

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.; and
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioner,

v.

OURARING, INC.,
Patent Owner.

IPR2024-01078
Patent 10,281,953 B2

Before NEIL T. POWELL, ELIZABETH M. ROESEL, and
MICHAEL A. VALEK, *Administrative Patent Judges*.

POWELL, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. BACKGROUND

Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, “Petitioner”) filed a Petition for *inter partes* review of claims 1–6, 11–15, and 38–43 of U.S. Patent No. 10,281,953 B2 (Ex. 1001, “the ’953 Patent”). Paper 3 (“Pet.”). Ouraring, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 8 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2024). To institute an *inter partes* review, we must determine that the information presented in the Petition and the Preliminary Response shows “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). For the reasons set forth below, we determine that there is a reasonable likelihood that Petitioner will prevail with respect to at least one challenged claim. We institute an *inter partes* review of claims 1–6, 11–15, and 38–43 based on the grounds set forth in the Petition.

B. RELATED PROCEEDINGS

Patent Owner notes that the ’953 Patent “is currently not asserted in any judicial or administrative matters.” Paper 6, 1. As the parties note, however, the ’953 patent and related patents have also been challenged in the following petitions:

Samsung Electronics Co., Ltd., et al v. Ouraring, Inc.,
PGR2024-00030 (PTAB, filed May 31, 2024), challenging U.S. Patent No. 11,868,178;

IPR2024-01078
Patent 10,281,953 B2

Samsung Electronics Co., Ltd., et al v. Ouraring, Inc.,
PGR2024-00031 (PTAB, filed May 31, 2024), challenging U.S. Patent
No. 11,868,179;

Samsung Electronics Co., Ltd., et al v. Ouraring, Inc.,
IPR2024-00928 (PTAB, filed May 31, 2024), challenging U.S. Patent
No. 9,582,034;

Samsung Electronics Co., Ltd., et al v. Oura Health Oy,
IPR2024-00929 (PTAB, filed May 31, 2024), challenging U.S. Patent
No. 10,893,833;

Samsung Electronics Co., Ltd., et al v. Ouraring, Inc.,
IPR2024-00930 (PTAB, filed May 31, 2024), challenging U.S. Patent
No. 11,599,147;

Samsung Electronics Co., Ltd., et al v. Ouraring, Inc.,
PGR2024-00038 (PTAB, filed June 28, 2024), challenging U.S. Patent
No. 11,874,701;

Samsung Electronics Co., Ltd., et al v. Ouraring, Inc.,
PGR2024-00039, (PTAB, filed June 28, 2024), challenging U.S. Patent
No. 11,874,702;

Samsung Electronics Co., Ltd., et al v. Ouraring, Inc.,
IPR2024-01077, (PTAB, filed June 28, 2024), challenging U.S. Patent
No. 10,139,859;

Samsung Electronics Co., Ltd., et al v. Ouraring, Inc.,
IPR2024-01079, (PTAB, filed June 28, 2024), challenging the '953 patent;
and

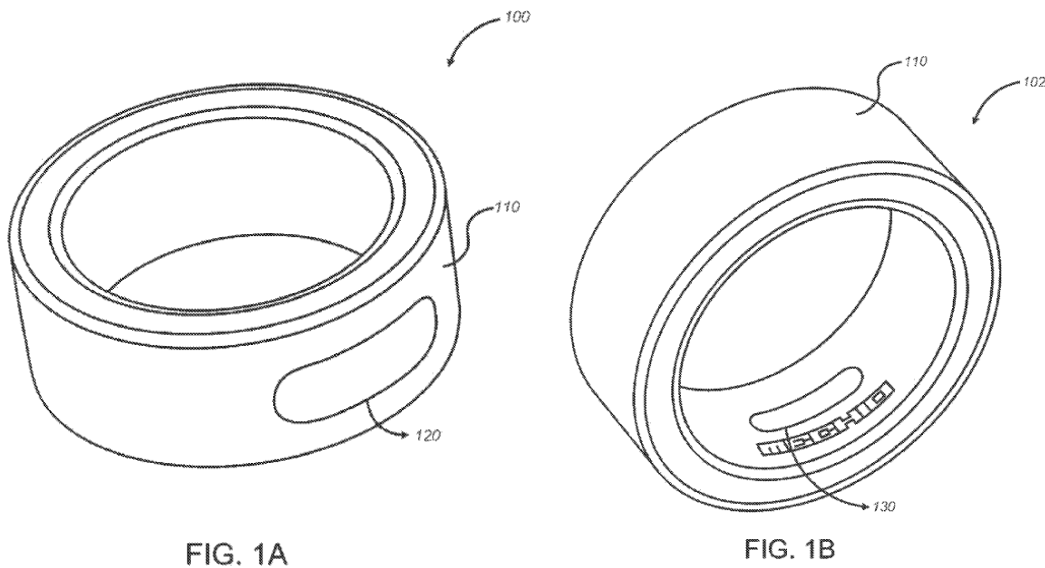
Samsung Electronics Co., Ltd., et al v. Ouraring, Inc.,
IPR2024-01080, (PTAB, filed June 28, 2024), challenging U.S. Patent
No. 10,842,429.

Paper 6, 1–2; Pet. 1.

C. THE '953 PATENT

The '953 Patent is titled “Wearable Device and Data Transmission Method” and was issued May 7, 2019, based on an application filed December 27, 2017, that asserts the benefit of two nonprovisional and two provisional applications, the earliest of which was filed November 29, 2013. Ex. 1001, codes (22), (45), (54), (60). The '953 Patent discloses “a wearable computing device (WCD),” which “can be in the form of a ring that can be worn on the finger of a human (or animal) user.” *Id.* at 6:54–58.

Figures 1A and 1B of the '953 Patent are reproduced below.



Figures 1A and 1B are perspective views of WCD 110. Ex. 1001, 7:17–20. “[T]he WCD 110 can include the exterior window 120 on its exterior wall for input/output data transmission and reception, battery recharge, or status

indication. The WCD 110 can also include the interior window 130 on its interior wall for various monitoring or sensing activities.” *Id.* at 7:50–55.

Figure 4 of the ’953 Patent is reproduced below.

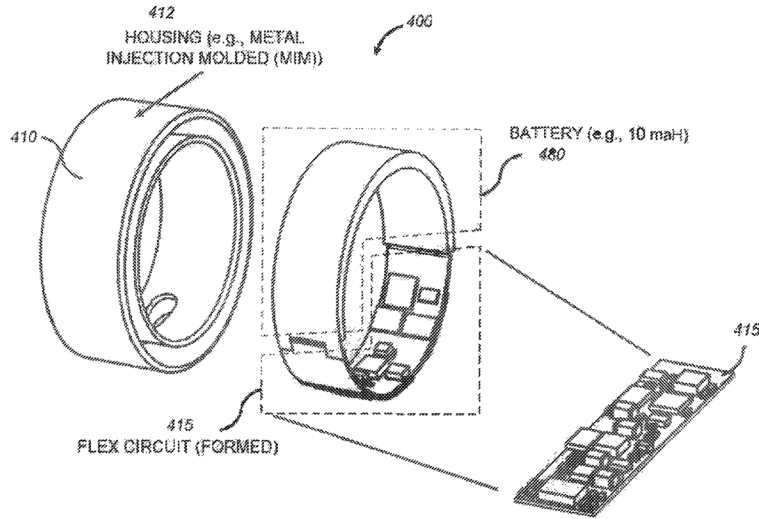


FIG. 4

Figure 4 is an exploded view of WCD 410 illustrating battery 480 and flexible PCB 415, which are configured to fit inside ring housing 412 of WCD 410. Ex. 1001, 3:4–6, 15:58–61.

Figures 7 and 8 of the '953 Patent are reproduced below.

