



UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DEEPER, UAB,
Petitioner,

v.

VEXILAR, INC.,
Patent Owner.

Case IPR2018-01310
Patent 9,628,592 B2

Before JUSTIN T. ARBES, BARBARA A. BENOIT, and
JOHN R. KENNY, *Administrative Patent Judges*.

KENNY, *Administrative Patent Judge*.

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

I. INTRODUCTION

Deeper, UAB (“Petitioner”) filed a Petition (Paper 1, “Pet.”), requesting an *inter partes* review of claims 1–23 (“challenged claims”) of U.S. Patent No. 9,628,592 B2 (Ex. 1001, “challenged patent”). Pet. 1. Vexilar, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

We have been delegated the authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). Having considered the Petition, the Preliminary Response, and the evidence of record cited therein, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to only two of twenty-three challenged claims as to only one of four asserted grounds of unpatentability. Under the circumstances, we decline to institute an *inter partes* review.

II. BACKGROUND

A. Related Proceedings

Neither party identifies any related proceedings. Pet. 64; Paper 3, 2.

B. Overview of the Challenged Patent (Ex. 1001)

The challenged patent is directed to a water regimen detecting device, which can detect fish. Ex. 1001, 1:8–35. According to the challenged patent, prior art water regimen devices typically communicated with users via wired means of communication, which were difficult to assemble or apply. *Id.* at 1:13–22. The challenged patent indicates that although some prior art water regimen devices used wireless communications, those devices performed amplitude-shift keying (ASK) modulation, which created wireless interference and transmission errors, and, as such, those devices could only support communication over a short distance. *Id.* To overcome

these problems, the challenged patent utilizes WIFI. *Id.* at 1:33–35. Figure 2 of the challenged patent is reproduced below:

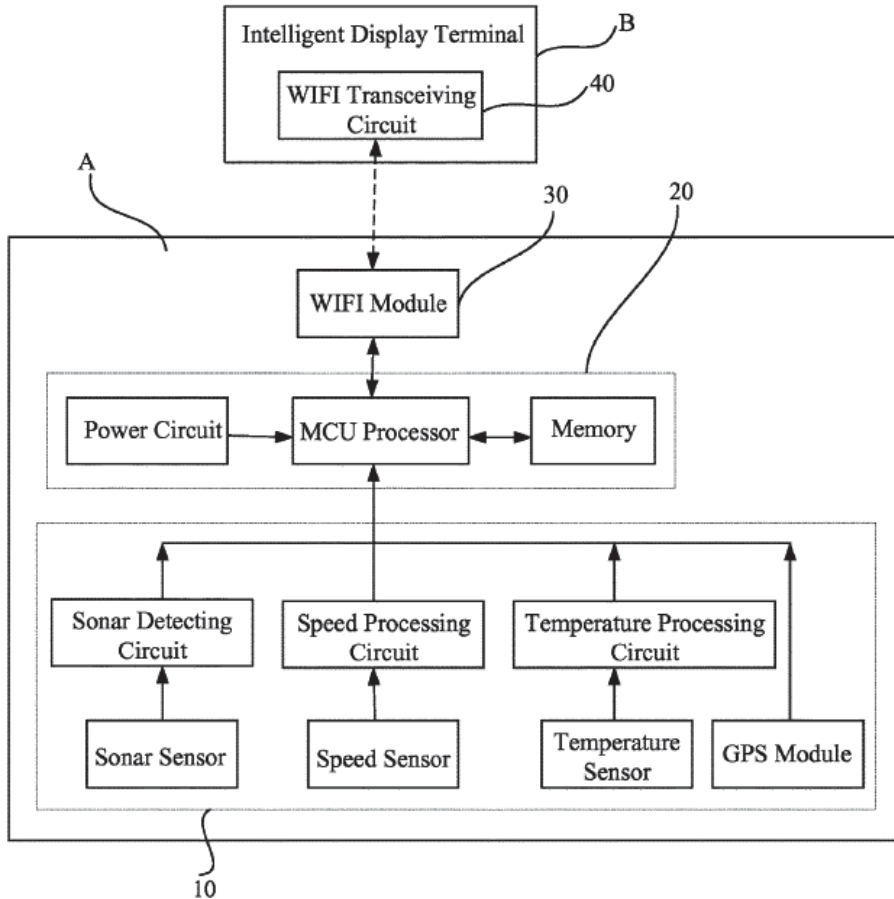


FIG. 2

Figure 2 is a block diagram of a wireless water regimen detecting system that uses WIFI. Ex. 1001, 2:65–67. Wireless water regimen detecting device A includes fish finder module 10, data communication module 20, and WIFI module 30. *Id.* at 3:15–54, 4:17–21. Fish finder module 10 includes sonar sensor 11, speed sensor 13, temperature sensor 15, and their associated processing circuits. *Id.* at 3:38–47. Fish finder module 10 also includes GPS module 17. *Id.* at 3:47–48. Data

communication module 20 includes MCU processor 22. *Id.* at 3:48–54.
Intelligent display terminal B contains WIFI transceiving circuit 40, which communicates wirelessly with WIFI module 30. *Id.* at 3:15–25, 4:17–26.

C. Illustrative Claims

Claims 1, 19, and 22 are the independent, challenged claims, which are reproduced below:

1. A wireless fish finder device configured to be deployed on water and to communicate with a remote terminal using WIFI, the wireless fish finder device comprising:

a housing configured to be deployed on water;

a fish finder module arranged at the housing and comprising a temperature sensor and a temperature processing circuit mechanically connected to the temperature sensor;

a data communication module arranged in the housing and mechanically connected to the fish finder module; and

a WIFI module arranged in the housing, mechanically connected to the data communication module, and configured to generate a WIFI hotspot to communicate between the housing and the remote terminal.

19. A water-based detecting method using WIFI, the method comprising:

converting an analog signal detected by a sonar sensor of a fish finder module arranged at a housing deployed on water into a digital signal using a sonar detecting circuit arranged at the housing;

converting the digital signal into a sonar data package with the sonar detecting circuit;

generating a WIFI hotspot at the housing to transmit the sonar data package from the fish finder module at the housing to a remote terminal;

sending the sonar data package in one detecting period;

converting a thermal effect detected by a temperature sensor to a temperature value at a temperature processing circuit arranged in the housing; and

sending the temperature value to the remote terminal via the WIFI hotspot

22. A wireless fish finder device configured to be deployed on water and to communicate with a remote terminal using WIFI, the wireless fish finder device comprising:

a housing configured to be deployed on water;

a fish finder module arranged at the housing and comprising a sonar sensor and a sonar detecting circuit mechanically connected to the sonar sensor;

a data communication module arranged in the housing and connected to the fish finder module; and

a WIFI module arranged in the housing, connected to the data communication module and configured to generate a WIFI hotspot to communicate between the housing and the remote terminal;

wherein the wireless fish finder device is capable of being wirelessly connected to the remote terminal by a WIFI transceiver circuit wirelessly connected to the WIFI module of the wireless fish finder device, the remote terminal having a display screen and a downloadable application for user control of a sonar data package from the wireless fish finder device.

D. Prosecution History of the Challenged Patent

The prosecution of the challenged patent resulted in a number of Office Actions and Amendments, certain aspects of which are relevant to our analysis of Petitioner's asserted grounds. In our discussion here, we focus on the rejections (and the amendments made in response to those rejections) of claim 1: under 35 U.S.C. § 102(b) for anticipation by U.S. Patent Publication No. 2006/0191185 A1 to Hansen (Ex. 2003), under 35 U.S.C. § 102(e) for anticipation by U.S. Patent No. 8,433,463 B1 to Lieberman (Ex. 3001), and under 35 U.S.C. § 112 ¶ 1 for a lack of written description support for the claims reciting the term "WIFI hotspot."

