:50–66. For example, the device may monitor for height of the right hand stroke and, if the measured height deviates from a predetermined rule (e.g., stroke height greater than X mm), the processor may generate and transmit a signal to a presentation/display unit that the trainee will understand as instructing them to lower right hand stroke height. *Id.*

D. Illustrative Claims

Petitioner challenges claims 1–8 and 10–16. Independent claim 10 is illustrative. It reads:

10. [10(*pre*)] A personal device for measuring a training activity of a trainee having a body part which moves during said training activity, this movement at least partially defining said training activity, said device comprising:

[10(*a*)] (a) a sensing unit adapted to repeatedly measure, during said training activity, parameters associated with the movement of said body part, and wherein said sensing unit comprising at least accelerometer means, a compass and optionally gyroscope means;

[10(*b*)] (b) means for attaching the sensing unit to said body part;

[10(*c*)] (c) a processor adapted to receive from the sensing unit said parameters, and to calculate based thereon, data indicative of said training activity; and

[10(*d*)] (d) a presentation unit adapted to present to the trainee at least said data or training instructions based on said data, said presentation unit comprising vibrating element adapted to generate vibratory pulses according to a predetermined rule, and to direct said pulses to the skin of the trainee.

Ex. 1001, 19:22–40 (adding bracketed notations consistent with the Petition’s mapping of claim limitations); Pet. 26–37.

The other independent claims (claims 1, 8, 11, and 12) are similar in many respects to claim 10. We note, however, the following non-exhaustive differences between claims 1, 8, 11, and 12 as compared to claim 10. Instead of the recited “vibrating element” as in claim 10, claim 11’s presentation unit comprises “at least one earphone with a receiving module adapted for wirelessly receiving” readings indicative of the data or training instructions. *Id.* at 19:41–20:8. Claim 12 adds a separate computer with a monitor (adapted for being spaced apart from the recited “processor”) for wirelessly receiving and displaying data. *Id.* at 20:9–29. Claim 1 recites, *inter alia*, that the sensing unit’s accelerometer means and gyroscope means are adapted to measure, respectively, linear and angular acceleration of the body part along and around three axes, and that the processor is adapted to calculate data that includes “at least the location and orientation of said body part for [e]ach of the measurements.” *Id.* at 17:66–18:22. Claim 8 is also similar but requires, among other features, “at least one additional sensing unit” and means for attaching it to an “additional body part” such that parameters characterizing the location and orientation of the additional body part can be measured. *Id.* at 18:49–19:5 (“said processor being further adapted to receive from said at least one additional sensing unit said parameters, and to calculate, based thereon, at least the location and orientation of said additional body part for each of the measurements, for use thereof in providing said data”).

E. Asserted Prior Art and Grounds

Petitioner asserts that claims 1–8 and 10–16 are unpatentable based on the following grounds:

Grounds	Claim(s) Challenged	35 U.S.C. §²	Reference(s)/Basis
1	10, 11	103	Downey ³
2	1–3, 5–7	103	Downey, MacIntosh ⁴
3	8, 12–16	103	Downey, MacIntosh, Burton ⁵
4	1–3, 5–8	103	Downey, MacIntosh, Burton, Ohgi ⁶
5	4	103	Downey, MacIntosh, Burton, Ohgi, Takahashi ⁷

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. §§ 102, 103 effective March 16, 2013. The ’998 patent claims priority to several applications, all of which were filed before March 16, 2013, and, thus, we apply the pre-AIA versions of §§ 102 and 103 in this Decision. Pet. 2; Ex. 1001, codes (22), (60), (63).

³ Downey et al., US 7,889,085 B2, filed May 29, 2008, and issued Feb. 15, 2011 (Ex. 1006 (“Downey”)).

⁴ MacIntosh et al., US 2008/0284650 A1, filed May 16, 2008, and published Nov. 20, 2008 (Ex. 1007 (“MacIntosh”)).

⁵ Burton et al., US 8,330,611 B1, filed Jan. 15, 2010, and issued Dec. 11, 2012 (Ex. 1008 (“Burton”)). Burton also claims the priority benefit of a provisional patent application filed January 15, 2009. Ex. 1009.

⁶ Yuji Ohgi et al., *An Innovation for Swimming Stroke Monitoring Tri-axial Accelerometer and Gyroscope Data Logger for Stroke Analysis*, 1–5 (Ex. 1010 (“Ohgi”)).

⁷ Takahashi et al., US 2003/00182774 A1, published Jan. 23, 2003 (Ex. 1011 (“Takahashi”)).

Petitioner also relies on testimony from Robert T. Stone, Ph.D. (Ex. 1003) and June Ann Munford (Ex. 1031) in support of its challenge.

III. ANALYSIS

A. *Legal Standards*

“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)).

A 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 at the time the invention was made to a person having ordinary skill in the relevant art. *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 ordinary skill in the art; and (4) secondary considerations (i.e., objective indicia) of nonobviousness when presented.⁸ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). “An obviousness determination [also] requires finding both that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *CRFD Rsch., Inc. v. Matal*, 876 F.3d 1330, 1340 (Fed. Cir. 2017) (internal quotation marks omitted).

⁸ The parties present no evidence at this time on alleged objective indicia of nonobviousness.

B. Level of Ordinary Skill in the Art

Petitioner proposes that the person of ordinary skill in the art (“POSA”) at the relevant time “would have had a bachelor’s degree in Electrical Engineering, Mechanical Engineering, or a similar discipline with at least one year of experience with portable electronic devices,” and that “[m]ore education can substitute for practical experience and vice versa.” Pet. 6 (citing Ex. 1003 ¶¶ 23–25). Patent Owner does not at this time dispute Petitioner’s definition of the POSA’s skill level. Prelim. Resp. 14.

We apply Petitioner’s proposed POSA level, which appears to be generally consistent with the cited prior art.