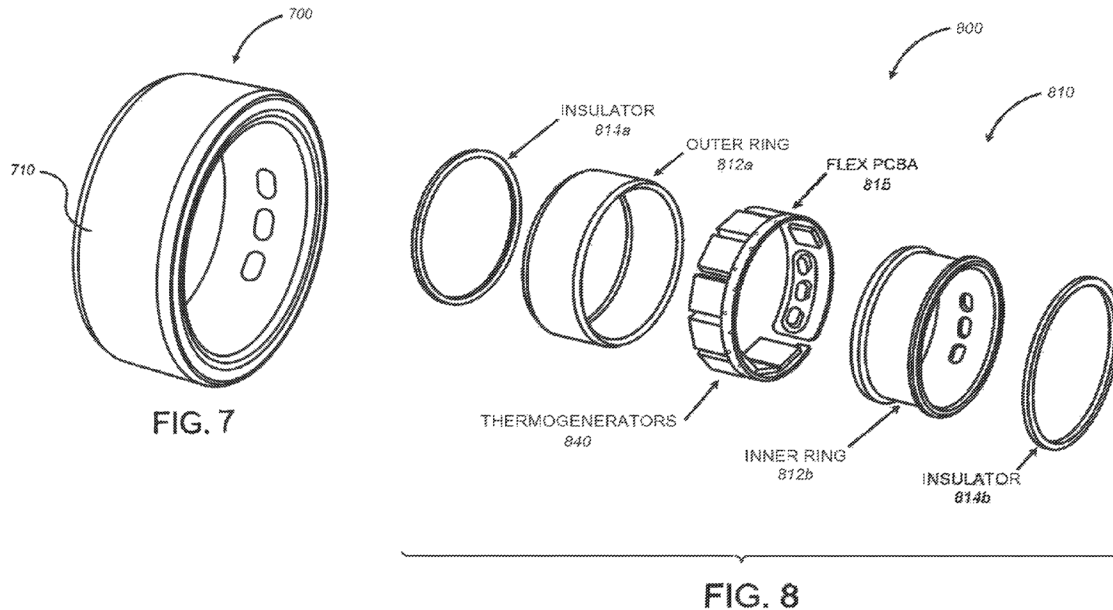


Figure 7 is a perspective view of a WDC, and Figure 8 is an exploded view of the WCD of Figure 7. Ex. 1001, 3:12–16, 14:47–49. Figures 7 and 8 illustrate a design of the housing for the WCD, where the ring includes outer ring 812a, inner ring 812b, and insulators 814a and 814b. *Id.* at 12:59–64.

D. ILLUSTRATIVE CLAIM

Of the challenged claims, claims 1 and 38 are independent. Each of claims 2–6, 11–15, and 39–43 depends, directly or indirectly, from one of independent claims 1 and 38. Claim 1 is illustrative for our analysis herein and is reproduced below with certain reformatting:¹

1. [1[pre]] A wearable computing device, configured as a ring for being worn around the finger of a user, the wearable computing device comprising:

[1[a]] an interior enclosure portion for enclosing a printed circuit board, the printed circuit board including a plurality of components of the wearable computing device;

¹ We have added the same labels that Petitioner uses to identify portions of claim 1. *See, e.g.*, Pet. 21–31.

- [1[b]] an exterior enclosure structure for receiving the printed circuit board and for being coupled with the interior enclosure portion to form a housing of the wearable computing device;
- [1[c]] a curved, rechargeable battery, disposed proximate the exterior enclosure, the rechargeable battery configured for being wirelessly charged;
- [1[d]] a flexible printed circuit board disposed proximate the curved battery, the flexible printed circuit board comprising:
 - [1[e]] a plurality of components, the plurality of components disposed on the flexible printed circuit board, the plurality of components comprising an electromagnetic induction or RF charging mechanism, a microprocessor, a sensor module, a light emitting diode, and a transceiver;
- 1[[f]] wherein at least one of the interior enclosure portion and the exterior enclosure structure defines one or more windows that facilitates at least one of data acquisition, data transmission, electromagnetic radiation a[c]quis[i]tion, and electromagnetic transmission.

Ex. 1001, 48:22–51.

E. ASSERTED GROUNDS

Petitioner asserts that claims 1–6, 11–15, and 38–43 would have been unpatentable on the following grounds (Pet. 4):

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1–6, 11–14	103	Mestas ² , Asami ³
1–6, 11, 14, 15, 38, 39, 41–43	103	Mestas, Schröder ⁴
1–6, 11, 14, 15, 38, 39, 41–43	103	Schröder, Mestas
11–15	103	Schröder, Mestas, Asami
40–43	103	Schröder, Mestas, Wissmar ⁵

In support of its challenges, Petitioner also relies on the Declaration of Dr. Brian W. Anthony, Ph.D. Ex. 1002.

II. ANALYSIS

A. LEVEL OF ORDINARY SKILL

Petitioner explains the applicable level of skill in the art as follows:

A person of ordinary skill in the art at the relevant time (“POSITA”) would have had at least a four-year degree in electrical engineering, mechanical engineering, biomedical engineering, optical engineering, or related field of study, or equivalent experience, and at least two years’ experience in academia or industry studying or developing physiological monitoring devices such as non-invasive biosensors. A POSITA would have also been familiar with, e.g., sensor system design, including inertial and other motion sensor system design, signal processing, and human-machine interfaces. A higher level of

² U.S. Patent Application Publication No. 2014/0244009 A1, published Aug. 28, 2014 (Ex. 1010, “Mestas”).

³ U.S. Patent Application Publication No. 2010/0219989 A1, published Sep. 2, 2010 (Ex. 1014, “Asami”).

⁴ U.S. Patent No. 10,303,867 B2, issued May 28, 2019 (Ex. 1007, “Schröder”).

⁵ U.S. Patent Application Publication No. 2012/0218184 A1, published Aug. 30, 2012 (Ex. 1013, “Wissmar”).

education or skill might make up for less experience, and vice versa.

Pet. 7 (Ex. 1002 ¶ 29). Patent Owner does not dispute Petitioner’s explanation of the level of skill in the art. *See* Prelim. Resp. 12.

Based on the testimony of Dr. Anthony, we agree with Petitioner’s stated understanding of the level of ordinary skill in the art. Ex. 1002 ¶ 29. We find that the level of ordinary skill in the art, as articulated above, is consistent with the level of technical understanding and competence reflected in the ’953 Patent Specification and the asserted prior art references. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

B. CLAIM CONSTRUCTION

In an *inter partes* review, we apply the same claim construction standard as would be used by a district court to construe a claim in a civil action involving the validity or infringement of a patent. 37 C.F.R. § 42.100(b). Under that standard, claim terms are given their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history of record. *Id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–19 (Fed. Cir. 2005) (en banc); *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365–66 (Fed. Cir. 2012).

Petitioner expresses that it “does not believe that any term requires express construction.” Pet. 8. Patent Owner does not dispute this assertion. *See generally* Prelim. Resp.

At this stage, we need not and do not construe expressly any claim language. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (holding that only claim terms in controversy need to be construed, and only to the extent necessary to resolve

the controversy) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

C. PRIOR ART REFERENCES

1. *Mestas*

Mestas discloses a physical activity monitoring method and system. Ex. 1010, code (57).

Figure 1 is reproduced below.



Figure 1 shows a person utilizing an athletic performance monitoring and feedback system 1. Ex. 1010 ¶¶ 9, 148. System 1 includes wearable device 10 for monitoring the user's activity. Device 10 includes a sensor such as an accelerometer. *Id.* ¶ 148.

Figure 6 is reproduced below.

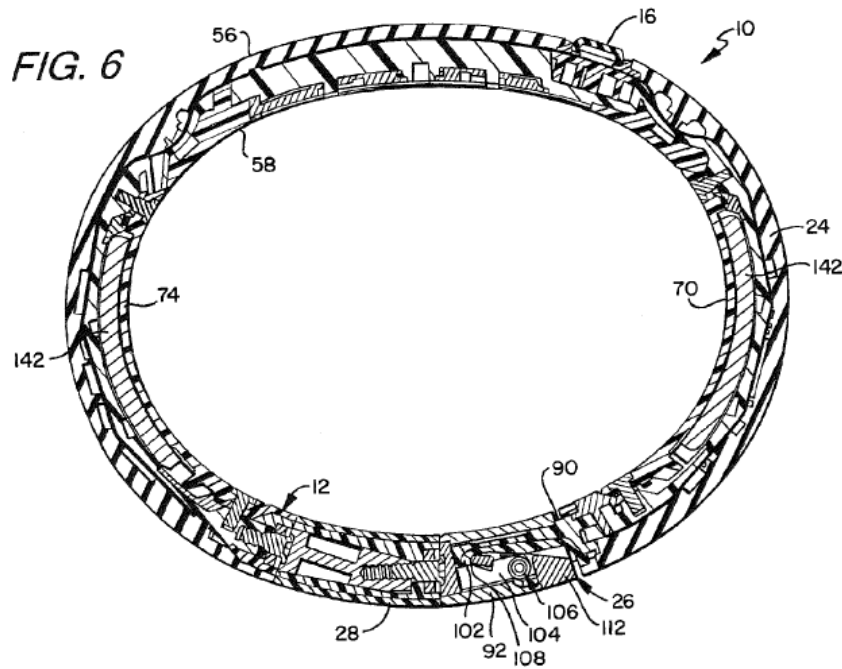
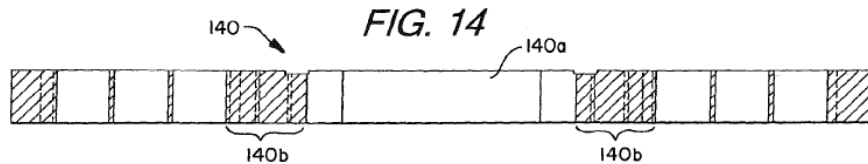


Figure 6 is a cross-section of wearable device 10 including housing 12 in the form of a wearable band such as a wristband. Ex. 1010 ¶¶ 15, 150, 151. Device 10 includes a controller, input button 16, a display, and an indicator system. *Id.* ¶ 150. Housing 12 includes an inner spine member having compartments for power supplies, outer encasement member 24, and fastening mechanism 26. *Id.* ¶ 151. The controller includes batteries 142, which “have a curvilinear or curved configuration.” *Id.* ¶¶ 163, 168.