We address the prosecution of claim 1 as illustrative of the prosecution of the challenged claims as a whole. We address the anticipation rejections based on Hansen and Lieberman because those rejections and their responsive amendments demonstrate the importance during the prosecution history of the recited relationships amongst the elements of claim 1. For example, claim 1 recites "a fish finder module arranged at the housing and comprising a temperature sensor and a temperature processing circuit mechanically connected to the temperature sensor." As set forth below, Applicant amended claim 1 to require that the fish finder module comprises a temperature processing circuit in response to an anticipation rejection based on Hansen, and Applicant added the limitation that the temperature processing circuit is mechanically connected to the temperature sensor in response to an anticipation rejection based on Lieberman.

We address the rejection of claim 1 under 35 U.S.C. § 112 for a lack of written description support for the claims reciting the term "WIFI hotspot" and Applicant's response to that rejection because the parties dispute the

construction of term “WIFI hotspot” and each party cites to the prosecution history to support its proposed construction. Pet. 6–7; Prelim. Resp. 13–14. Petitioner cites to Applicant’s response to the written description rejection. Pet. 6–7. Patent Owner cites to Applicant’s response to a rejection of claim 1 as anticipated by Hansen. Prelim. Resp. 13.

As background, the challenged patent issued from U.S. Patent Application No. 13/980,576, filed in July 2013, which was the U.S. national phase application for PCT Application No. PCT/CN2013/070667, filed in January 2013. Ex. 1001, 1; Ex. 1002, 9, 13.¹ With the U.S. national phase application, in July 2013, Patent Owner filed a preliminary amendment that set forth the first version of claim 1 to be examined during U.S. prosecution (“original claim 1”):

1. A wireless water regimen detecting device based on WIFI, comprising a fish finder module, a data communication module connected to the fish finder module and a WIFI module connected to the data communication module.

Ex. 1002, 82–89.

In December 2014, the Examiner rejected original claim 1 as being anticipated by, *inter alia*, Hansen. Ex. 1002, 176, 178. Figures 1 and 2 of Hansen are reproduced below:

¹ For Exhibit 1002, we cite the page numbers that Petitioner added to the lower right hand corner of each page, but omit the prefix FX (e.g., we cite FH00009 as 9).

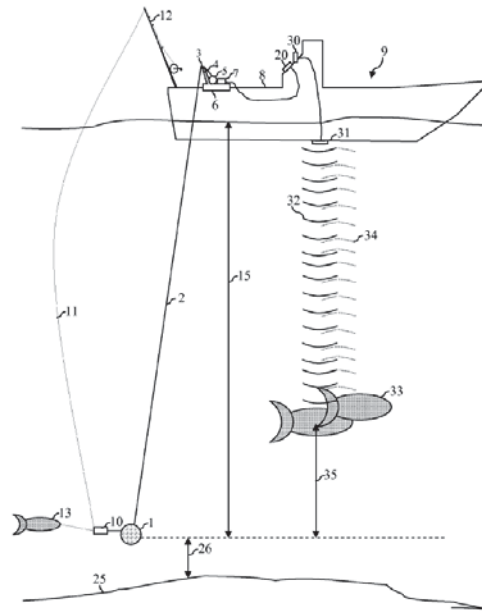


FIG. 1

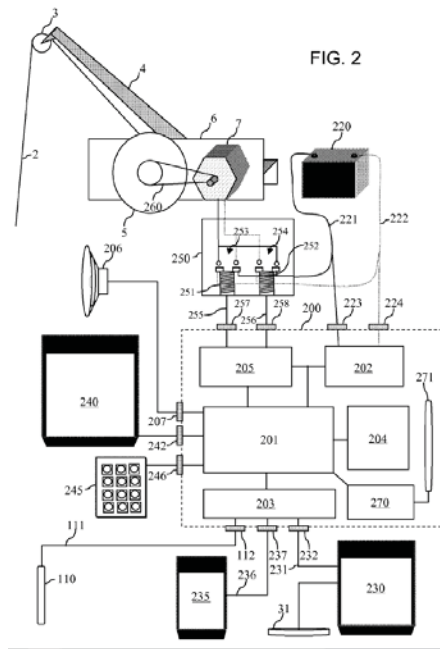


FIG. 2

Figures 1 and 2 are an illustration and a functional block diagram, respectively, of a downrigger assembly. Ex. 2003 ¶¶ 7-8. The illustrated downrigger assembly includes weight 1; line, rope, or wire 2; pulley wheel

3; stiff pole or boom 4; reel 5; line clip 10; fishing line 11; fishing pole 12; lure or bait 13; temperature sensor 110; processor 201; data interface circuitry 203; fish finder module 230; and GPS module 235. *Id.* ¶¶ 21, 26, 28. In Figure 2, conductor 111 connects temperature sensor 110 to waterproof connector 112. *Id.* ¶¶ 34, 96. Hansen describes alternatively using a WIFI transceiver instead of waterproof connector 112. *Id.* ¶ 34.

In the December 2014 Office Action, the Examiner mapped Hansen's fish finder module 230 and WIFI communications to the fish finder module and WIFI module recited by claim 1, respectively. Ex. 1002, 176, 178. In response, in April 2015, Applicant amended claim 1, adding the limitation that the fish finder module comprises a temperature sensor and a temperature processing circuit. Ex. 1002, 195, 197, 263. The amended claim read:

1. A wireless water regimen detecting device based on WIFI, the wireless water regimen comprising:
 - a fish finder module comprising a temperature sensor and a temperature processing circuit connected to the temperature sensor;[,]
 - a data communication module connected to the fish finder module; and
 - a WIFI module connected to the data communication module.

Ex. 1002, 195, 197, 263.

In May 2015, in a final rejection, the Examiner rejected amended claim 1 as, *inter alia*, anticipated by Hansen. Ex. 1002, 270–271, 273. The Examiner stated that in Hansen, “the temperature sensor is a standalone unit which inherently/must comprise[] a processing unit for processing temperature or processing temperature by processor 201 (fig. 2, paragraph 28).” *Id.* at 273.

In response, in July 2015, Applicant proposed amending claim 1, but the Examiner denied entry of that proposed, after-final amendment.