C. Claim Construction

In an *inter partes* review, we construe claims using the same claim construction standard used in a civil action before the courts under 35 U.S.C. § 282(b), including construing claim language in accordance with its ordinary and customary meaning as understood by the POSA, in view of the patent’s specification and considering the patent’s prosecution history. 37 C.F.R. § 42.100(b). We need only construe terms that are in controversy and only to the extent needed to resolve the controversy. *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019).

Petitioner identifies two claim terms/phrases for potential claim construction. Those terms are “means for attaching” and “each of the measurements.” Pet. 23–25.

Petitioner contends that “means for attaching,” which appears in each of the challenged independent claims, should be construed as a means-plus-function term under 35 U.S.C. § 112 ¶ 6. Pet. 24–25. Petitioner asserts that the function for the recited “means for attaching” is “attaching the sensing unit to a user’s body part” and the corresponding structure includes, *inter*

alia, a band of material similar to a watch, an elastic or adjustable band, a headband, or goggles. *Id.*

For the phrase “each of the measurements,” which appears in claims 1 and 8, Petitioner contends that “there is inherent ambiguity” in the use of that phrase. Pet. 23–24. Petitioner contends that, under a broader reading, “each of the measurements” “requires using measurements of ***each of the accelerometer and gyroscope*** to determine the location and orientation of the body part.” *Id.* (asserting that Petitioner applies this “broader definition” for Ground 2).⁹ Under a second “narrower” reading, Petitioner contends the phrase “requires updating the location and orientation of the body part ***for every individual sensor reading*** produced by the accelerometer and gyroscope.” *Id.* (asserting that Petitioner’s Ground 4 adopts this second interpretation).

At this time, express claim interpretation is not needed to resolve the controversy. According to Patent Owner, “claim construction is unnecessary at this stage because the prior art fails to invalidate under any reasonable construction of the claims.” Prelim. Resp. 14. Patent Owner does not, however, challenge Petitioner’s contentions under any of Grounds 1–5 that the asserted prior art teaches or suggests the claimed subject matter. Patent Owner’s counterargument at this time is limited to whether the asserted references qualify as prior art. *See, e.g., id.* at 5¹⁰ (arguing most of Petitioner’s references (e.g., Downey) “fail to qualify as prior art due to their

⁹ Unless otherwise stated, emphases appear in the cited paper or evidence.

¹⁰ Patent Owner’s Preliminary Response includes an initial unnumbered page and the second page is numbered page “6.” The unnumbered page is, therefore, cited herein as page “5.”

filing dates after September 11, 2006” (the claims’ effective priority date, according to Patent Owner) or “due to insufficient evidence of public availability (in the case of Ohgi).”). We address this counterargument, which does not turn on a dispute about the meaning of any claim terms, below. *See infra* Sections III.D and III.G.¹¹

Regarding Petitioner’s contention of “ambiguity” in the phrase “each of the measurements” in claims 1 and 8, Patent Owner states only that “there is no ambiguity.” Prelim. Resp. 14. If Patent Owner believes that either of Petitioner’s suggested “broader” or “narrower” interpretations of the phrase is incorrect, or if Patent Owner wants to propose another interpretation altogether, Patent Owner may address such issues in its Response during trial. And, should it elect to do so, Patent Owner will have the opportunity at trial to explain why the claims do not read on the asserted art under any interpretation advanced by Petitioner or proposed by Patent Owner.

D. Priority Date of the Challenged Claims

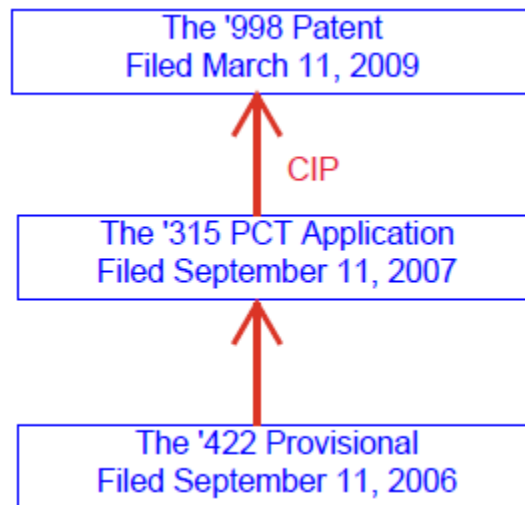
I. Overview

The ’998 patent issued July 19, 2011, from an application filed March 11, 2009. Ex. 1001, codes (22), (45). The ’998 patent also claims the priority benefit of an earlier-filed PCT application and a U.S. provisional patent application; more specifically, the application filed March 11, 2009, is a continuation-in-part (CIP) of, and makes a priority claim to, a PCT application filed September 11, 2007 (published as WO 2008/032315 (“the ’315 PCT Application” (Ex. 1005))). *Id.* at code (63), 1:4–8; Ex. 1005,

¹¹ Connected to the priority-date dispute, Patent Owner further argues that the Petition is “procedurally flawed” because it “relies on a § 112 challenge, which is outside the scope of IPR proceedings.” Prelim. Resp. 1, 8–10. We also address this argument below when dealing with the priority issue.

codes (10), (22). The '998 patent, through the intervening '315 PCT Application, further claims priority to a provisional application filed September 11, 2006 (U.S. Provisional Application No. 60/843,422 (“the '422 Provisional” (Ex. 1004))). Ex. 1001, code (60); Ex. 1005, code (30); Ex. 1004, 1.

The image below illustrates the '998 patent's asserted priority chain.



The image above shows the first-filed '422 Provisional (filed September 11, 2006) at the bottom, with an arrow pointing upward to the '315 PCT Application (filed September 11, 2007), and, from the '315 PCT Application, an arrow pointing upward to the '998 patent (indicating that the '998 patent issued from a CIP application filed March 11, 2009).

The parties dispute the effective filing date to which the challenged claims are entitled to claim priority. According to Petitioner, the priority date is no earlier than March 11, 2009—the filing date of the CIP application that issued as the '998 patent. Pet. 2–5; Paper 8, 1–3. Patent Owner, conversely, argues that the priority date is September 11, 2006—the filing date of the '422 Provisional. Prelim. Resp. 7–14; Paper 9, 1–3.