Figures 14, 15, and 16 are reproduced below.



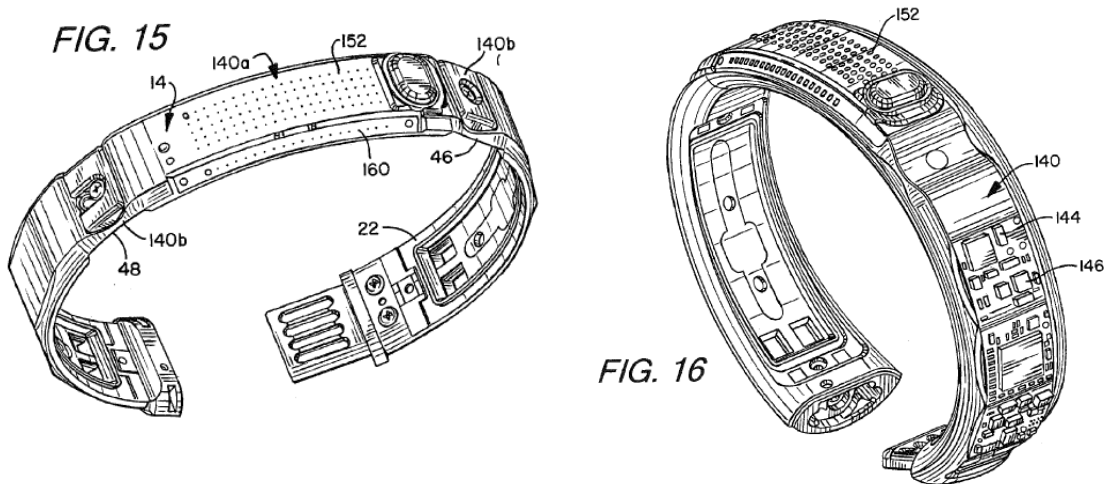


Figure 14 shows flexible PCB member 140, and Figures 15 and 16 show PCB member 140 wrapped around and mounted to spine member 22.

Ex. 1010 ¶¶ 25, 26, 164. PCB member 140 is part of controller 14 and supports various components of the controller, including antenna assembly 144, sensor assembly 146, processing units, data storage memory components, and connectors. *Id.* ¶¶ 163, 165.

2. Asami

Asami discloses a wearable electrical apparatus of an input system. Ex. 1014 ¶ 2. As background, Asami discusses input systems that allow a user to input characters through various approaches, such as based on a user's finger trajectory and contact with a touch pad. *Id.* ¶¶ 3–6. Asami seeks “to provide an input system and an electrical apparatus for the input system, which can recognize characters or figures accurately without requiring touch panels or tablets for receiving input of characters or figures.” *Id.* ¶ 15.

Asami discusses operation of its system in connection with Figure 3A, which is reproduced below.

FIG. 3A

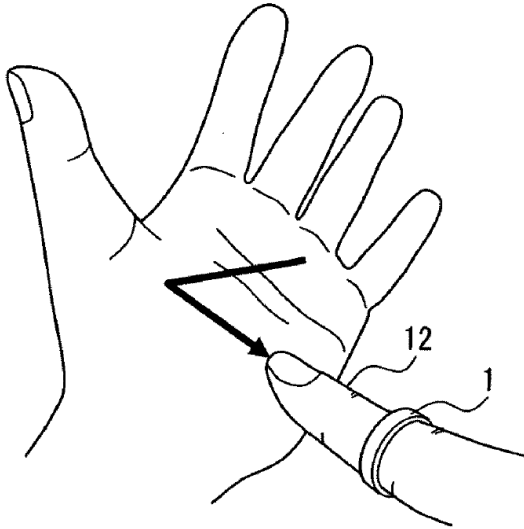


Figure 3A shows first wearable device 1. Ex. 1014 ¶¶ 23, 49. Specifically, Figure 3A “is a perspective view showing one exemplary use of the first wearable device.” *Id.* ¶ 23.

While wearing first wearable device 1 on finger 12, a user may “write characters or draw figures” on a body part other than finger 12. Ex. 1014 ¶ 49. First wearable device 1 may sense the trajectory of the character or figure. *Id.*

Asami discloses using analysis to “specify a character or a figure, which the user expressed,” dependent on data reflecting the input finger’s trajectory. Ex. 1014 ¶ 75. Data regarding characters or figures input by the user is sent to an external device. *Id.* ¶ 85. “The user can thus readily input a character or figure into the external device.” *Id.* ¶ 90. The external device may perform “processing of displaying characters or figures expressed by

the user on a display screen based on the time-sequence data of the position coordinate inputted from the first wearable input device 1.” *Id.* ¶ 86.

Asami elaborates on the construction of wearable input device 1 in connection with Figures 1A and 1B, which are reproduced below.

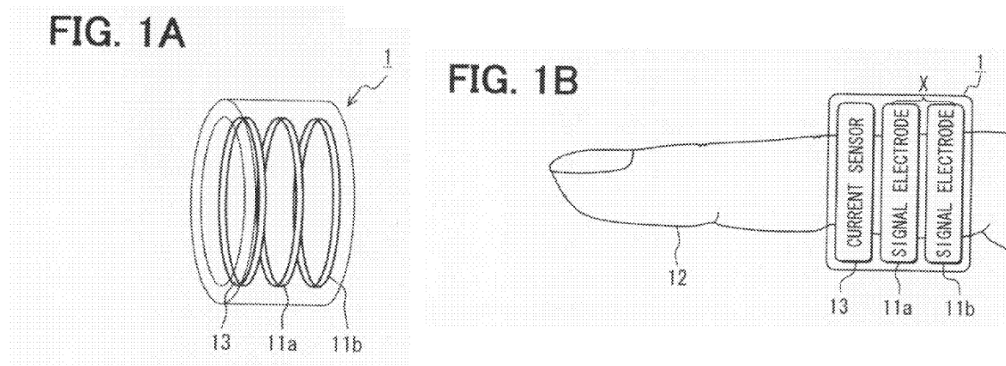


Figure 1A is a perspective view of wearable input device 1, and Figure 1B “is a schematic view showing arrangement of electrodes and a current sensor of the first wearable input device.” Ex. 1014 ¶¶ 19–20.

“[F]irst wearable input device 1 includes a pair of signal electrodes 11a, 11b and a current sensor 13,” which “are arranged in parallel at predetermined intervals along the axial line of a user’s finger 12.”

Ex. 1014 ¶ 42. Signal electrodes 11a, 11b have inner surfaces “facing inward of the ring [and] exposed from the finger ring body,” such that “signal electrodes 11a, 11b are brought into contact with the user’s body surface.” *Id.* ¶ 44. When a voltage is applied to signal electrodes 11a, 11b, current flowing in finger 12 is measured using current sensor 13. *Id.* ¶ 45. When current sensor 13 detects larger than zero current, that indicates that the finger wearing wearable input device 1 is contacting another body part, such as the other hand. *Id.* ¶¶ 53–55. Thus, whether the input finger is contacting another body part of the user is determined based on current sensor 13’s current measurement. *Id.* ¶ 55.

First wearable input device 1 also includes a triaxial acceleration sensor. Ex. 1014 ¶ 65. The triaxial acceleration sensor can sense movement of the input finger by detecting acceleration in x, y, and z axes. *Id.* ¶ 73.

3. Schröder

Schröder discloses an external secure unit comprising a memory, a processor, and an interface for sending and receiving data to and from a communication device, such as a smartphone. Ex. 1007, code (57), 1:5–11, 1:42–47, 1:64–67. The external secure unit stores security-relevant data necessary for executing an application program in the communication device. *Id.* at code (57), 1:56–61. A “finger-ring” can be employed as an external secure unit. *Id.* at 1:61–64.

Schröder’s Figures 1 and 2 are reproduced below.

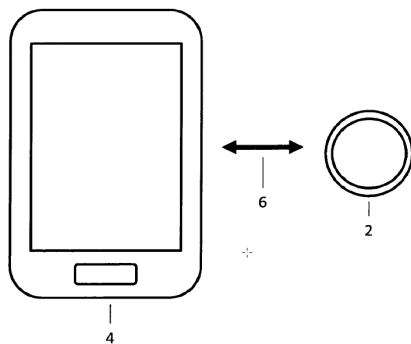


Fig. 1

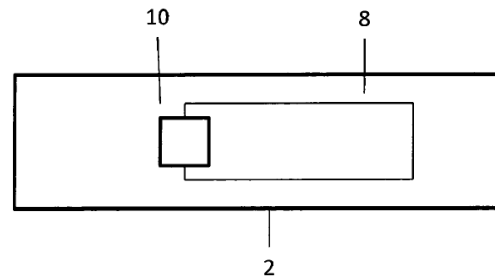


Fig. 2

Figure 1 shows finger-ring 2 as an exemplary external secure unit and smartphone 4 as a communication device, and Figure 2 shows a cross section through finger-ring 2. Ex. 1007, 3:39–44, 3:57–59, 4:58–60.