Ex. 1002, 294–310, 314. In August 2015, Applicant filed a Request for Continued Examination and an Amendment, which amended claim 1 as follows:

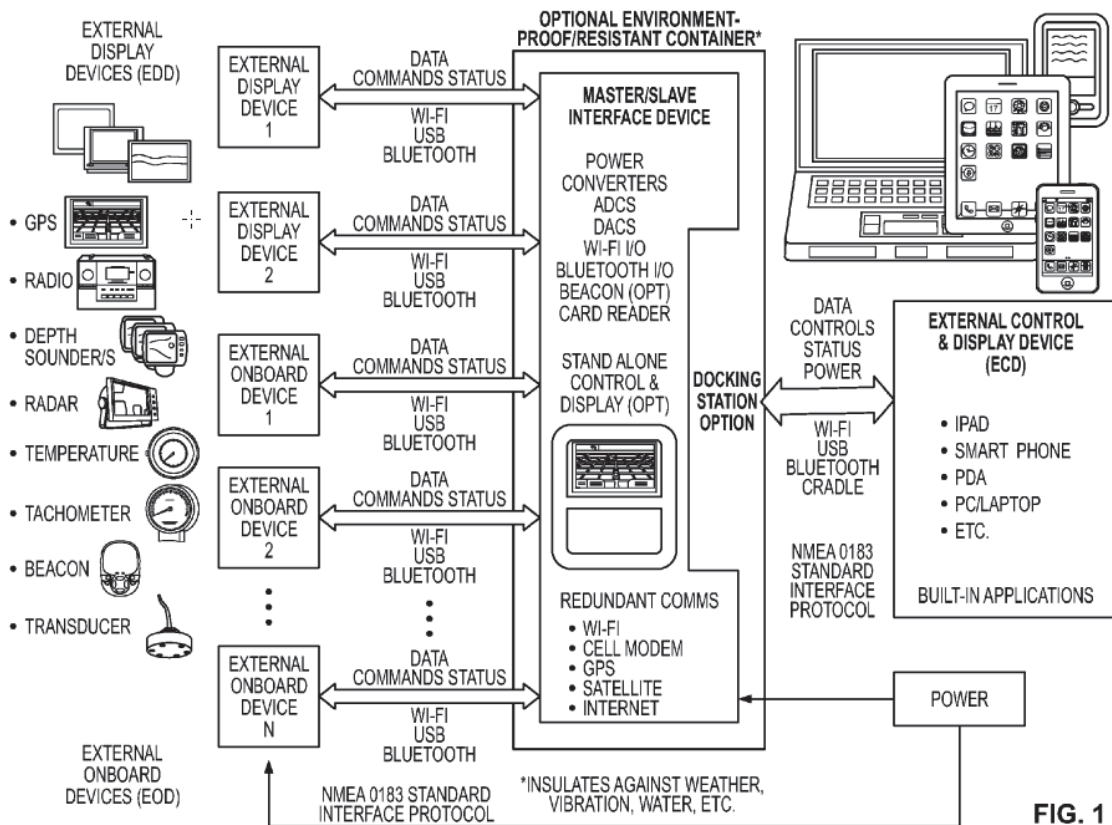
1. A wireless water regimen detecting device based on WIFI, the wireless water regimen comprising:
 - a fish finder module comprising a temperature sensor and a temperature processing circuit connected to the temperature sensor;
 - a data communication module connected to the fish finder module; and
 - a WIFI module connected to the data communication module and configured to generate a WIFI hotspot.

Ex. 1002, 320, 322, 339.

In the Remarks section of the August 2015 Amendment, Applicant disputed the Examiner’s finding that the temperature sensor must inherently comprise a processing unit for processing a temperature. Ex. 1002, 331. According to Applicant, “Hansen discloses a variety of temperature sensors, each of which can be used without a processing unit.” *Id.* Applicant further stated that “[e]xamples of the temperature sensors used in Hansen include ‘a thermoresistor, thermocouple, or semiconductor-based temperature sensor.’ (Hansen at ¶ 96.) None of these examples requires or inherently contains a temperature processing unit.” *Id.* Further, Applicant argued that “Hansen specifically recites transmitting the signal form the temperature sensor 110 to a remote processor, not one that is part of the fish finder module.” *Id.* (emphasis omitted). And Applicant quoted Hansen’s statement: “Signals form the temperature sensor 110 can be carried to the downrigger system by means of the suspension wire 2 or via a separate

conductor 111.” *Id.* at 331–32, quoting Hansen ¶ 96. Applicant also argued that Hansen did not generate a WIFI hotspot, stating: “Hansen . . . does not disclose a WIFI hotspot, only a transceiver. By generating a hotspot, the claimed device allows a variety of mobile devices to connect, without need for a separate modem or other equipment that would be required in the systems disclosed in Hansen.” *Id.* at 332.

In November 2015, the Examiner withdrew the rejection of claim 1 based on Hansen and, *inter alia*, rejected claim 1 under 35 U.S.C. § 112 ¶ 1 as lacking written description for the term “hotspot” and under 35 U.S.C. § 102(e) as anticipated by Lieberman. Ex. 1002, 346–350. Figure 1 of Lieberman is reproduced below:



Ex. 3001, Fig. 1.

Figure 1 is a block diagram of a MSID (“Master/Slave Interface Device) embodiment of Lieberman. Ex. 3001, 2:3–4. The embodiment includes an MSID, an ECD (external control and display device), EODs (external onboard devices), and EDDs (external display devices). *Id.* at Fig. 1. Lieberman discloses that the EODs can include a temperature sensor and a GPS device. *Id.* at 3:1–3, 14:35–39. Lieberman also discloses that “[t]he data links between the EODs, EDDs, and the MSID can be either Bluetooth, Wi-Fi, and/or possibly hardwire (such as an RS232 connection).” *Id.* at 7:7–9.

The Examiner mapped Lieberman’s MSID and ECD to the recited fish finder and data communication modules of claim 1, respectively. Ex. 1002, 347. Further, the Examiner found that Lieberman’s disclosure of a temperature sensor and use of WIFI disclosed the temperature sensor and WIFI limitations of claim 1. *Id.*

In response, in February 2016, Applicant amended claim 1 as follows:

1. A wireless water regimen detecting device based on WIFI, the wireless water regimen detecting device comprising:
 - a fish finder module comprising a temperature sensor and a temperature processing circuit mechanically connected to the temperature sensor at a detecting point;
 - a data communication module mechanically connected to the fish finder module at the detecting point; and
 - a WIFI module mechanically connected to the data communication module at the detecting point and configured to generate a WIFI hotspot.

Ex. 1002, 359, 361, 374.

In the Remarks section of that February 2016 Amendment, Applicant argued that the Specification describes the recited hotspot. Applicant noted that the Specification discloses utilizing a “wireless communication way of WIFI.” Ex. 1002, 369, citing Ex. 1002, 94 ¶ 19.² According to Applicant, the Specification also discloses that this “‘wireless communication way of WIFI,’ i.e.[,] a wireless hotspot provides at least two benefits (greater bandwidth and ease of connectivity) as compared to conventional networks” Ex. 1002, 369. Applicant argued that in light of these disclosures, the Examiner should withdraw the written description rejection. *Id.*

In the Remarks section of that February 2016 Amendment, Applicant also argued that “[t]he amended claims are not anticipated by Lieberman, because Lieberman does not disclose any device in which the fish finder module, temperature sensor, temperature processing circuit, data communication module, and WIFI module are all at the detecting point.” Ex. 1002, 370. In contrast, Applicant asserted: “Lieberman describes structures in which processing and analysis, as well as the wireless signal source, are arranged at a central MSID device.” *Id.*

In April 2016, the Examiner withdrew the written description rejection and rejected claim 1 as, *inter alia*, anticipated by Lieberman. Ex. 1002, 377, 381.

In June 2016, Applicant filed a Request for Continued Examination with an Amendment that amended claim 1 as follows:

1. A wireless fish finder ~~water regimen detecting~~ device configured to be deployed on water and to communicate with a remote terminal using ~~based on~~ WIFI, the wireless fish finder

² Applicant cited paragraph 15 of the Specification, but the quoted text appears in paragraph 19. Ex. 1002, 94, 369.

~~water regimen detecting~~ device comprising:
 a housing configured to be deployed on water;
 a fish finder module arranged at the housing and
 comprising a temperature sensor and a temperature processing
 circuit mechanically connected to the temperature sensor ~~at a~~
 ~~detecting point;~~
 a data communication module arranged in the housing and
 mechanically connected to the fish finder module ~~at the~~
 ~~detecting point;~~ and
 a WIFI module arranged in the housing, mechanically
 connected to the data communication module ~~at the detecting~~
 ~~point,~~ and configured to generate a WIFI hotspot to communicate
 between the housing and the remote terminal.