The ultimate significance of this dispute relates to whether certain asserted references qualify as prior art. This dispute is potentially decisive because, if the challenged claims are entitled to priority to September 11, 2006, at least Downey (filed May 29, 2008, and the primary reference for each of Grounds 1–5) would not be prior art.

2. *Analysis of the Priority Arguments*

Petitioner argues that “[n]either the ’315 [PCT] Application nor ’422 [Provisional] Application provide written description support for the Challenged Claims.” Pet. 2.

As pointed out by Petitioner, “[e]ach of the Challenged Claims requires a personal device with a sensing unit including *a compass*.” Pet. 3 (citing Ex. 1001, claims 1, 8–11, and 12); *see also id.* (citing, for example, claim language reciting “wherein said sensing unit *comprising at least* accelerometer means, a *compass* and optionally gyroscope means” and arguing “the gyroscope is optional, [but] the compass is required” in all claims). Patent Owner does not dispute that all the challenged claims require a sensing unit that comprises a compass.

Petitioner contends that “[t]he ’315 and ’422 Applications do not provide written description for a sensing unit including a compass.” Pet. 3. To the contrary, Petitioner argues, those applications “do not disclose, discuss, or even suggest a sensing unit comprising a compass.” *Id.* at 3–4 (citing, e.g., a description in the ’422 Provisional of a device for “measuring the athlete’s movements by accelerometers (and in some cases gyroscopes are added) attached to [the] athlete’s body and limbs during a training session”) (Ex. 1004, 2:3–5); *see also id.* at 4 (citing a similar disclosure in the ’315 PCT Application of sensing units comprising only accelerometer means and gyroscope means, and omitting any reference to a compass)

(Ex. 1005, 5:16–17, 25:7–8, 28:2–3). Further, Petitioner contends, all of the disclosure pertaining to a sensing unit that includes a compass was only added later in the CIP application filed March 11, 2009, which subsequently issued as the '998 patent. *Id.* at 4–5 (citing Ex. 1002, 306, 315–316, 328).¹²

Petitioner argues that “Patent Owner ‘is not presumed to be entitled to the earlier filing dates of ancestral applications which do not share the same disclosure.’” Pet. 3 (citing *MaxLite, Inc. v. Jiaying Super Lighting Elec. Appliance Co., Ltd.*, IPR2020-00208, Paper 14 at 6 (PTAB June 1, 2021)). Where, as here, the disclosures of the challenged patent and the priority applications are different, and to the extent Petitioner has any burden at the institution stage to contest a challenged claim’s entitlement to an earlier filing date, Petitioner contends it discharged such threshold burden by raising the issue and specifically identifying the features of the claims for which written description is missing in the earlier-filed ancestral applications. *Id.* (citing *Lupin Ltd. v. Pozen Inc.*, IPR2015-01775, Paper 15 at 10–11 (PTAB Mar. 1, 2016)); *cf. Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1327 (Fed. Cir. 2008) (discussing the shifting of burdens of production, even when a burden of persuasion remains with one party).

¹² In additional authorized pre-institution briefing, Petitioner further argues that the express introduction of “a compass” (and related disclosure about the supposed advantages of a compass) in the 2009 CIP application undermines the notion that a compass was already described or inherent in the ancestral applications’ disclosure of sensing units comprising only accelerometers and gyroscopes. Paper 8, 2–3 (arguing that even the '998 patent includes functional examples without a compass, contradicting any suggestion that a compass was necessarily described in the earlier applications) (citing Ex. 1001, 10:20–22).

Based on the present record, we agree with Petitioner. We see no sufficient written description support in either the '315 PCT Application or the '422 Provisional for a sensing unit that comprises a compass. The '315 PCT Application (and similarly the '422 Provisional) describes the sensing unit as “includ[ing] accelerometer means and gyroscope means” and that a processor is adapted to receive from a sensing unit having those features (i.e., an accelerometer and gyroscope) measurements from which data indicative of a training activity can be calculated. *See, e.g.*, Ex. 1005, 5:13–19, 5:30–33; Ex. 1004, 5:2–28, 12:2–31.

Patent Owner identifies no express or inherent disclosure of a compass in the priority applications filed before March 11, 2009. It seems all “compass” disclosures were added only when the CIP application that issued as the '998 patent was filed. *Compare, e.g.*, Ex. 1001, 10:23–29, 50–59 (new or revised paragraphs adding references to a compass), *with* Ex. 1005, 14 (no corresponding paragraphs or descriptions of a compass). That a compass might be “compatible” with devices described in the ancestral applications or even provide alleged benefits (e.g., mitigating a swimmer’s “drift” compared to a fixed external reference, as argued by Patent Owner) misses the point. Prelim. Resp. 12–13; Paper 9, 1–2. To obtain the priority benefit of the ancestral applications’ filing dates, those applications must ***describe*** the invention of the challenged claims. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1571 (Fed. Cir. 1997) (explaining that, to claim “the benefit of the filing date of an earlier application under 35 U.S.C. § 120, each application in the chain leading back to the earlier application must comply with the written description requirement of 35 U.S.C. § 112”). And whether it might have been obvious to add a compass is not the proper inquiry. *Ariad Pharm., Inc. v. Eli Lilly*

and Co., 598 F.3d 1336, 1352 (Fed. Cir. 2010) (en banc) (explaining “a description that merely renders the invention obvious does not satisfy the [written description] requirement”).

Patent Owner argues that the Petition is defective because “it impermissibly relies on a ground of unpatentability under 35 U.S.C. § 112 not available in IPR proceedings.” Prelim. Resp. 8. According to Patent Owner, “[i]ssues under § 112, including the adequacy of written description, are outside the PTAB’s jurisdiction in an IPR.” *Id.* Further, Patent Owner contends, “[w]hile priority disputes can arise in IPRs when determining the applicability of prior art under §§ 102 or 103, such disputes must be resolved based on the effective filing date supported by the patent’s disclosure, not through a substantive § 112 analysis.” *Id.* at 9.