Schröder discloses a method for authentication by means of finger-ring 2 and smartphone 4. Ex. 1007, 3:59–61. According to Schröder, “finger-ring 2 is worn by a user e.g. permanently on the finger,” which is advantageous as an external secure unit because the ring “cannot be taken away or employed without authorization or get lost.” *Id.* at 3:61–62,

4:15–18. Finger-ring 2 and smartphone 4 are interconnected via contactless communication connection 6, e.g., an NFC (near field communication) connection. *Id.* at 3:64–66, 4:18–22. All security-relevant data necessary for executing applications on smartphone 4, such as email, Facebook, and banking, are stored only on finger-ring 2, not on the smartphone. *Id.* at 4:3–5, 4:10–15.

As schematically indicated in Figure 2, antenna coil 8 and chip or chip module 10 are located in finger-ring 2. Ex. 1007, 4:60–62. These devices are used to communicate with an NFC reader, such as an RFID (radio frequency identification) reader. *Id.* at 5:12–18, 5:49–53.

Schröder’s Figure 3 is reproduced below.

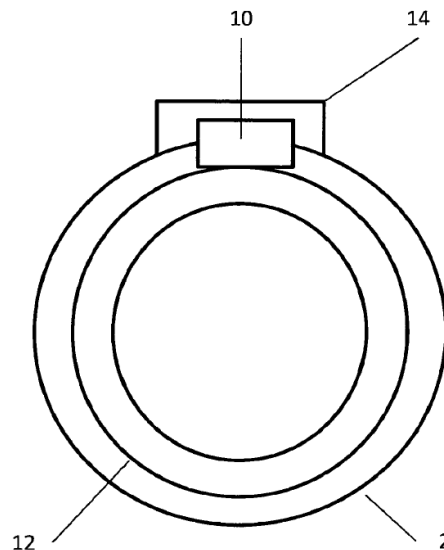


Fig. 3

“[Figure] 3 shows a cross section through an external secure unit . . . in the form of finger-ring 2 with a replaceable chip module 10.” Ex. 1007, 3:45–46, 8:54–56. Inlay 12 is inside finger-ring 2 and serves as a carrier for antenna coil 8. *Id.* at 8:56–58. As shown in Figure 3, chip module 10 is inserted into a recess of finger-ring 2. *Id.* at 8:58–59. Chip module 10 is

protected by cover 14, which has a hinged or threaded connection to the finger-ring 2. *Id.* at 8:60–63. Chip module 10 is electroconductively connected to antenna coil 8 on inlay 12. *Id.* at 8:63–66. “Advantageously, the chip module 10 is located in a module holder, in order that the contacts of the chip module 10 are properly interconnected to the contacts of a corresponding antenna coil 8.” *Id.* at 9:4–7. According to Schröder, the chip module 10 in Figure 3 is “arranged in particular replaceably,” but “[a]lternatively, the chip module 10 can . . . be firmly connected to the finger-ring 2.” *Id.* at 9:1–4; *see also id.* at 9:13–15 (“Alternatively, it is possible to connect the chip module 10 permanently to the contacts of the inlay 12, e.g. by soldering, crimping, gluing, etc.”).

In a “further embodiment example,” Schröder describes external secure unit 2 as having “an energy storage device, e.g., an accumulator or a battery” that is “connected to the chip module 10.” Ex. 1007, 11:46–67.

Schröder’s Figures 4 and 5 are reproduced below.

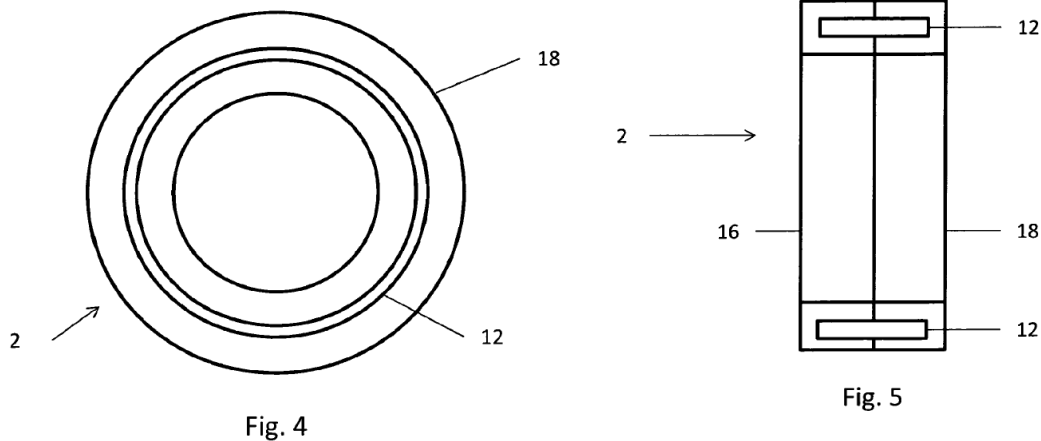
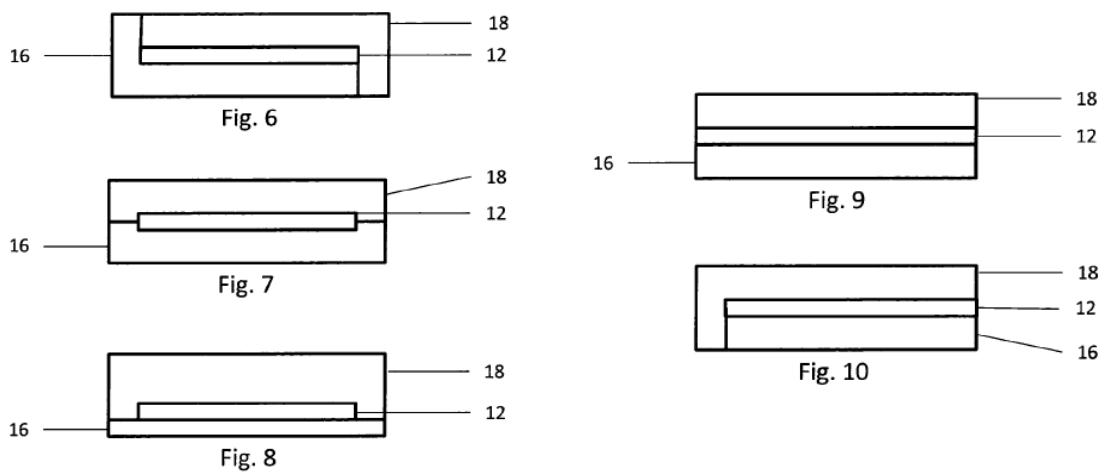


Figure 4 shows a longitudinal cross-section through finger-ring 2 as an exemplary external unit, and Figure 5 shows a cross-section of the finger-ring of Figure 4. Ex. 1007, 3:47–50, 12:4–7. Figure 4 shows one half 18 of finger-ring 2, and Figure 5 shows two ring halves 16 and 18.

Id. at 12:5–8. As shown in Figures 4 and 5, ring halves 16 and 18 have a recess into which inlay 12 is inserted. *Id.* at 12:8–9. Components 16 and 18 of finger-ring 2 are interconnected in such a way that the connection can be undone in order to insert or exchange inlay 12. *Id.* at 12:20–26. Inlay 12 consists of a flexible carrier material, with antenna coil 8 and chip module 10 connected to each other on the inlay. *Id.* at 12:28–32.

Schröder's Figures 6 to 10 are reproduced below.



Figures 6 to 10 show different cross sections through a finger-ring, which along with Figures 4 and 5, show “possible construction variants of external secure unit 2 in the form of finger-ring 2.” Ex. 1007, 12:1–3; *see also id.* at 3:51–52; 12:43–45 (describing Figures 6–10). In Figures 6 to 10, finger-ring 2 has ring-shaped components 16 and 18, with inlay 12 arranged between the components. *Id.* at 12:43–55.

According to Schröder, “inlay 12 can have at least one chip module 10 with at least one antenna coil 8, with at least one further electronic device, e.g. a display, optionally being arranged on the inlay 12.” Ex. 1007, 12:61–65.

4. *Wissmar*

Wissmar relates to a finger ring that acts as “a multiple sensor device communicating with nearby electronic devices wirelessly.” Ex. 1013 ¶ 1. Wissmar purports that its finger ring serves as an alternative to a computer mouse, “provid[ing] a user-friendly steering device for controlling an external electronic device, such as a computer.” *Id.* ¶¶ 13, 14, 17.