Ex. 1002, 403, 406.

In the Remarks section of this Amendment, Applicant distinguished Lieberman, arguing that “Lieberman is directed to a ‘Master/Slave Interface Device (MSID)’ that serves ‘as a master or slave to a plurality of external onboard vehicular devices.’” *Id.* at 417. Applicant argued that “[t]hese ‘external onboard vehicular devices,’ or EODs (see FIG. 1 of Lieberman) are each separate, distinct devices.” *Id.* Applicant further asserted: “Neither [the EODs] nor the MSID have a common housing, nor does Lieberman disclose that any one of them has a housing configured to be deployed on water while also having a fish finder module, a data communication module and a WIFI module.” *Id.*

In November 2016, the Examiner withdrew the rejection of claim 1 based on Lieberman and rejected claim 1 as, *inter alia*, anticipated by two other references. Ex. 1002, 429, 430.

In December 2016, Applicant had an interview with the Examiner and filed a response that did not amend claim 1 or any other claim.

Ex. 1002, 451–463. In the Remarks section of that response, Applicant

argued that the neither reference used to reject claim 1 in the November 2016 Office Action was prior art. *Id.* at 461–462.

In February 2017, the Examiner issued a Notice of Allowability, in which the Examiner provided the following reasons for allowance: “the prior art of record discloses numerous wireless fish finders (see previous rejections), however, the prior art of record failed to teach or suggest a wireless fish finder comprises a WIFI module for generating a WIFI hotspot, wherein the WIFI hotspot wirelessly communicates to a remote terminal.” Ex. 1002, 471, 472.

E. Evidence Relied Upon by Petitioner

Petitioner relies on the following references:

Reference		Publication/Issue Date	Exhibit
Jang	Korean Patent Registration No. 10-0993227	Nov. 3, 2010	1003, 1004 ³
Fairbairn	U.S. Patent Application Publication No. 2005/0135192 A1	June 23, 2005	1005
Langer	U.S. Patent No. 5,483,767	Jan. 16, 1996	1006
Kabel	U.S. Patent No. 6,909,946 B1	Jun. 21, 2005	1007
Park	U.S. Patent Application Publication No. 2007/0147173 A1	Jun. 28, 2007	1008

Petitioner also relies on a declaration from James Geier. Ex. 1010.

Patent Owner relies on a declaration from Ray W. Nettleton, Ph.D.

Ex. 2001.

³ Exhibits 1003 and 1004 are Jang and its English translation, respectively. In this opinion, we cite to the latter.

F. Asserted Grounds

Petitioner asserts the following grounds of unpatentability based on 35 U.S.C. § 103(a):

Ground	Claims Challenged	References
1	1–5, 9–11, and 15–18	Jang
2	6–8, 12–14, 19–23	Jang and Fairbairn
3	1–4, 11, 12, 19, and 20	Langer and Kabel
4	5–10, 13–18, and 21–23	Langer, Kabel, and Park

Pet. 5.

G. Real Parties in Interest

Petitioner identifies Deeper, UAB; Deeper Inc.; Gemini Grupe, UAB; and Modertus, UAB as real parties in interest. Pet. 64. Patent Owner identifies Vexilar, Inc. as its real party in interest. Paper 3, 2.

III. CLAIM CONSTRUCTION

We interpret claims in an unexpired patent using the “broadest reasonable construction in light of the specification of the patent in which [they] appear[.]” 37 C.F.R. § 42.100(b) (2016).⁴ Petitioner proposes

⁴ The Petition in this proceeding was filed on June 26, 2018, prior to the effective date of the rule change that replaces the broadest reasonable interpretation standard with the federal court claim interpretation standard. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,340 (Oct. 11, 2018) (“This rule is effective on November 13, 2018 and applies to all IPR, PGR and CBM petitions filed on or after the effective date.”).

constructions for nine claim terms. Pet. 6–8. Patent Owner argues we only need to construe two of those nine claim terms: WIFI and WIFI hotspot. Prelim. Resp. 9–10.

For purposes of this Decision, we determine only WIFI hotspot requires construction. Although Patent Owner disputes Petitioner’s proposed construction for WIFI, that claim construction dispute does not affect our analysis. Prelim. Resp. 11–14. The prior art references that Petitioner relies on for teaching WIFI expressly use the term WIFI, and Patent Owner does not dispute that the WIFI disclosed in those references is the WIFI recited by the challenged claims. Pet. 12 (relying on Jang, which uses the term “WIFI,” *see* Ex. 1004 ¶ 13); Pet. 35 (relying on Kabel, which uses the term “Wi-Fi,” *see* Ex. 1007, Abstract); Prelim Resp. 40–44, 50–54.

For the term WIFI hotspot, the parties propose the following constructions:

Petitioner’s Proposed Construction	Patent Owner’s Proposed Construction
“an area that enables wireless communication using WIFI”	“a wireless coverage area where multiple devices can communicate with one another via WIFI without requiring the Internet”

Pet. 6; Prelim. Resp. 9.

To support its proposed construction for the term, Petitioner cites the following disclosure from the Specification, which addresses WIFI communication:

the present invention utilizes the wireless communication way of WIFI to make the display terminal of the fish finder module not be limited to the wireless receiving terminal which is especially prepared for it, but can use exciting intelligent terminals with a

WIFI wireless communication function to display, such as smart phone, tablet PC, notebook computer or other portable mobile devices.

Ex. 1001, 2:41–48; Pet. 6–7. The Specification, excluding the claims, does not use the term WIFI hotspot.

Petitioner also cites the statement Applicant made during the prosecution of the challenged patent, when Applicant amended claim 1 to recite the term WIFI hotspot and responded to the written description rejection regarding the claims reciting this term. Pet. 6–7. In particular, Petitioner cites Applicant’s statement that quoted the Specification’s disclosure of wireless communication and equated it to a wireless hotspot: “By using a ‘wireless communication way of WIFI,’ i.e. a wireless hotspot, ‘transmission speed . . . can be improved, and the wireless water regimen detecting production of the present invention can be used with all kinds of smart phones on sale.’”). *Id.*, quoting Ex. 1002, 330, and 369, which in turn cite Ex. 1002, 94 ¶ 15 (in actuality, however, the quoted material is at Ex. 1002, 94 ¶ 19, which is reprinted at Ex. 1001, 2:40–58).

Petitioner also relies on the recitation in dependent claims that “the remote terminal comprises at least one of a smart phone, a table computer, a personal computer or a wireless receiver.” Pet. 7, citing Ex. 1001, claims 5, 8, 10, 14, and 16. Petitioner argues that the wireless receiver recited by these dependent claims includes a WIFI transceiver circuit and display screen. *Id.*, citing Ex. 1001, claims 4 and 5.

Patent Owner relies on the following statement Applicant made during prosecution to distinguish Hansen: “By generating a hotspot, the claimed device allows a variety of mobile devices to connect, without need for a separate modem or other equipment that would be required in the

systems disclosed in Hansen.” Prelim. Resp. 13, quoting Ex. 1002, 307. Patent Owner also relies on the disclosure in the challenged patent of “how to implement a point-to-point ad-hoc mode of operation, which is a ‘networking mode and dispenses with [a] wireless router.’” Prelim. Resp. 13, quoting Ex. 1001, 6:13–16.