Patent Owner is mistaken. First, its argument mischaracterizes Petitioner’s grounds. Nowhere does the Petition assert that the claims are unpatentable under 35 U.S.C. § 112 for failure of the written description requirement (a ground of unpatentability that cannot be advanced in an IPR under 35 U.S.C. § 311(b)).¹³ That issue, were it raised, would ask whether the challenged claims have sufficient written description support within the four corners of the ’998 patent itself (including the Specification and the original claims as filed with the CIP application in March 2009). The Petition raises a different issue that asks whether the ’998 patent’s claims

¹³ The Board’s decision in *Dexcowin* (cited at Prelim. Resp. 7–8) does not help Patent Owner because the petitioner in that case affirmatively advanced a § 112 ground of unpatentability in an IPR, which the Board correctly observed is barred by statute. *Dexcowin Global, Inc. v. Aribex, Inc.*, IPR2016-00436, Paper 12 at 5 (PTAB July 7, 2016) (explaining that grounds of unpatentability in an IPR are, under 35 U.S.C. § 311(b), limited to those that can be raised under §§ 102 and 103).

have written description support in the '315 PCT Application and the '422 Provisional filed in 2007 and 2006—the disclosures of which are *not the same* as the '998 patent as noted above. And, resolution of that issue is necessary to determine whether the claims are entitled to an earlier effective priority date that disqualifies certain prior art for the § 103 obviousness grounds raised in the Petition, which grounds are permitted in an IPR.

Second, Patent Owner is wrong in suggesting the Board cannot undertake a “substantive § 112 analysis” when addressing a priority dispute in an IPR. Prelim. Resp. 8–9. Such analysis is not only permitted but required given the priority issues raised here. Indeed, whether claims are entitled to the priority benefit of an earlier effective filing date is based on disclosure of the claimed invention “in the manner provided by section 112(a)” (i.e., the written description requirement) in a related and earlier-filed application. *See* 35 U.S.C. §§ 119(e), 120. “[A] patent’s claims are not entitled to an earlier priority date merely because the patentee claims priority. . . . Rather, for a patent’s claims to be entitled to an earlier priority date, the patentee must demonstrate that the claims meet the requirements of 35 U.S.C. § 120,” which include satisfying § 112’s written description requirement. *In re NTP, Inc.*, 654 F.3d 1268, 1276–77 (Fed. Cir. 2011) (citations omitted); *Lockwood*, 107 F.3d at 1571 (same). Patent Owner cites no authority that supports its position and offers no coherent argument for how the priority dispute in this case could be resolved absent substantive

§ 112 analysis that compares the challenged claims to the disclosures of the ancestral PCT and provisional applications.¹⁴

Moreover, the Federal Circuit has rejected an argument resembling Patent Owner’s argument here—that the Board lacks jurisdiction to consider § 112 written description issues in an IPR. In *Arthrex*, patentee disputed the prior-art status of an asserted reference by claiming priority through a series of intervening applications to an even earlier-filed application in the challenged patent’s ancestral chain. *Arthrex*, 35 F.4th at 1342–45. At issue in the underlying IPR was whether one intervening application (“the ’707 application”) provided written description support for the challenged claims. *Id.* The Board found that the ’707 application failed to provide that support, thus cutting off patentee’s priority claim and attempt to antedate the asserted prior art. *Id.* at 1342. In affirming the Board, the Federal Circuit held “there is no merit to [patentee’s] argument that the Board lacked statutory authority to decide whether the ’707 application meets the written description requirement.” *Id.* at 1344–1345. Further, the court held, the “Board needed to determine whether the ’707 application satisfied the written description requirement” to resolve the priority dispute and § 102 ground raised in the petition. *Id.* (explaining “Section 311(b) . . . merely dictates the grounds on

¹⁴ Patent Owner states that “[t]he disclosure of each application relied upon for priority must reasonably convey to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date sought,” yet does not acknowledge *that is a written description inquiry* as even Patent Owner’s cited authority makes clear. Prelim. Resp. 10 (citing *Arthrex, Inc. v. Smith & Nephew, Inc.*, 35 F.4th 1328, 1343 (Fed. Cir. 2022)); *see also Ariad*, 598 F.3d at 1351 (“[T]he test for sufficiency [of the written description requirement] is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date sought.”).

which an IPR petition may be based, not the issues that the Board may consider to resolve those grounds”). Therefore, observing *Arthrex*, Patent Owner’s argument that a § 112 analysis is off limits in an IPR is meritless.

Patent Owner argues that the challenged claims are, in any event, entitled to claim priority to the September 11, 2006, filing date of the ’422 Provisional. Prelim. Resp. 10–13; Paper 9, 1–3. According to Patent Owner, “the ’422 provisional application conveys to one skilled in the art . . . the use of all the sensors claimed in the patent i.e. (sensing unit, accelerometer, compass, gyroscope, etc.).” Prelim. Resp. 11. Patent Owner cites Figure 6 of the ’422 Provisional, which is a “a schematic view of a 5 lane[] pool” where “[t]he XYZ axes are viewed with X pointing in the swimming direction.” *Id.* (citing Ex. 1004, 10, Fig. 6 (disclosing that Y reflects a “cross movement axis on the same plane with the X axis and Z which is perpendicular to X and Y defines the height”)). From this, Patent Owner argues, “[o]ne of ordinary skill would understand[] that measuring swimming direction is part of the tracking device and that measurement of direction, before the addition of a gyroscope . . . requires a compass.” *Id.* at 11–13 (arguing a POSA would “understand that a gyroscope, which is integrated into this system, can be used to determine compass orientation or heading, by pairing with a magnetometer to create a compass”); *see also* Paper 9, 1–2 (arguing it is apparent “the direction of the swimming (X-axis) is to be determined by a compass or other means which measure the direction relative to a fixed or known direction, such as North,” that this axis will “drift,” and “[w]ithout reference to a fixed ordinal system, such as provided with a compass, the requisite detail is not provided”).