An example of Wissmar’s finger ring appears in Figure 1, which is reproduced below.

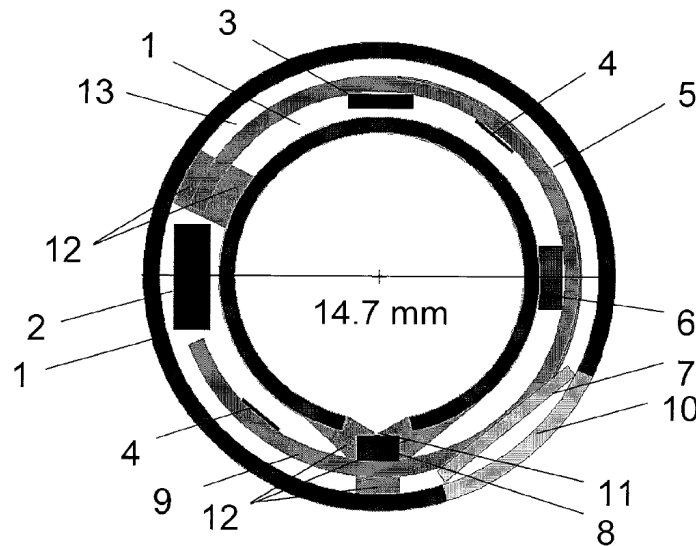


Fig. 1

Figure 1 schematically shows toroidal finger ring 1, which has electronic components mounted to a flexible printed circuit board inside the ring. Ex. 1013 ¶¶ 51, 73.

Finger ring 1 has two different metallic shells housing the electronic components. Ex. 1013 ¶ 73. Inside the shells, finger ring 1 includes flexible printed circuit board 9 supporting “a battery 2, a RF transceiver 3 and a micro processor 4, a microstrip line 5, an accelerometer 6, an internal antenna 7, [and] a pressure sensor 8.” *Id.* “[A]fter the electrical components are mounted and electrically connected to the FPCB they are painted with a

nonconductive and preferably conformal coating 13. Commonly used conformal coatings are silicone, epoxy, acrylic, urethane and paraxylene.” *Id.* ¶ 76. Coating 13 serves multiple functions, including “absorb[ing] stress released from forming the FCPB into a toroidal/circular shape, thus reducing the risk of the respective electrical component and FPCB losing mechanical or electrical connection to each other.” *Id.* ¶ 77.

D. DISPUTE UNDER 35 U.S.C. § 325(D)

Petitioner argues that we should not exercise discretion to deny institution of *inter partes* review under 35 U.S.C. § 325(d), but Patent Owner disagrees. Pet. 16–18; Prelim. Resp. 52–64.

1. *Authority*

Section 325(d) states, in relevant part: “In determining whether to institute or order a proceeding under this chapter, chapter 30, or chapter 31, the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.” The Board uses a two-part framework for evaluating arguments under § 325(d):

(1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and

(2) if either condition of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential). “[T]he *Becton, Dickinson* factors provide useful insight into how to apply the

framework under 35 U.S.C. § 325(d).” *Id.* at 9 (footnote omitted). The non-exclusive *Becton, Dickinson* factors are:

(a) the similarities and material differences between the asserted art and the prior art involved during examination;

(b) the cumulative nature of the asserted art and the prior art evaluated during examination;

(c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;

(d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;

(e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and

(f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson & Co. v. B. Braun Melsungen AG, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to § III.C.5, first paragraph). *Becton, Dickinson* factors (a), (b), and (d) relate to the first part of the *Advanced Bionics* framework (whether the same or substantially the same art or arguments previously were presented to the Office), and *Becton, Dickinson* factors (c), (e), and (f) relate to the second part of that framework (previous Office error). *Advanced Bionics*, IPR2019-01469, Paper 6 at 9–11.

2. Discussion

a) Part I of *Advanced Bionics*

Petitioner contends that part I of *Advanced Bionics* is not satisfied. Pet. 17. Petitioner asserts that most of its prior art was not considered previously by the Office in the prosecution of the ’953 patent. *Id.* at 17–18.

Acknowledging that “Wissmar . . . was listed on a PTO-892 form,” Petitioner asserts that “Schröder, Mestas, and Asami were not before the Office.” *Id.* Patent Owner contends that Mestas, Schröder, and Asami are cumulative to prior art considered by the Office. Prelim. Resp. 55, 57–62.

(1) *Whether Mestas is Cumulative*

Patent Owner argues that Mestas’s wristband has the same configuration as that taught by “multiple references considered during prosecution.” Prelim. Resp. 58. Patent Owner points to (1) prior art cited in prosecution of U.S. Patent Application No. 16/224,686 (“the ’686 Application”) and (2) prior art cited in prosecution of the ’953 patent. *Id.* at 58–60.

In view of the parties’ arguments and evidence, we do not agree with Patent Owner’s characterization of Mestas as cumulative. Noting that the Office allowed claims of the ’686 Application over U.S. Patent Application Publication No. 2013/0106603 (Ex. 2006, “Weast”), Patent Owner argues that Mestas discloses the same wristband as Weast. Prelim. Resp. 10–12, 58. Patent Owner overlooks that the Office’s consideration of Weast in the prosecution of the ’686 Application occurred *after* the ’953 patent issued, which does not show consideration of Weast’s or Mestas’s wristband configuration in the allowance of the ’953 patent’s claims. Ex. 2009, 1, 3; Ex. 1001, code (45); Prelim. Resp. 10–12, 58.

Regarding the prosecution of the ’953 patent, noting that the Office rejected claims over U.S. Patent Application Publication No. 2012/0317024 (Ex. 2005, “Rahman”), Patent Owner asserts that Mestas is cumulative to Rahman. Prelim. Resp. 8–10, 58–60. Patent Owner argues that both Rahman’s and Mestas’s “wristbands are designed to monitor the user’s physiology state” and “house a flexible printed circuit board, battery, and a

plurality of components on the printed circuit board.” *Id.* at 59. These arguments overlook Mestas’s disclosure of “batteries 142 [with] a curvilinear or curved configuration,” which Petitioner relies on when addressing the ’953 patent’s claim limitation directed to “a curved . . . battery.” Ex. 1010 ¶¶ 157, 168, Fig. 6; Ex. 1001, 48:34; Pet. 25–26, 50, 64–65. Patent Owner does not allege, much less demonstrate, that Rahman teaches curved batteries like Mestas does. *See, e.g.*, Prelim. Resp. 8–10, 58–60. For at least this reason, we do not agree with Patent Owner’s contention that Mestas is cumulative to Rahman.

(2) *Whether Schröder is Cumulative*

Patent Owner argues that “the relied-upon disclosure from . . . Schröder was included in at least three different references cited to the Patent Office during prosecution of the ’953 Patent.” Prelim. Resp. 62. The references considered during prosecution of the ’953 patent include Stergiou (U.S. Patent Application Publication No. 2012/0130203 (Ex. 2012)), Pahlavan (U.S. Patent Application Publication No. 2003/0142065 (Ex. 2016)), and Moon (U.S. Patent No. 8,554,297 (Ex. 2017)). Ex. 1001, code (56). According to Patent Owner, Schröder⁶ is “nothing more than cumulative of Stergiou, Pahlavan, and Moon, and other finger-ring references that have been considered, and rejected by, the Patent Office when it allowed the Challenged Claims.” Prelim. Resp. 62. In support of its position that “Stergiou, Pahlavan, and Moon all teach the same finger-ring configuration as [Schröder],” Patent Owner argues that

⁶ Patent Owner’s reference to “Shroeder” appears to be an inadvertent misspelling of Schröder. Prelim. Resp. 62.

“[l]ike . . . Schröder, the cited prior art finger rings disclosed by Stergiou, Pahlavan, and Moon include sensors and electrodes.” *Id.* at 61–62.

In view of the parties’ arguments and evidence, we do not agree with Patent Owner’s characterization of Schröder as cumulative. Patent Owner’s observations about Stergiou, Pahlavan, Moon, and Schröder do not address Schröder’s disclosure of “U-shaped component 18 and an even component 16,” which Petitioner relies on in Ground 3 when addressing the ’953 patent’s claim limitations directed to “an interior enclosure portion” and “an exterior enclosure structure.” Ex. 1007, 12:50–54, Figs. 7, 8; Ex. 1001, 25, 29; Pet. 62–64. As noted below, Schröder’s disclosures regarding U-shaped component 18 and even component 16 provide sufficient support at this stage for Petitioner’s contention that Schröder teaches the claimed “interior enclosure portion” and “exterior enclosure structure.” Pet. 62–64. Patent Owner does not allege, much less demonstrate that Stergiou, Pahlavan, or Moon discloses structures akin to Schröder’s U-shaped component 18 and even component 16. *See, e.g.*, Prelim. Resp. 60–62. For at least this reason, we do not agree with Patent Owner’s contention that Schröder is cumulative of Stergiou, Pahlavan, or Moon. And Patent Owner does not provide any specifics to support its vague assertions that Schröder is cumulative over “numerous other references” and “other finger-ring references that have been considered.” Prelim. Resp. 60, 62.