Both parties cite the testimony of their declarants. Pet. 7, citing Ex. 1010 ¶ 65; Prelim. Resp. 13–14, citing Ex. 2001 ¶¶ 26–27. Neither party relies on any dictionary definitions for WIFI hotspot or on any definition provided by any other extrinsic source, other than the testimonial evidence from their declarants. Pet. 7; Prelim. Resp. 13–14.

On this record, we agree with and adopt Petitioner’s proposed construction. The only non-testimonial evidence cited by either party that implicitly defines the term WIFI hotspot is the statement where Applicant equated a wireless hotspot with wireless communication via WIFI: “By using a ‘wireless communication way of WIFI,’ i.e. a wireless hotspot,” Ex. 1002, 330, 369. “A patentee’s use of ‘i.e.’ in the intrinsic record . . . is often definitional. Indeed, the term ‘i.e.’ is Latin for *id est*, which means ‘that is.’” *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, 853 F.3d 1370, 1376 (Fed. Cir. 2017) (citations omitted). The U.S. Court of Appeals for the Federal Circuit has “explained that ‘[w]hether a statement to the PTO that includes ‘i.e.’ constitutes a clear and unmistakable disavowal of claim scope depends on the context.’” *Id.* (citation omitted). The context in which Applicant used “i.e.” supports the conclusion that it was used to define the term. Applicant provided this definition when arguing against a written description rejection concerning WIFI hotspot, for which Applicant’s definition of the term was central to Applicant’s argument.

Ex. 1002, 346, 368–369. Under the circumstances, we find this definition to be the most persuasive claim construction evidence cited by either party. The additional requirement of an enabled area for communication is essentially undisputed as both parties propose construing WIFI hotspot to require such an area. Pet. 6 (“an area that enables wireless communication . . .”); Prelim. Resp. 9 (“a wireless coverage area where multiple devices can communicate . . .”). And we are unaware of anything in the prosecution history or in the Specification of the challenged patent that would dissuade us from construing the term WIFI hotspot as requiring an enabled area of communication.

Regarding Patent Owner’s evidence, the non-testimonial evidence cited by Patent Owner does not support Patent Owner’s proposed construction. The statement during prosecution, cited by Patent Owner, that multiple devices could connect with a WIFI hotspot does not necessarily mean that multiple devices could communicate with each other using a WIFI hotspot. Prelim. Resp. 13, citing Ex. 1002, 307. Rather, all that statement requires is that more than one type of device could utilize the hotspot. Given the lack of support for Patent Owner’s proposed construction in the Specification and prosecution history, we are not persuaded by Patent Owner’s testimonial evidence in support of its proposed construction (Ex. 1002 ¶¶ 26–28).

Based on the evidence of record, we agree with and adopt Petitioner’s proposed construction for WIFI hotspot.

IV. ALLEGED OBVIOUSNESS

A. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are “such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations.⁵ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). “To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

B. Level of Ordinary Skill in the Art

Petitioner’s declarant, Mr. Geier, defines an ordinarily skilled artisan with respect to the challenged patent as having a bachelor’s degree in Electrical Engineering or a similar discipline and/or two or more years’ experience relating to wireless communication systems or marine electronics, noting that additional education could substitute for less

⁵ Patent Owner does not contend in its Preliminary Response that such secondary considerations are present.

experience and vice versa. Ex. 1010 ¶ 60. Patent Owner does not dispute this definition. Prelim Resp. 8. For purposes of this Decision, we accept Mr. Geier’s definition of an ordinarily skilled artisan.

C. Obviousness Ground Based on Jang

As indicated above, Petitioner contends that claims 1–5, 9–11, and 15–18 are unpatentable as obvious over Jang.

1. Overview of Jang

Jang describes a “Fish finder using [a] smart phone.” Ex. 1004, 1. Jang states that “conventional fish finders . . . require the purchase of a personal computer or separate display this is difficult to carry around.” *Id.* at Abstract. Jang indicates that it overcomes the requirement of a personal computer or separate display by having a fish finder communicate with a smart phone using WIFI or Bluetooth. *Id.* Figure 6 of Jang is reproduced below:

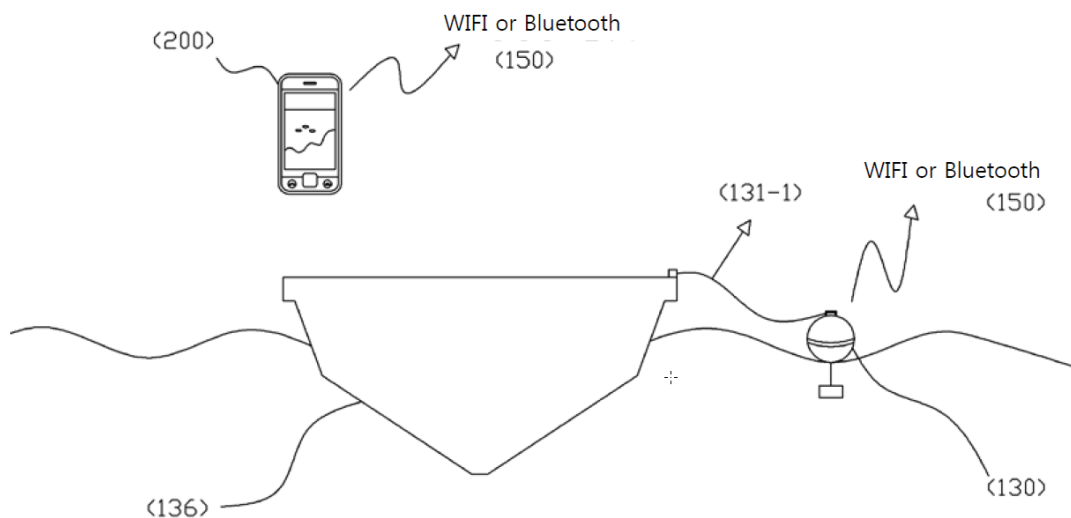


Figure 6 is a block diagram illustrating WIFI or Bluetooth communication 150 between buoy type fish finder 130 and smart phone

200. Ex. 1004, 6–7. Rope 131-1 secures buoy type fish finder 130 to item 136, which is depicted in Figure 6, as Petitioner indicates, as a boat. *Id.* at 8; Pet. 10.

Figure 7 of Jang is reproduced below:

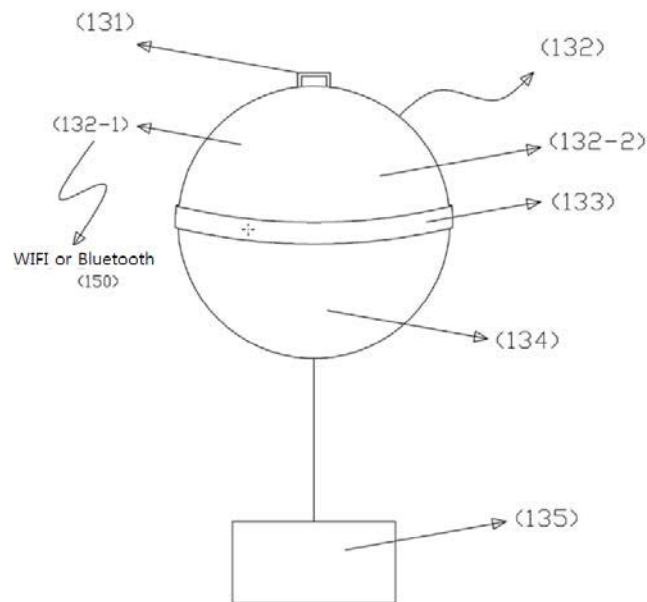


Figure 7 is a block diagram showing the front of buoy-type fish finder 130 in more detail. Ex. 1004, 6. Buoy type fish finder 130 includes rope hook 131, fish finder 132, patch antenna 132-1, battery 132-2, buoy 133, control module 134, and ultrasonic sensor 135. *Id.* at 8–9.