Patent Owner cites no persuasive evidence at this stage to support its argument that a POSA would “understand” Figure 6 of the ’422 Provisional

(or other disclosure in the ancestral applications) requires or otherwise sufficiently describes a sensing unit comprising a compass. Patent Owner provides, for example, no testimony from a skilled artisan’s perspective to demonstrate possession of the full subject matter of the challenged claims in the ’422 Provisional or the ’315 PCT Application. *Ariad*, 598 F.3d at 1351 (“[T]he description must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed”) (internal quotation marks omitted).¹⁵ The assertions of Patent Owner’s counsel about what a POSA would “understand” are not evidence. *Icon Health & Fitness, Inc. v. Strava, Inc.*, 849 F.3d 1034, 1043 (Fed. Cir. 2017) (“Attorney argument is not evidence”). We will revisit this issue as appropriate on a complete record. But at this time, Patent Owner’s contention that the claims are entitled to priority to September 11, 2006, is unavailing.

For the reasons discussed above, based on the preliminary record, we determine that the challenged claims have a priority date no earlier than March 11, 2009.

E. Asserted References

Petitioner asserts that Downey, MacIntosh, Burton, Ohgi, and Takahashi are prior art under 35 U.S.C. §§ 102(a), 102(b), and/or 102(e). Pet. 6–20. Patent Owner contests the prior-art status of Downey, MacIntosh, and Burton because each of those references was filed after September 11,

¹⁵ Patent Owner focuses on Figure 6 of the ’422 Provisional yet cites no disclosure in the intervening ’315 PCT Application that would purport to clearly describe a compass; written-description support in *both applications* is necessary for the claims to obtain the priority benefit of a September 11, 2006 filing date. *Lockwood*, 107 F.3d at 1571 (explaining that “each application” in the chain must provide written description support).

2006. Prelim. Resp. 7–13. We reject Patent Owner’s argument at this stage because, as explained above, the claims are not entitled to claim priority earlier than March 11, 2009. Patent Owner also argues that Petitioner has not shown that Ohgi was publicly available before September 11, 2006. *Id.* at 15–19. We address that argument about Ohgi in Section III.G below.

We provide overviews of the asserted prior art below.

1. Downey (Ex. 1006)

Downey is a U.S. patent that issued February 15, 2011, from an application filed May 29, 2008. Ex. 1006, codes (22), (45). Downey is titled “Swim Watch” and describes a watch device that may “comprise a housing, a location determining component disposed within the housing and operable to receive one or more signals to determine a current geographic location of the housing, and a processing system.” *Id.* at 1:25–31. Further, Downey discloses, the “watch device . . . can also generate track logs and performance information for feedback to a user while swimming.” *Id.* at 2:28–35, Figs. 1–5 (showing watch device 100 comprising, in embodiments, a wristband 104, an inertial sensor 114, location determining component 112, processing system 110, and a display 106 and user interface 108).

Downey discloses the watch’s inertial sensor may include sensors to detect movement, including “accelerometers,” “gyroscopes,” “compasses,” and combinations thereof. *Id.* at 4:38–47. Downey discloses that the inertial sensor may detect movement of the watch and, thus, movement of the swimmer’s arm. *Id.* at 5:43–44. According to Downey, the inertial sensor may, for instance, generate acceleration signals that a processing system can analyze to generate acceleration signatures unique to each part of the user’s swimming stroke. *Id.* at 5:45–6:3; *see also id.* at Figs. 6–8 (showing the device worn by a swimmer through various phases of a swimming stroke).

Downey discloses that, in embodiments, the watch may include an exercise mode to help the user swim at a certain rate. *Id.* at 7:53–59 (teaching “the user may input a desired stroke rate into the user interface . . . and/or the processing system . . . may calculate a desired stroke rate based on performance related information”); *see also id.* at 7:60–67 (disclosing the user interface may generate sounds or vibrations to, e.g., instruct the user to increase or decrease the swim rate).

2. *MacIntosh (Ex. 1007)*

MacIntosh is a U.S. patent application that was filed May 16, 2008, and published November 20, 2008. Ex. 1007, codes (22), (43). MacIntosh is titled “Sports Sensor” and describes a data logger for monitoring sports activity, which logger may include an accelerometer, a gyroscope, a GPS unit, a magnetometer, and a heart rate monitor. *Id.* at codes (54), (57) (disclosing that a controller can manipulate data to provide a display of, for example, speed or other sports parameters).

MacIntosh discloses a use of both accelerometers and gyroscopes to measure linear acceleration and angular acceleration (pitch, yaw, and roll). *Id.* ¶ 38. Further, MacIntosh discloses, “accelerometers are used concurrently with gyroscopes to form an inertial or dead reckoning system.” *Id.* ¶ 39 (“Both gyroscopic and accelerometric transducers are combined to gather and transmit[] complete 3 dimensional information about an athlete[']s motion.”). According to MacIntosh, “[t]he angular acceleration sensor or gyrosensor measures angular change in up to 3 dimensions . . . and is used to sense movements like strokes and turns in swimming.” *Id.* ¶ 24; *see also id.* ¶ 61 (“Analysis of the accelerometer and gyro signals allows a coach to analyse the efficiency of strokes and turns.”).

3. *Burton (Ex. 1008)*

Burton is a U.S. patent that issued December 11, 2012, from an application filed January 15, 2010, and further claims the priority benefit of a provisional application filed January 15, 2009. Ex. 1008, codes (22), (45), (60).¹⁶ Burton is titled “Positional Locating System and Method” and describes, in general, a system for generating positional coordinates for an object attached to an athlete, which coordinates may be processed to provide real-time performance metrics while the athlete engages in an athletic event. *Id.* at codes (54), (57).