(3) *Conclusion Regarding Part I of Advanced Bionics*

The record does not support Patent Owner’s position that part I of *Advanced Bionics* is satisfied. *E.g.*, Prelim. Resp. 55–56. Neither Mestas nor Schröder was cited during prosecution of the ’953 patent. *E.g.*,

Ex. 1001, code (56). Additionally, for at least the reasons explained above in Section II.D.2.a.1, we do not agree with Patent Owner's characterization of Mestas as cumulative. Moreover, even if Mestas were cumulative, for the reasons explained above in Section II.D.2.a.2, Schröder's disclosure of U-shaped component 18 and even component 16 is not cumulative of any prior art specifically identified by Patent Owner. In sum, Mestas and Schröder are not the same or substantially the same as prior art previously presented to the Office.

Additionally, the record does not show that the same or substantially the same arguments previously were presented to the Office. Although Patent Owner contends that "[t]he Grounds raised by the Petition are cumulative of art and arguments considered multiple times, in the context of multiple similar and overlapping references, over years of prosecution activity between the filing of the original application and the issuance of the Challenged Claims," Patent Owner does not show any specific argument presented to the Office before the '953 patent issued that is the same or substantially the same as Petitioner's arguments. Prelim. Resp. 52–53.

b) Part II of Advanced Bionics

Because part I of *Advanced Bionics* is not met, we need not and do not address part II of *Advanced Bionics*.

c) Conclusion Regarding § 325(d)

In view of the foregoing, we do not exercise discretion to deny institution under § 325(d).

E. GROUND 1 - ALLEGED OBVIOUSNESS OVER MESTAS AND ASAMI

In asserting obviousness of claims 1–6 and 11–14 over Mestas and Asami, Petitioner contends that Mestas teaches most of the claims' limitations. Pet. 21–45. Petitioner notes that "Mestas lacks express

disclosure that its device is ‘configured as a ring for being worn around the finger,’” as recited in claim 1’s preamble. *Id.* at 22. Petitioner argues that “Asami teaches this limitation” (*id.*) and that “[a] POSITA would have been motivated to combine Mestas’s and Asami’s teachings and would have had a reasonable expectation of success” (*id.* at 18).

Patent Owner alleges numerous shortcomings in Petitioner’s Ground 1 contentions. Prelim. Resp. 21–36. For example, Patent Owner contends that Petitioner does not explain the following:

1) why Asami’s teachings would motivate one of ordinary skill in the art to transform Mestas into a finger ring; 2) what features or teachings from Asami would transform Mestas into a finger ring; 3) how one would apply Asami’s teachings to transform Mestas into a finger ring; and/or 4) why would applying Asami’s teachings to Mestas be obvious to one having ordinary skill in the art.

Id. at 23. Patent Owner also argues that “Asami is not analogous art to the ‘953 patent” and “cannot support Ground[] 1.” *Id.* at 36.

The parties’ arguments and evidence regarding Ground 1 raise a number of highly fact-dependent issues. As discussed below in Section II.G, Petitioner’s Ground 3 arguments and evidence demonstrate a reasonable likelihood of establishing obviousness of claim 1 over Schröder and Mestas, supporting institution of *inter partes* review on all of Petitioner’s grounds.

See SAS Inst. Inc. v. Iancu, 138 S. Ct. 1348, 1354, 1359–60; *PGS*

Geophysical AS v. Iancu, 891 F.3d 1354, 1360 (Fed. Cir. 2018); 37 C.F.R.

§ 42.108(a) (“When instituting *inter partes* 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.”). At this stage, we deem that the fact-intensive issues associated with Ground 1 will be best resolved on a fuller record developed during trial.

F. GROUND 2 – ALLEGED OBVIOUSNESS OVER MESTAS AND SCHRÖDER

In asserting obviousness of claims 1–6, 11, 14, 15, 38, 39, and 41–43 over Mestas and Schröder, Petitioner contends that Mestas teaches most of the claims’ limitations. Pet. 45–59. Petitioner again observes that “Mestas lacks express disclosure that its device is ‘configured as a ring for being worn around the finger,’” which is recited in the preambles of claims 1 and 38. *Id.* at 49. Petitioner argues that “Schröder teaches this limitation” (*id.*) and “[a] POSITA would have been motivated to combine Mestas’s and Schröder’s teachings and would have had a reasonable expectation of success” (*id.* at 45).

In response, Patent Owner argues that Ground 2 has many of the same shortcomings that Ground 1 allegedly has. Prelim. Resp. 36–39. According to Patent Owner, “[a]s with [Ground 1], Mestas and Schröder similarly do not disclose or suggest any of the limitations of claims 1 and 38 because Mestas and Schröder do not disclose or suggest a ring for being worn around a finger comprising any of the claimed elements.” *Id.* at 36.

Given our determination below that Petitioner’s showing for Ground 3 supports institution of *inter partes* review, we deem that the fact-intensive issues raised by the parties’ arguments and evidence for Ground 2 will be best resolved on a fuller record developed during trial.

G. GROUND 3 – ALLEGED OBVIOUSNESS OVER SCHRÖDER AND MESTAS

In asserting that claims 1–6, 11, 14, 15, 38, 39, and 41–43 would have been obvious over Schröder and Mestas, Petitioner contends that Schröder teaches most of these challenged claims’ limitations. Pet. 61–75. Addressing the challenged claims’ requirement for a “curved . . . battery,”

Petitioner asserts that Schröder teaches its ring includes a battery, but “does not explicitly teach that its device’s battery is curved.” Pet. 64. Noting Mestas’s disclosure of a curved battery, Petitioner argues that it would have been obvious in view of Mestas to configure Schröder’s ring with a curved battery. *Id.* at 64–65.

Patent Owner contends that Petitioner’s challenge has numerous deficiencies. Prelim. Resp. 39–52. According to Patent Owner, a person of ordinary skill in the art would not combine Schröder’s and Mestas’s teachings. *Id.* at 39–40. Patent Owner also argues that Schröder and Mestas do not teach certain of the challenged claims’ limitations. *Id.* at 40–51. Patent Owner further argues that “Petitioner has not shown that [its proposed combination of] Schröder-Mestas enables one having ordinary skill in the art to make and use the invention without undue experimentation.” *Id.* at 51. Additionally, Patent Owner suggests that there is evidence of objective indicia of patentability. *Id.* at 2–3.

In view of all of the parties’ arguments and evidence, we determine Petitioner has shown a reasonable likelihood of prevailing on its challenge of the ’953 patent’s claim 1 as obvious over Schröder and Mestas. We turn now to discussions of the significant issues raised by the parties’ arguments at this stage.

1. Reasons to Combine

Petitioner contends that a POSA “would have been motivated to combine Schröder’s and Mestas’s teachings and would have had a reasonable expectation of success because each relates to the same well-known technologies.” Pet. 59. Petitioner contends that a POSA would have been motivated to combine Schröder’s finger ring with various

teachings in Mestas, including sensors, gesture recognition capabilities, and a curved battery. *Id.* at 60.

Patent Owner contends that a POSA would not have combined Schröder and Mestas because (1) “Schröder is an RFID security device while Mestas is ‘[a] physical activity monitoring method and system,’” and (2) “Schröder is a finger ring while Mestas fails to include fingers in a long list of possible body-worn locations.” Prelim. Resp. 39.

After considering the parties’ arguments and evidence, we determine that Petitioner’s showing of reasons to combine Schröder and Mestas is sufficient for purposes of granting institution of an *inter partes* review.

Although general similarities between the references are usually not by themselves sufficient to show a reason to combine particular teachings, Petitioner here also provides more particularized contentions, such as a “POSITA would have been motivated to add Mesta’s motion sensors (accelerometer and gyroscope) and gesture recognition capabilities to Schröder’s finger-ring because they would provide additional versatility to Schröder’s device, including the ability to sense user movements.” Pet. 60. Petitioner argues that “Mestas teaches for example that its sensors ‘may cooperate . . . to provide enhanced functionality and capabilities.’” *Id.* (quoting Ex. 1010 ¶ 167).

Patent Owner points to differences between Schröder and Mestas that it contends must be taken into account when assessing whether a POSA would have had a reason to combine their teachings. Prelim. Resp. 39. *See Adidas AG v. Nike, Inc.*, 963 F.3d 1355, 1359 (Fed. Cir. 2020) (“Fundamental differences between the references are central to th[e] motivation to combine inquiry.”). Nevertheless, we are persuaded that

Petitioner's contentions concerning reasons to combine (Pet. 59–61) provide a sufficient basis on which to institute review.

2. *Curved Battery*

Independent claims 1 and 38 each recites a curved battery. Ex. 1001, 48:34, 52:26.