Figure 9 of Jang is reproduced below:

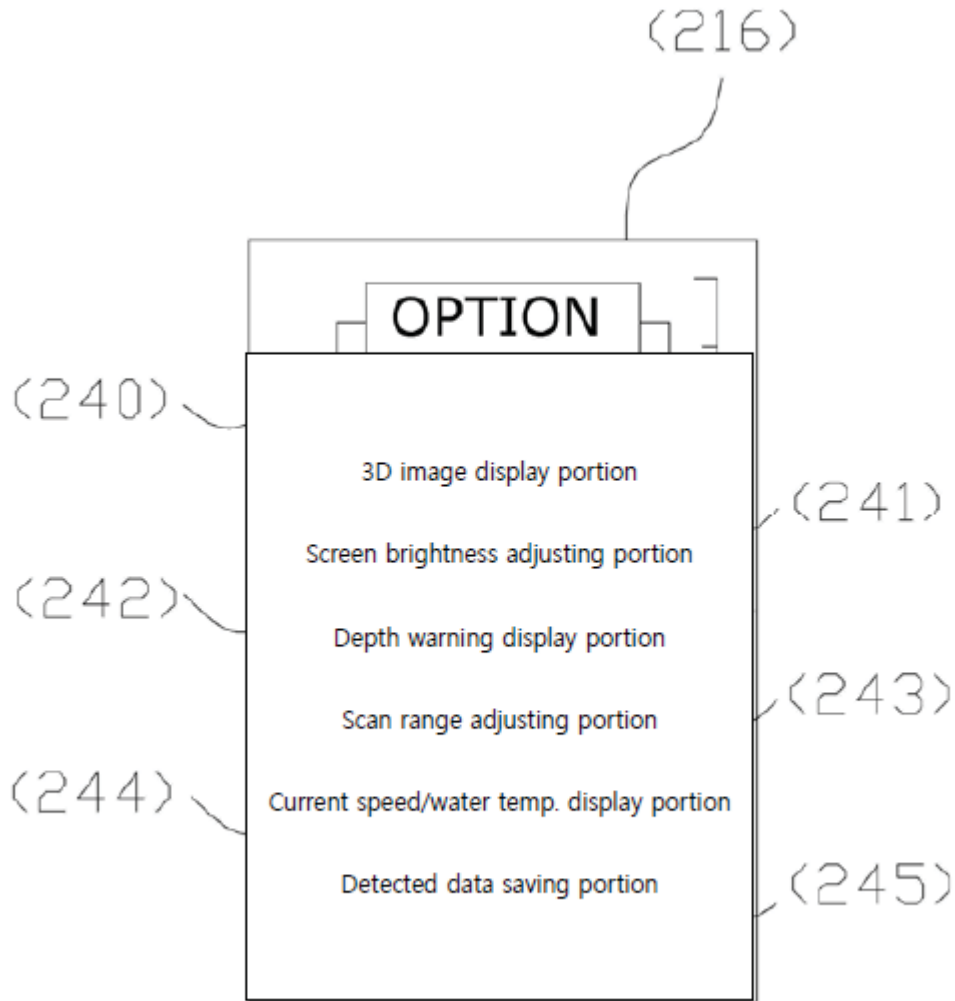


Fig. 9 is a block diagram illustrating the functions of fish finder app software 220 on smartphone 200. Ex. 1004, 6, 10. Portion 244 of liquid crystal display 216 displays current speed and water temperature. *Id.* at 10, 11.⁶

⁶ Paragraph 58 of Jang uses the number “244” to designate the current speed/water temperature display portion. Ex. 1004, 10. Paragraph 74 of Jung uses the number “243” for the same designation. *Id.* at 11.

2. *Claim 1*

Petitioner argues that, for each limitation of claim 1, Jang teaches that limitation or that limitation would have been an obvious design choice in light of Jang. Pet. 10–13. We focus on the limitation in claim 1 that the fish finder module comprises “a temperature processing circuit.” As discussed below, Petitioner relies on conclusory, unsupported testimony to prove that Jang teaches this limitation or that the limitation is an obvious design choice, but such testimony is not sufficient. *See Magnum Oil*, 829 F.3d. at 1380 (“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements.”); 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); Office Trial Practice Guide Update (August 2018),⁷ 4–5 (explaining that expert testimony cannot take the place of a disclosure of a prior art reference that is required as part of the unpatentability analysis).

For the limitation that the fish finder module comprises a temperature processing circuit, Petitioner contends Jang describes such a fish finder module. Pet. 11–12. Alternatively, Petitioner contends that adding such a temperature processing circuit to Jang’s fish finder module would have been an obvious design choice. *Id.* at 12. For both assertions, Petitioner cites testimony of its declarant, Mr. Geier. *Id.* at 11–12.

⁷ Office Trial Practice Guide Update (August 2018) is available at https://www.uspto.gov/sites/default/files/documents/2018_Revised_Trial_Practice_Guide.pdf; *see also* Office Trial Practice Guide, August 2018 Update, 83 Fed. Reg. 39989 (Aug. 13, 2018) (Notice of update).

For Jang’s alleged description of a fish finder module comprising a temperature processing circuit, Petitioner argues that Jang discloses “a fish finder module arranged at the housing (the spherical buoy-type float) and an ultrasonic sensor (135) that transmits and receives ultrasonic waves.” Pet. 11, citing Ex. 1004 ¶ 43. Further, Petitioner argues that Jang “discloses the display of, among other things, ‘current speed/water temperature’ and expressly includes ‘temperature’ among data that can be displayed.” *Id.*, quoting Ex. 1004 ¶¶ 58, 73. Petitioner concludes that these disclosures in Jang teach “that *Jang* includes a temperature sensor and a temperature processing circuit connected to the temperature sensor to generate the information specifically displayed on the display terminal, such as a smart phone screen.” *Id.* at 11–12, citing Ex. 1010 ¶¶ 110–111. Petitioner relies solely on the testimony of Mr. Geier to support that conclusion. *Id.*

For the allegedly obvious design choice, Petitioner makes the following conclusory statement, citing the testimony of Mr. Geier:

Even if such claimed temperature sensor and circuit were not explicitly or inherently disclosed by *Jang*, including such a sensor and circuit would be a routine and obvious design choice to a [person of ordinary skill in the art (POSITA)], within the knowledge of a POSITA, and a POSITA would have been motivated to include such a sensor to achieve the data output expressly contemplated and displayed on the wirelessly connected smart phone of *Jang*.

Pet. 12, citing Ex. 1010 ¶¶ 110–112.