Burton discloses that performance metrics may be based on information collected from multiple limb devices attached to the arms and legs of swimmers. *Id.* at 3:49–53; *see also id.* at Fig. 1 (system schematic), Fig. 5 (showing limb devices 62 attached to the wrist and ankle of a user, and head device 14 including ear bud 100 (worn with swim cap 96)). Burton further discloses that real-time data may be output to a user interface of a remote hand-held device, such as a tablet computer, that may be used by a coach to monitor performance. *Id.* at 3:61–4:3, Fig. 4.

4. *Ohgi (Ex. 1010)*

Ohgi is a paper titled “An Innovation For Swimming Stroke Monitoring Tri-Axial Accelerometer and Gyroscope Data Logger For Stroke Analysis.” Ex. 1010, 1. Petitioner alleges that Ohgi “was publicly available no later than July 22, 2003.” Pet. 18.

¹⁶ Petitioner contends that Burton is entitled to the January 15, 2009, provisional application (Ex. 1009) effective filing date. Pet. 13–18. Patent Owner does not provide any counterargument on this point.

Ohgi discloses that the purpose of its study was twofold: 1) “to develop a triaxial acceleration and tri-axial gyroscope sensor data logger device” and 2) “to quantify the swimmer’s stroke motion using both the acceleration and the angular velocity.” Ex. 1010, 1–2. Ohgi discloses, *inter alia*, data corresponding to “acceleration and the angular velocity of the [swimmer’s] forearm in the crawl [(i.e., freestyle)] stroke.” *Id.* at Figs. 6 and 8 (graphing acceleration and angular velocity over time). According to Ohgi, “[t]he whole time series of the acceleration and the angular velocity were extracted as every single stroke pattern using stroke distinctive acceleration.” *Id.* at 3; *see also* Figs. 7 and 9 (showing a stroke path of the swimmer’s shoulder, elbow, and wrist joint in the crawl stroke).

5. *Takahashi (Ex. 1011)*

Takahashi is a U.S. patent application filed July 1, 2002, which published January 23, 2003. Ex. 1011, codes (22), (43). Takahashi is titled “Heart Rate Monitor and Heart Rate Measuring Method.” *Id.* at code (54).

Takahashi discloses, for example, a heart rate monitor that may be integrated with a “swimming cap . . . for the heart rate measurement on the occasion of swimming.” *Id.* ¶ 95; *see also id.* at code (57) (disclosing use of light-emitting and receiving elements fitted to the user’s head to measure heart rate), ¶ 66 (disclosing the light-emitting element is an infrared LED), Figs. 4–5 (showing a headband comprising heart rate monitor 10).

F. *Asserted Obviousness over Downey (Ground 1)*

Petitioner contends that claims 10 and 11 would have been obvious over Downey. Pet. 26–41.¹⁷ Patent Owner argues that Downey (filed May

¹⁷ Although Petitioner frames Ground 1 as based on Downey in light of the POSA’s knowledge, the knowledge of the POSA is always considered as part of the obviousness inquiry. *See Koninklijke Philips N.V. v. Google*

29, 2008, and issued February 15, 2011) is not prior art, but that argument is unavailing on the present record for the reasons discussed above. *See supra* Section III.D (determining the priority date of the challenged claims is no earlier than March 11, 2009). Thus, Downey is prior art under at least § 102(e). Patent Owner does not otherwise contest that claims 10 and 11 would have been obvious under Ground 1. *See generally* Prelim. Resp.

We have reviewed Petitioner’s contentions and determine Petitioner has established a reasonable likelihood of success that it will prevail in showing at least claims 10 and 11 would have been obvious over Downey and the POSA’s knowledge. We summarize Petitioner’s uncontested mapping of the prior art to the subject matter of claim 10 below.

Petitioner contends that Downey teaches claim 10’s preamble [10(pre)] if that language is limiting.¹⁸ Pet. 26–27. Petitioner cites, for example, Downey’s teaching of a “watch device for use by a swimmer while swimming,” that such watch device is worn (e.g., on a swimmer’s arm), and that such device includes an inertial sensor and processing system to detect movement of the user’s arm and to “generate a stroke model” that at least partially defines the swimming activity. *Id.* (citing, e.g., Ex. 1006, 1:25–26, 5:43–44, 6:56–60, Fig. 6) (emphasis omitted).

LLC, 948 F.3d 1330, 1337 (Fed. Cir. 2020) (“[T]he inquiry into whether any ‘differences’ between the invention and the prior art would have rendered the invention obvious to a skilled artisan necessarily depends on such artisan’s knowledge.”).

¹⁸ We need not decide if the preamble is limiting at this time because it is presently uncontested that the prior art discloses the preamble’s subject matter.

Petitioner contends that Downey teaches or suggests a “sensing unit” as recited in limitation [10(a)]. Pet. 27–30. Petitioner cites, for example, Downey’s disclosure that “inertial sensor 114 may include one or more sensors operable to detect movement of the housing,” such as “one or more single or multi-axis accelerometers . . . gyroscopes, compasses, magnetic field sensors, mechanical switches, [and] combinations thereof.” Ex. 1006, 4:38–47. Further, Petitioner contends, Downey discloses that the inertial sensor may “generate acceleration signals” that can be analyzed by the processor “to identify acceleration signatures generally unique to each part of the user’s swimming stroke.” Ex. 1006, 5:45–49; Pet. 28; Ex. 1003 ¶ 65 (testifying that “to identify the acceleration signatures for each part of a swimming stroke, the entire stroke must be repeatedly measured”).

Petitioner contends that Downey teaches the “means for attaching” of limitation [10(b)], citing Downey’s watch device “coupled to the user’s wrist via a wristband 104.” Ex. 1006, 2:28–39, Fig. 1 (showing “watch device 100” comprising “housing 102” and “wristband 104”); Pet. 30–32.