Petitioner contends that Schröder and Mestas each disclose a battery, that Mestas's battery has a curved shape, and that it would have been obvious to implement Mestas's curved battery in Schröder's finger ring. Pet. 60, 64–65.

Patent Owner argues that Schröder and Mestas do not disclose or suggest a ring having a curved battery and that Petitioner has not shown a motivation to combine. Prelim. Resp. 40–44.

After considering the parties' arguments and evidence, we determine that Petitioner's showing for the curved battery limitation is sufficient for purposes of granting institution of an *inter partes* review.

Petitioner contends that a POSA would have been “motivated to implement Mestas's curved battery in Schröder's ‘finger-ring’ because a curved battery allows a larger battery to conform to a ring's circular shape without stressing the battery or ring housing.” Pet. 60 (citing Ex. 1002 ¶ 338). Petitioner's contentions are supported by Schröder, which discloses a battery. Ex. 1007, 11:46–50, 11:58–61. Petitioner's contentions are also supported by Mestas, which discloses batteries having “a curvilinear or curved configuration.” Ex. 1010 ¶¶ 163, 168, Fig. 6.

Patent Owner argues that Schröder does not show its battery, that Mestas's curved battery is designed for a wristband, and the combination of Schröder and Mestas does not disclose a ring having a curved battery. Prelim. Resp. 40–41. Patent Owner's characterizations of the individual

references may be correct, but Petitioner’s challenge is based on the combination of Mestas’s curved battery and Schröder’s finger ring. Pet. 60, 64–65. *See Janssen Pharms., Inc. v. Teva Pharms. USA, Inc.*, 97 F.4th 915, 928 (Fed. Cir. 2024) (criticizing trial court’s analysis for “tackl[ing] the express statements of each reference one-by-one—identifying each difference or dissimilarity between an individual reference and the claims, but not fully assessing the teachings in toto”).

Patent Owner argues that Schröder teaches away from Petitioner’s proposed modification. Prelim. Resp. 42. That argument is based on Schröder’s description of Figure 3. *Id.* (citing Ex. 1007, 8:60–63). Petitioner, on the other hand, relies on Schröder’s Figure 8 embodiment to show a recess where a battery would be positioned. Pet. 62–65.

Patent Owner argues that “the ‘recessed compartments’ used to accommodate the batteries in Mestas do not exist in Schröder and Petitioner fails explain how or why Schröder would be modified to include them.” Prelim. Resp. 42–43. Patent Owner also suggests that Mestas’s batteries would not fit in Schröder’s ring. *Id.* Contrary to the thrust of these arguments, Petitioner need not demonstrate obviousness of bodily incorporating every feature of Mestas’s disclosure into Schröder’s disclosed apparatus. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references.”). Petitioner does not propose modifying Schröder to include recessed compartments and instead contends that Schröder teaches a recess housing an inlay 12 that is akin to Mestas’s recessed compartments where a battery would be positioned. Pet. 62–65. Petitioner’s evidence and

arguments on this point sufficiently meet Petitioner’s burden at this stage of showing a reasonable likelihood of establishing obviousness over Schröder and Mestas.

Patent Owner argues that Petitioner fails to explain why a POSA would believe the batteries of Mestas would be any improvement to Schröder, which is an RFID security device not intended to take continuous power-consuming measurements. Prelim. Resp. 43. As noted above, the differences between the references must be taken into account in the obviousness analysis. *Adidas*, 963 F.3d at 1359. At the same time, a “reference must be considered for everything that it teaches, not simply the described invention or a preferred embodiment.” *In re Applied Materials, Inc.*, 692 F.3d 1289, 1298 (Fed. Cir. 2012). Schröder teaches that “[t]he energy supply is effected via an electromagnetic field of a reader in whose field the external secure unit 2 is located.” Ex. 1007, 7:12–14; *see also id.* at 17:24–28, 22:30–34 (similar disclosure). Schröder also discloses that its finger ring may employ an energy storage device, such as a battery to power the chip module and other components when the ring is outside the reader’s electromagnetic field, and that the ring may also include a biometric sensor. *Id.* at 2:43–52, 2:57–59, 9:54–10:29, 11:46–67. For purposes of institution, Petitioner’s contentions are sufficiently supported by Schröder and the other evidence of record.

3. *Printed Circuit Board*

Claims 1 and 38 each recite a printed circuit board in certain relationships with other components. Ex. 1001, 48:25–32, 48:36–41, 52:23–25. Claim 1 recites, for example, “an interior enclosure portion for enclosing a printed circuit board, the printed circuit board including a plurality of components of the wearable computing device,” along with “an

exterior enclosure structure for receiving the printed circuit board and for being coupled with the interior enclosure portion to form a housing of the wearable computing device.” *Id.* at 48:25–32. Claim 38 recites a “printed circuit board disposed proximate the exterior enclosure structure.”

Id. at 52:24–25. Claims 1 and 38 also recite sensing components, such as “a sensor module” in claim 1 and “one or more sensors” in claim 38.

Id. at 48:44, 52:28.

Petitioner contends that Schröder’s inlay 12 is a printed circuit board enclosed by an interior closure portion and received by and disposed proximate an exterior enclosure portion. Pet. 63–65, 72–73. Petitioner asserts, for example, that “[a]s shown in Figure 8 . . . , Schröder’s inlay 12 . . . , which a POSITA would have understood is a flexible [printed circuit board], is . . . enclosed by component 16 . . . and ‘received’ by component 18 . . . , as required by [claim 1].” *Id.* at 64. Petitioner also asserts that “Schröder . . . teaches a . . . ‘biometric sensor’ that ‘can be arranged on the chip module 10.’” *Id.* at 67 (citing Ex. 1007, 9:54–64).

Patent Owner argues that Schröder and Mestas do not disclose or suggest a printed circuit board consistent with either claim 1 or claim 38. Prelim. Resp. 44–46. Patent Owner disputes Petitioner’s argument that Schröder’s inlay 12 teaches a flexible printed circuit board. *Id.* at 44–45. Patent Owner contends that “Petitioner’s notion that the inlay materials are ‘typical materials for manufacturing flexible PCBs’ does not lead to the conclusion that inlay 12 is a printed circuit board.” *Id.* at 45 (quoting Pet. 24). According to Patent Owner, “Schröder discloses a separate, flat chip module 10 that includes a memory and processor, not inlay 12.” *Id.* Patent Owner contends that chip module 10 is “mounted atop the ring.” *Id.* at 44. Patent Owner also argues that Schröder’s biometric sensor “is not

disclosed as part of the inlay 12, but ‘can be arranged on the chip module 10 or it can be arranged in the finger-ring 2 separately from the chip module 10 e.g., on a separate foil.’” *Id.* at 45 (citing Ex. 1007, 9:60–62).

For purposes of institution, Petitioner’s position that inlay 12 is a flexible printed circuit board housed by even component 16 and U-shaped component 18 is adequately supported by Schröder, which describes inlay 12 as a “flexible carrier material, e.g. PET, Kapton, etc.” and a “carrier” for the antenna, chip module, and “at least one further electronic component,” as well as Schröder’s Figure 8, which depicts inlay 12 between even component 16 and U-shaped component 18. Ex. 1007, 12:8–9, 12:28–29, 12:48–52, 12:61–65, 13:23–25. Schröder’s disclosure of a biometric sensor connected to chip module 10, along with the disclosures of chip module 10, antenna coil 8, and “at least one further electronic device” being arranged on inlay 12 in a recess between even component 16 and U-shaped component 18 further support Petitioner’s positions. Ex. 1007, 9:58–60, 12:8–9, 12:48–52, 12:62–65, Fig. 8.

In its counterarguments suggesting that Schröder does not disclose a printed circuit board or sensors between even component 16 and U-shaped component 18, Patent Owner relies largely on Schröder’s Figure 3 embodiment. Prelim. Resp. 44–45. Petitioner and Dr. Anthony, however, rely on Schröder’s Figure 8 to show inlay 12 between even component 16 and U-shaped component 18. Pet. 62–64; Ex. 1002 ¶¶ 342–350. Figure 8 appears to depict a different arrangement of elements than the finger-ring in Figure 3, which has “an insertable chip module with a cover.” Ex. 1007, 3:45–46; *compare* Ex. 1007, Fig. 3 (depicting protruding chip module 10 and cover 14) *with* Fig. 8 (lacking these elements). In its discussion related to the Figure 8 embodiment, Schröder explains that “inlay 12 *can have* at

least one chip module 10 with at least one antenna coil 8, with at least one further electronic device, e.g. a display, optionally being arranged on the inlay 12.” Ex. 1007, 12:61–65 (emphasis added). At least on the current record, this disclosure undermines Patent Owner’s characterization of inlay 12 as “separate from chip module 10.” See Prelim Resp. 44–45.