This conclusory analysis set forth in the Petition regarding Jang’s alleged teaching of the recited temperature processing circuit and the purportedly obvious design choice for such a circuit, by itself, renders Petitioner’s showing insufficient. But even if we were to go beyond the Petition and also consider the cited testimony of Mr. Geier, Petitioner’s

showing would still be insufficient because that cited testimony is itself conclusory. For Jang's alleged disclosure of the recited temperature processing circuit, Mr. Geier testifies that the "fish finder of *Jang* discloses the display of, among other things, 'current speed/water temperature' and includes 'temperature' among data that can be displayed." Ex. 1010 ¶ 111, citing Ex. 1004 ¶¶ 58, 73, Fig. 9. Based solely on this disclosure, Mr. Geier concludes that "[i]n order for the display on the mobile phone in *Jang* to display temperature, the sensor in the *Jang* fish finder must necessarily include a temperature sensor and an associated connected temperature processing circuit to allow for such temperature data to be generated and displayed." *Id.* Mr. Geier, however, cites no evidence and provides no analysis to support that conclusion. *Id.* Similarly, Mr. Geier testifies that "the spherical buoy fish finder module of *Jang* shows the sensor within the housing, and a POSITA would recognize that the sensor includes a temperature sensor (so that the water temperature can be displayed as shown in Figure 9 and disclosed in, for example, ¶[0058] and ¶[0073])." *Id.* From this, Mr. Geier concludes that "[s]uch a temperature sensor would also have a mechanically connected circuit to a temperature value that can be transmitted via Wi-Fi." *Id.* Mr. Geier, however, cites no evidence and provides no analysis to support that conclusion either. *Id.*

For the allegedly obvious design choice to add a temperature processing circuit to Jang's fish finder module, Mr. Geier's testimony is equally conclusory. Mr. Geier testifies: "To the extent such a temperature sensor and mechanically connected temperature processing circuit were not disclosed explicitly or inherently (even though they are), including such components would be a trivial and routine design choice well known to a

POSITA.” Ex. 1010 ¶ 112. Mr. Geier cites no evidence and provides no analysis to support that conclusion. *Id.* Instead, Mr. Geier provides the equally conclusory statement that adding and mechanically connecting the temperature processing circuit to the temperature sensor would have been routine to a person of ordinary skill in the art:

Based on my experience, for a POSITA, mechanically connecting a sensor and circuit is routine, typical, and obvious, and including a temperature sensor and processing circuit to generate the current water temperature explicitly shown on the display in, for example, Figure 9 of *Jang*, would be routine, typical, and obvious to a POSITA based on his or her knowledge and the teachings of *Jang*.

Id.

Petitioner, however, cannot rely on conclusory testimony to prove that *Jang* teaches the recited temperature processing circuit or that such a circuit would have been an obvious design choice. *Magnum Oil*, 829 F.3d at 1380; 37 C.F.R. § 42.65(a). The assertion that *Jang* teaches the recited temperature processing circuit or that such a circuit would have been an obvious design choice is central to Petitioner’s case, and, as such, it is not amenable to conclusory support.

In addition, inherent disclosure of a mechanically connected temperature processing circuit was a disputed issue during the prosecution of the challenged patent, further making conclusory statements regarding the involved teaching untenable. As discussed above, the Examiner found that the disclosure of a temperature sensor in Hansen inherently disclosed the associated temperature processing circuitry, stating that in Hansen, “the temperature sensor is a standalone unit which inherently/must comprise[] a processing unit for processing temperature or processing temperature by

processor 201 (fig. 2, paragraph 28).” Ex. 1002, 273. Applicant disputed that finding, arguing that none of the temperature sensors in Hansen required a temperature processing unit nor inherently had one. *Id.* at 331. And ultimately, the Examiner allowed claim 1 over Hansen. Particularly, in light of the dispute during prosecution regarding whether a reference that discloses a fish finder module comprising a temperature sensor inherently discloses a temperature processing circuit in that same module, more than mere conclusory testimony is needed to show that the requisite temperature processing circuit is taught by Jang or that it would have been an obvious design choice. Ex. 1002, 273, 331.

Accordingly, in light of the above, and particularly in light of the prosecution history of the challenged patent, we determine Petitioner has not demonstrated a reasonable likelihood of prevailing in its challenge that claim 1 would have been obvious over Jang.

There is, however, an additional and independent reason that Petitioner does not demonstrate a reasonable likelihood of prevailing in its challenge that the subject matter of claim 1 would have been obvious over Jang. Independent claim 1, unlike independent claims 19 and 22, recites “a fish finder module arranged at the housing and comprising a temperature sensor and a temperature processing circuit *mechanically connected* to the temperature sensor” (emphasis added). As discussed above, Petitioner contends that Jang’s display of “current speed/water temperature” teaches “a temperature sensor and temperature processing circuit connected to the temperature sensor to generate the desired information specifically displayed on the display terminal, such as a smart phone screen.” Pet. 11–12, citing Ex. 1004 ¶¶ 58, 73, Fig. 9; Ex. 1010 ¶¶ 110–11. Although

Petitioner here contends Jang discloses “the temperature sensor *connected* to the temperature circuit,” Petitioner does not address the specific type of connection recited in claim 1: “a temperature processing circuit *mechanically connected* to the temperature sensor.” See Pet. 11–12. Jang’s display of current speed/water temperature on a smart phone does not teach or suggest mechanically connecting a temperature processing circuit to a temperature sensor.

3. Claims 2–5, 9–11, and 15–18

Claims 2–5, 9–11, and 15–18 each depend directly or indirectly on claim 1, and Petitioner relies on its showing for claim 1 for these dependent claims. Pet. 8–19. Thus, for the reasons discussed above for claim 1, we determine Petitioner has not demonstrated a reasonable likelihood of establishing that claims 2–5, 9–11, and 15–18 would have been obvious over Jang.

D. Obviousness Ground Based on Jang and Fairbairn

As indicated above, Petitioner contends that claims 6–8, 12–14, and 19–23 are unpatentable as obvious over the combination of Jang and Fairbairn.

1. Claims 6–8, 12–14

Claims 6–8 and 12–14 each depend directly or indirectly on claim 1. For these dependent claims, Petitioner does not rely on Fairbairn as teaching or suggesting a fish finder module that comprises a temperature processing circuit as recited by claim 1 or making such a fish finder module an obvious design choice. Pet. 11–12, 21–24. Instead, Petitioner relies on the showing it made for claim 1 for this limitation. *Id.* Thus, for the reasons discussed above for Petitioner’s showing regarding the alleged

obviousness of claim 1 over Jang, we determine Petitioner has not demonstrated a reasonable likelihood of establishing that claims 6–8 and 12–14 would have been obvious over Jang and Fairbairn.

2. Claim 19

Claim 19 is a method claim that recites the use of a fish finder module arranged at a housing that has a temperature processing circuit in it. In particular, claim 19 recites “a fish finder module arranged at a housing” and “a temperature processing circuit arranged in the housing.” Petitioner provides essentially the same showing for these limitations as for the limitation in claim 1 of a fish finder module comprising a temperature processing circuit. As with claim 1, Petitioner argues that Jang discloses the temperature processing circuit recited by claim 19 or that adding such a circuit to Jang would have been an obvious design choice. Pet. 26–27. Petitioner’s arguments for claim 19 regarding Jang’s alleged disclosure of the temperature processing circuit or the allegedly obvious design choice are reproduced below:

Jang discloses converting a thermal effect detected by a temperature sensor to a temperature value at a temperature processing circuit arranged in the housing. (Geier-Decl.(Ex-1010), ¶¶177-178). The fish finder of *Jang* discloses the display of, among other things, “current speed/water temperature” and expressly includes “temperature” among data that can be displayed. (Ex-1004, ¶[0058], l. 5; Fig. 9 (“Current speed/water temp. display portion”); ¶[0073] (“fish data display (216) can display...current speed and water temperature”). This disclosure teaches that *Jang* includes a temperature sensor and a temperature processing circuit connected to the temperature sensor to generate the desired information specifically displayed on the display terminal, such as a smart phone screen. (Geier-Decl.(Ex-1010), ¶178). Even if such claimed temperature sensor and circuit were not explicitly or inherently disclosed by *Jang*,

including such a sensor and circuit would be a routine and obvious design choice to a POSITA, within the knowledge of a POSITA, and a POSITA would have been motivated to include such a sensor to achieve the data output expressly contemplated and displayed on the wirelessly connected smart phone of *Jang*. (*Id.*; *see also* ¶112).