Petitioner argues that Downey teaches the “processor” recited in limitation [10(c)]. Pet. 32–34. Petitioner cites, for example, Downey’s disclosure that the watch device “may include any number of *processors, controllers, or other processing elements*,” and such processing system can analyze acceleration signals to generate acceleration signatures unique to the swimmer’s stroke. *Id.* (citing Ex. 1006, 3:46–49, 5:43–6:12 (disclosing analysis of movement through various positions of the swimming stroke (citing Figs. 6–8)); *see also id.* at 33 (contending Downey’s processor can generate training data such as “current and average speed, pace, stroke count, [and] distance traveled” (citing Ex. 1006, 7:22–8:2))).

Petitioner argues that Downey discloses the “presentation unit” of limitation [10(d)]. Pet. 34–37. Petitioner cites Downey’s teaching that the watch device includes a user interface “so that [data] may be viewed by the user.” *Id.* at 34 (quoting Ex. 1006, 2:47–57) (alteration in original); *see also* Ex. 1006, Fig. 2 (showing user interface (feature 108)). Petitioner cites Downey’s teaching that the watch may track a user’s performance, indicating, for example, “if the user should swim faster, the user interface 108 may generate sound, *visuals, and/or vibrations* to *instruct the user to increase stroke rate.*” Pet. 35 (quoting Ex. 1006, 7:65–67); *see also* Ex. 1006, 7:60–63, 9:6–10 (disclosing the device may generate an “audible sound” or “vibration” to indicate that a stroke should be performed or other instructions). Because Downey incorporates by reference U.S. Patent No. 6,837,827 (Ex. 1013¹⁹) (Ex. 1006, 7:32–35), Petitioner contends that Downey also teaches using “performance monitoring functionality” in a personal training device. Pet. 36 (citing Ex. 1013, 7:31–38 (disclosing goal information, such as average or maximum speed), 7:46–61 (describing comparing goal and performance information)). Petitioner contends a POSA would have understood setting a desired stroke rate as a predetermined rule, and using the device of Downey to compare and correct a training activity against such rule, where corrections may be communicated (e.g., via vibration) to the swimmer during training. *Id.* at 36–37 (citing Ex. 1003 ¶¶ 75–76).

¹⁹ Lee, U.S. 6,837,827 B1, issued January 4, 2005 (Ex. 1013), relates to a personal training device adapted to assist the user in reaching performance goals and accumulating performance statistics. *See, e.g.*, Ex. 1013, code (57).

Petitioner's argument about claim 10 and what is taught or suggested in Downey is uncontested by Patent Owner. On this preliminary record, we find that Petitioner's argument that claim 10 would have been obvious is supported by the cited disclosures of Downey and the unrebutted testimony of Dr. Stone. Ex. 1003 ¶¶ 61–75. Petitioner's argument and evidence related to the alleged obviousness of claim 11 is similarly uncontested by Patent Owner at this time. Pet. 37–41; Ex. 1003 ¶¶ 76–85 (testifying, e.g., that it was known and a POSA would have considered it obvious to use wireless earphones to transmit training data) (citing, e.g., Ex. 1006, 4:48–5:2 (disclosing earphones as part of a heads-up display or swim cap)), 3:35–40 (disclosing that the watch may include wireless transmission components (e.g., cellular, Wi-Fi)).

For the reasons above, we determine that Petitioner is reasonably likely to prevail on its Ground 1 challenge.

G. Remaining Grounds

Petitioner contends that the remainder of the challenged claims are unpatentable as obvious under Ground 2 (claims 1–3 and 5–7), Ground 3 (claims 8 and 12–16), and Ground 5 (claim 4). Petitioner supports its contentions with citations to the asserted prior art and Dr. Stone's unrebutted testimony. Pet. 41–70 (analysis for Grounds 2 and 3), 75–78 (analysis for Ground 5). On this preliminary record, we determine that Petitioner is reasonably likely to prevail on Grounds 2, 3, and 5 based on the arguments and evidence advanced by Petitioner. Patent Owner's only counterargument to those grounds at this stage is premised on the challenged claims having a priority date of September 11, 2006, but that counterargument is unavailing as we explained above. *See supra* Section III.D.

Ground 4 challenges claims 1–3 and 5–8 as obvious over Downey, MacIntosh, and Burton, in further view of Ohgi. Pet. 70–74. Insofar as Ground 4 (and/or Ground 5)²⁰ relies on Ohgi’s teachings, we are skeptical that Petitioner will prevail. Patent Owner argues that Petitioner has not established that Ohgi was publicly available early enough to qualify as prior art (regardless of whether the priority date is September 11, 2006, or March 11, 2009). Prelim. Resp. 15–19. We discuss below.

Petitioner does not show persuasively on the current record that Ohgi was publicly available as a printed publication before March 11, 2009. *See Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 3, 13 (PTAB Dec. 20, 2019) (precedential) (explaining that, at the institution stage, the petition “must identify, with particularity, evidence sufficient to establish a reasonable likelihood that the reference was publicly accessible before the critical date . . . and therefore that there is a reasonable likelihood that it qualifies as a printed publication”). Petitioner argues, and its declarant June Munford attests, that “*Ohgi* was publicly available no later than July 22, 2003.” Pet. 18 (citing Ex. 1031 (Munford Decl.) ¶¶ 2, 7–10). Petitioner’s evidence in support of that argument is, however, weak.

Ohgi (Ex. 1010) is itself an undated five-page paper and includes no indicia within its four corners to indicate where and when it became publicly available as a printed publication. *See generally* Ex. 1010, 1–5. Seeking to address that shortcoming, Petitioner turns to the declaration of Ms. Munford, a former library professional with experience in library record-keeping and

²⁰ Petitioner provides alternative analyses under Ground 5—one analysis that builds on Ground 2 (where Ohgi is not relied upon) and another that builds on Ground 4 (where Ohgi is relied upon). Pet. 75.

cataloging, including the creation of MARC (Machine Readable Catalog) records. Ex. 1031 ¶¶ 2–5. Relevant to this case, Ms. Munford testifies that the library for the University of Otago created a MARC record dated July 22, 2003, reflecting that library’s receipt of something called “*Proceedings of the International Society of Biomechanics XIXth Congress: the Human Body in Motion*” (hereafter the “Proceedings”) *Id.* ¶¶ 8–10 (discussing the 008 (date), 245 (title and authorship), 260 (publisher), and 300 (physical attributes/format) fields in the MARC record for the Proceedings (App’x OGHI01 to the Munford Declaration)).