4. *Inner Enclosure Portion/Outer Enclosure Structure Enclosing Printed Circuit Board and Its Components*

As discussed in the preceding subsection, challenged independent claims 1 and 38 recite enclosure components in certain relationships to a printed circuit board. Ex. 1001, 48:25–32, 52:18–22. Claim 1, for example, recites “an interior enclosure portion for enclosing a printed circuit board,” along with “an exterior enclosure structure for receiving the printed circuit board.” Ex. 1001, 48:25–26, 48:29–30. Claim 38 recites “an exterior enclosure structure forming a first part of a housing for the wearable computing device, the exterior enclosure structure retaining one or more electronic components.” *Id.* at 52:18–21.

Claims 1 and 38 also recite certain components that are part of the printed circuit board. Ex. 1001, 48:40–45, 52:23–24. For example, claim 1 recites “an electromagnetic induction or RF charging mechanism, a microprocessor, a sensor module, a light emitting diode, and a transceiver.” Ex. 1001, 48:40–45. And claim 38 recites “a microprocessor.” *Id.* at 52:23–24.

Petitioner contends that Schröder’s even component 16 teaches the claimed “interior enclosure portion” and Schröder’s U-shaped component 18 teaches the claimed “exterior enclosure structure.” Pet. 62–65. And, asserting that Schröder’s inlay 12 teaches the claimed “printed circuit board,” Petitioner further argues that Schröder teaches the components

recited in claims 1 and 38 as being part of the claimed printed circuit board. *Id.* at 62–67. For example, Petitioner asserts that Schröder “teaches a microprocessor, Ex-1007, 4:7-10, and a ‘biometric sensor’ that ‘can be arranged on the chip module 10.’” *Id.* at 67 (citing Ex. 1007, 9:54–64).

Patent Owner disputes Petitioner’s position. Asserting that the ’953 patent “discloses and claims an interior enclosure portion 1314 for enclosing a printed circuit board 1340 including a plurality of components and an exterior enclosure structure 1312 retaining one or more electronic components” (Prelim. Resp. 46), Patent Owner argues that “Schröder and Mestas do not disclose or suggest the interior and exterior enclosure structures of claims 1 and 38” (*id.* at 51). Patent Owner bases this argument on the assertion that “the only component of Schröder arguably enclosed within an interior enclosure portion (as in claim 1) or retained by an exterior enclosure structure (as in claim 38) is inlay 12 that holds an antenna coil 8.” *Id.* at 47. According to Patent Owner, “Schröder discloses a microprocessor, but that is part of chip module 10, which is located on top of the ring so that it may be accessed and replaced.” *Id.* (citing Ex. 1007, 8:54–56, 10:60–61).

After considering the parties’ arguments and evidence, we determine that Petitioner’s showing regarding the claims’ “interior enclosure portion,” “exterior enclosure structure,” “printed circuit board” and its components is sufficient for purposes of institution of an *inter partes* review. Patent Owner does not dispute Petitioner’s contentions that (1) Schröder’s even component 16 teaches an interior closure portion, (2) Schröder’s U-shaped outer component 18 teaches an exterior closure structure, and (3) even component 16 and U-shaped component 18 enclose inlay 12. Pet. 62–64. As with many of its other arguments, Patent Owner’s arguments that chip module 10 and other components are not enclosed by even component 16

and U-shaped component 18 are based largely on Schröder’s discussion regarding the embodiment of Figure 3, not the discussion of the Figure 8 embodiment relied on by Petitioner and Dr. Anthony. Prelim. Resp. 47–50 (citing Ex. 1007, 5:12–21, 8:54–66, 9:1–3, 9:54–56, 9:60–62, 10:60–61, 11:46–49, Fig. 3); Pet. 62–67, 72–73; Ex. 1002 ¶¶ 343–360, 389–396. At this stage, contrary to Patent Owner’s arguments, Petitioner’s contentions are adequately supported by Schröder, which discloses a biometric sensor connected to chip module 10 and further discloses that chip module 10, antenna coil 8, and “at least one further electronic device” are arranged on inlay 12 in a recess between even component 16 and U-shaped component 18. Ex. 1007, 9:58–60, 12:8–9, 12:48–52, 12:62–65, Fig. 8.

5. *Enabling Disclosure*

“To render a claim obvious, the prior art, taken as a whole, must enable a skilled artisan to make and use the claimed invention.” *Raytheon Techs. Corp. v. Gen. Elec. Co.*, 993 F.3d 1374, 1380 (Fed. Cir. 2021). “[P]rior art patents and publications enjoy a presumption of enablement, and the patentee/applicant has the burden to prove nonenablement for such prior art.” *Apple Inc. v. Corephotonics, Ltd.*, 861 F. App’x 443, 450 (Fed. Cir. 2021) (nonprecedential; *inter partes* review context); *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1354 (Fed. Cir. 2003). “In general, a prior art reference asserted under § 103 does not necessarily have to enable its own disclosure, i.e., be ‘self-enabling,’ to be relevant to the obviousness inquiry.” *Raytheon*, 993 F.3d at 1380. For example, such a reference could provide the motivation to combine, and then be combined with a reference in which the limitation in question is enabled, or the reference could be used to supply the claim elements if it is enabled by another reference. *Id.* But “if an obviousness case is based on a non-self-enabled reference, and no other

prior art reference or evidence would have enabled a skilled artisan to make the claimed invention, then the invention cannot be said to have been obvious.” *Raytheon*, 993 F.3d at 1377.

Patent Owner argues that “Petitioner has not shown that . . . Schröder-Mestas enables one having ordinary skill in the art to make and use the invention without undue experimentation.” Prelim. Resp. 51. According to Patent Owner, “Petitioner fails to explain how one would apply the wrist-sized teachings of Mestas to Schröder” and “[t]he batteries and printed circuit board alone of Mestas are several times the size of a ring and are specifically designed for a wristband.” *Id.*

At this stage of the proceeding, we rely on a presumption of enablement for the combination of Schröder and Mestas. *Amgen*, 314 F.3d at 1354. To the extent Patent Owner argues nonenablement in its post-institution briefing, we will address that issue in view of the full trial record.

6. *Objective Evidence of Nonobviousness*

“Objective evidence of nonobviousness is an important component of the obviousness inquiry because evidence of secondary considerations may often be the most probative and cogent evidence in the record. It may often establish that an invention appearing to have been obvious in light of the prior art was not.” *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1349 (Fed. Cir. 2012) (internal quotes omitted).

“For objective evidence of secondary considerations to be relevant, there must be a nexus between the merits of the claimed invention and the objective evidence.” *Volvo Penta of the Americas, LLC v. Brunswick Corp.*, 81 F.4th 1202, 1210 (Fed. Cir. 2023). “A showing of nexus can be made in

two ways: (1) via a presumption of nexus, or (2) via a showing that the evidence is a direct result of the unique characteristics of the claimed invention.” *Id.*

Patent Owner contends that its commercial product—the Oura Ring—is “revolutionary” and an “unprecedented success,” with more than 2,500,000 sales. Prelim. Resp. 1–3. According to Patent Owner, the Oura Ring is coextensive with and embodies the ’953 Patent. *Id.* at 3.

We determine that Patent Owner’s argument and evidence concerning commercial success and nexus are best evaluated on a fully developed record.

7. Conclusion Regarding Ground 3

In view of the foregoing, Petitioner has demonstrated a reasonable likelihood of establishing obviousness of claim 1 of the ’953 patent over Schröder and Mestas.

H. GROUND 4 – ALLEGED OBVIOUSNESS OVER SCHRÖDER, MESTAS, AND ASAMI

In asserting obviousness of claims 11–15 over Schröder, Mestas, and Asami, Petitioner contends that “[a] POSITA would have been motivated to combine Schröder-Mestas’s teachings with Asami’s teachings and would have had a reasonable expectation of success.” Pet. 75. According to Petitioner, it would have been obvious “to implement Asami’s more advanced gesture recognition capabilities in the Schröder-Mestas device.” *Id.* at 76. At this stage, Patent Owner does not dispute Ground 4 separately from Grounds 1–3. *See generally* Prelim. Resp.

I. GROUND 5 – ALLEGED OBVIOUSNESS OVER SCHRÖDER, MESTAS,
AND WISSMAR

Building from Ground 3, Petitioner’s challenge of claims 40–43 over Schröder, Mestas, and Wissmar cites Wissmar as disclosing certain limitations of dependent claims 40–43. Pet. 79–82. For example, addressing claim 40’s recitation that “the potting comprises an epoxy,” Petitioner argues that it would have been obvious “to include Wissmar’s epoxy coating in the Schröder-Mestas device to improve the reliability of the device.” *Id.* at 80. At this stage, Patent Owner does not dispute Ground 5 separately from Grounds 1–3. *See generally* Prelim. Resp.

III. ORDER

It is:

ORDERED that *inter partes* review of claims 1–6, 11–15, and 38–43 of the ’953 Patent is instituted on all grounds presented in the Petition; and
FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this decision.

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