Although this MARC record and Ms. Munford’s testimony about it appear to evidence that the Otago University Library received and made publicly available a CD-ROM of the Proceedings by July 22, 2003, what is lacking is a sufficient showing that the Proceedings actually include the Ohgi reference that is Exhibit 1010 here. Ms. Munford testifies that the MARC record’s “245 field, describing the title and authorship of the work, matches the title and authors represented in Exhibit 1010.” Ex. 1031 ¶ 9. Ms. Munford further testifies the “300 field, describing the physical attributes of the work, matches the page number as represented in Exhibit 1010.” *Id.* We do not credit this testimony; nothing on the MARC record references Ohgi (or any of its named authors), nothing in Ohgi cites to the Proceedings, and we see no page number in the 300 field that corresponds to the page numbers of Ohgi. If, in fact, the Proceedings cataloged at the library include Ohgi, that might establish public availability before the critical date. But Petitioner has not shown this with persuasive evidence.

As we understand the MARC record and Petitioner’s argument about it, the record suggests the “Proceedings” include a compilation of “abstracts” and “oral and poster presentations” presented at a conference between

July 6–11, 2003, and that such materials were stored on a CD-ROM that was publicly available by at least July 22, 2003 (*see* Ex. 1031, App’x OHGI01 (fields 245, 300, 505, 520)). Assuming that the Otago University Library’s records (i.e., the CD-ROM of the Proceedings) include Ohgi, that might establish publication if the University’s records were sufficiently searchable that Ohgi and its teachings could be located by a POSA exercising reasonable diligence. *See SRI Int’l, Inc. v. Internet Sys., Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008); *In re Lister*, 583 F.3d 1307, 1315 (Fed. Cir. 2009) (explaining that a manuscript was publicly accessible once placed in a searchable database). Ms. Munford testifies the library had, at the relevant time, an online searchable catalog that was capable of searching the library’s collection by, for example, title, author, subject, and keyword. Ex. 1031 ¶¶ 11–12 (citing App’x IA01). Wanting for further explanation and evidence, however, is whether this searchable catalog would have allowed the POSA to identify Ohgi (as opposed to simply a generic entry about the Proceedings as reflected in the MARC record) and what amount of effort would have been required to find Ohgi.

In a further effort to show that Ohgi was publicly available, Petitioner and Ms. Munford rely on web pages entitled “Scientific Program in Detail.” Ex. 1031 ¶¶ 13–14 (App’x IA02). According to Ms. Munford, these web pages represent “a program describing the schedule of events at the ISB [(International Society of Biomechanics)] 2003 Conference” to be held between July 6 and July 11, 2003, at the University of Otago. *Id.* This program notes, on one of its pages, a session of “Podium Presentations” scheduled between 10–11am, on July 8, 2003, and lists “An innovation for swimming stroke monitoring tri-axial accelerometer and gyroscope data logger for stroke analysis” and the name “Yuji Ohgi.” *Id.* at App’x IA02

(page 18 of the program; page 49 of Exhibit 1031). Along with this program, Ms. Munford cites another webpage related to the ISB 2003 Conference soliciting submission of abstracts by April 1, 2003, and stating that abstracts of accepted papers will be included in a CD of the Congress proceedings. *Id.* ¶¶ 15–16 (citing App’x IA03).

Even considering these materials, Petitioner’s theory of public availability speculates, but does not show, that Yuji Ohgi attended the 2003 conference and presented the same disclosure found in Exhibit 1010. Prelim. Resp. 17 (arguing it is plausible that Ohgi did not attend or provided only preliminary results, not the full disclosure found in Exhibit 1010). Ms. Munford has no apparent personal knowledge of such matters, and Petitioner produces no testimony from any other witness with such knowledge. Here again, if the CD-ROM that purports to have been entered into the Otago University Library in late July 2003 actually includes the Ohgi paper as it appears in Exhibit 1010, that could establish public availability. That might show publication in a searchable database (as discussed above) or, possibly, corroborate that Yuji Ohgi presented the disclosure of Exhibit 1010 at the conference and establish that the same was disseminated on a CD-ROM made available to attendees. *See Hulu*, IPR2018-01039, Paper 29 at 9–10 (noting that, in some situations, “information displayed at meetings or trade shows” can establish sufficient dissemination and public accessibility). In any event, based on the present evidentiary record, we are unpersuaded that Ohgi is prior art.

IV. CONCLUSION

Based on this preliminary record, we determine that Petitioner has shown a reasonable likelihood that it will prevail with respect to at least one of the claims challenged in the Petition. We institute trial on all challenged

claims under the grounds raised in the Petition. *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (explaining that institution of *inter partes* review “require[s] a simple yes-or-no institution choice . . . embracing all challenges included in the petition”); 37 C.F.R. § 42.108(a).

Any argument not raised in a Patent Owner Response to the Petition, or as permitted in another manner during trial, shall be deemed forfeited and/or waived even if asserted in the Preliminary Response. *In re Google Tech. Holdings LLC*, 980 F.3d 858, 862–864 (Fed. Cir. 2020) (holding an argument forfeited when not timely raised before the Board); *In re NuVasive, Inc.*, 842 F.3d 1376, 1380–81 (Fed. Cir. 2016) (holding Patent Owner waived an argument addressed in the Preliminary Response by not raising the same argument in the Patent Owner Response).

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review of all challenged claims of the ’998 patent is instituted on the grounds of unpatentability set forth in the Petition; and

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

IPR2025-00195
Patent 7,980,998 B2

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