Pet. 26–27.

As with claim 1, these arguments cite conclusory testimony of Mr. Geier with respect to the recited temperature processing circuitry. *See* Ex. 1010 ¶¶ 112, 178. As discussed above for claim 1, such testimony does not suffice to demonstrate a reasonable likelihood of prevailing on an obviousness challenge to claim 19. Accordingly, we determine Petitioner has not demonstrated a reasonable likelihood of prevailing in its challenge to claim 19 as obvious over *Jang* and *Fairbairn*.

3. Claims 20 and 21

Claims 20 and 21 each depend directly or indirectly on claim 19, and for these dependent claims, Petitioner relies on its showing for claim 19. Pet. 24–30. Accordingly, for the reasons discussed above for claim 19, we determine Petitioner has not demonstrated a reasonable likelihood of prevailing in its challenge to claims 20 and 21 as obvious over *Jang* and *Fairbairn*.

4. Claims 22 and 23

Claim 23 depends on independent claim 22. On this record, Petitioner has demonstrated a reasonable likelihood of prevailing in its challenge to claims 22 and 23 as obvious over *Jang* and *Fairbairn*. First, neither claim 22 nor 23 recites a “temperature processing circuit,” so Petitioner’s showing regarding these claims does not have the same

deficiency discussed above for claims 1–21. Second, we do not agree on this record with the arguments Patent Owner makes regarding the alleged deficiencies in Petitioner’s showing for claims 22 and 23. In particular, Patent Owner argues Petitioner (i) provides an insufficient basis for combining Jang and Fairbairn and (ii) provides an insufficient showing that Jang discloses the “WIFI hotspot” recited by claim 22. Prelim. Resp. 47–48. We do not agree with either argument.

Regarding the combination of Jang and Fairbairn, as Patent Owner notes, Petitioner does not rely upon Fairbairn for any limitation of claim 22. Pet. 30–33; Prelim. Resp. 47. Nor does Petitioner rely on Fairbairn for any additional limitation of claim 23. Pet. 33. Therefore, any alleged deficiency in Petitioner’s reasons for combining Jang and Fairbairn would not affect Petitioner’s substantive showing. *Realtime Data, LLC v. Iancu*, __ F.3d __, No. 2018-1154, 2019 WL 149835, at *4 (Fed. Cir. Jan. 10, 2019) (holding that “the Board was not required to make any finding regarding a motivation to combine given its reliance on [one prior art reference] alone”).

Regarding Jang’s alleged teaching of a WIFI hotspot, we deem Petitioner’s showing to be sufficient on this record. As explained above, we interpret “WIFI hotspot” to mean “an area that enables wireless communication using WIFI.” *See supra* Section III. Petitioner argues that Jang’s fish finder communicates via WIFI and that Jang’s “WIFI as used in the present invention is a local area network (LAN) . . . that enable[s] use of high-speed internet within a certain range of an access point (AP).” Pet. 31–32, quoting Ex. 1004 ¶ 13. Petitioner provides more than conclusory testimony to support this argument. *Id.* Patent Owner argues that (i) WIFI

and a WIFI hotspot should not be equated because they are separate claim terms, (ii) Jang does not describe how to generate WIFI communications, and (iii) Jang would not generate a WIFI hotspot with Patent Owner's proposed construction because of its use of "high-speed internet." *Id.* at 43–44. We are not persuaded on this record by any of these arguments.

First, Petitioner's contentions do not require that the terms WIFI and WIFI hotspot be equated. Petitioner has proposed different constructions for the two terms, and even if we were to accept Patent Owner's proposed construction for WIFI, the terms WIFI and WIFI hotspot would still differ: WIFI would refer to that specific protocol identified by Patent Owner and WIFI hotspot would refer to communication over an area using that protocol. The terms WIFI and WIFI hotspot would be distinct using either party's proposed construction for WIFI.

Second, as Petitioner points out, Jang expressly discloses the use of "WIFI" in its system via a local area network that enables use of high-speed internet within range of an access point. *See* Pet. 31–32; Ex. 1004 ¶ 13. Whether Jang discloses specific technical detail of how to generate WIFI communications is immaterial given that express disclosure. Further, based on the evidence of record, WIFI communications and how to generate them for over-the-air communications, like those used in Jang, were well known by the filing of the challenged patent. Mr. Geier testifies that "[b]y the time of the alleged invention of the '592 patent, Wi-Fi was a well-established, widely known, and prevalently used wireless communications technology." Ex. 1010 ¶ 28; Pet. 34–35 (asserting WIFI wireless communications were well known), citing Ex. 1010 ¶ 28. Mr. Geier further testifies that, by the filing of the challenged patent, he had already written a book on designing

and deploying WIFI in wireless networks. Ex. 1010 ¶ 28. Patent Owner and its declarant also propose an interpretation for “WIFI” based on the IEEE 802.11 standard, which was known at the time. *See* Prelim. Resp. 11–12; Ex. 2001 ¶¶ 22–25. And Patent Owner cites no evidence showing that an ordinarily skilled artisan would not have appreciated the above disclosure in Jang or would have been unable to generate WIFI communications as contemplated in Jang’s system. Prelim. Resp. 40–44, 47.

Third, as described above, we do not adopt Patent Owner’s proposed construction for the term WIFI hotspot, so whether Jang’s use of high-speed internet means Jang would disclose a WIFI hotspot with Patent Owner’s proposed construction is immaterial.

Petitioner also explains sufficiently on this record how the additional limitations of claims 22 and 23 that are not disputed by Patent Owner are taught by Jang. Pet. 30–33. For example, Petitioner relies on Jang’s spherical housing for the recited “housing configured to be deployed on water.” *See* Pet. 30, citing Ex. 1004 ¶¶ 9, 36, 41, 43, Fig. 6. Petitioner relies on Jang’s ultrasonic sensor and ultrasonic detection circuits for the recited “sonar sensor” and “sonar detecting circuit.” Pet. 30–31, citing Ex. 1004 ¶¶ 16, 19, 29, Figs. 7, 8. For the recited “data communication module,” Petitioner relies on Jang’s control module 134 and power source 138. Pet. 31, citing Ex. 1004 ¶ 42, Fig. 8. Petitioner relies on Jang’s smart phone for the recited “remote terminal.” Pet. 32, citing Ex. 1004 ¶ 1, Figs. 1, 8. Accordingly, Petitioner has established a reasonable likelihood of prevailing in its challenge to claims 22 and 23 as obvious over Jang and Fairbairn.

*E. Obviousness Grounds Based on Langer and Kabel,
and Langer, Kabel, and Park*

As discussed above, Patent Owner argues that claims 1–4, 11, 12, 19, and 20 would have been obvious over Langer and Kabel and that claims 5–10, 13–18, and 21–23 would have been obvious over Langer, Kabel, and Park.

1. Overview of Langer

Langer is directed to a method and apparatus for detecting the presence of fish and other underwater objects using a fish attractor and an underwater sensor assembly. Ex. 1006, Abstract. Figure 5 of Langer is reproduced below:

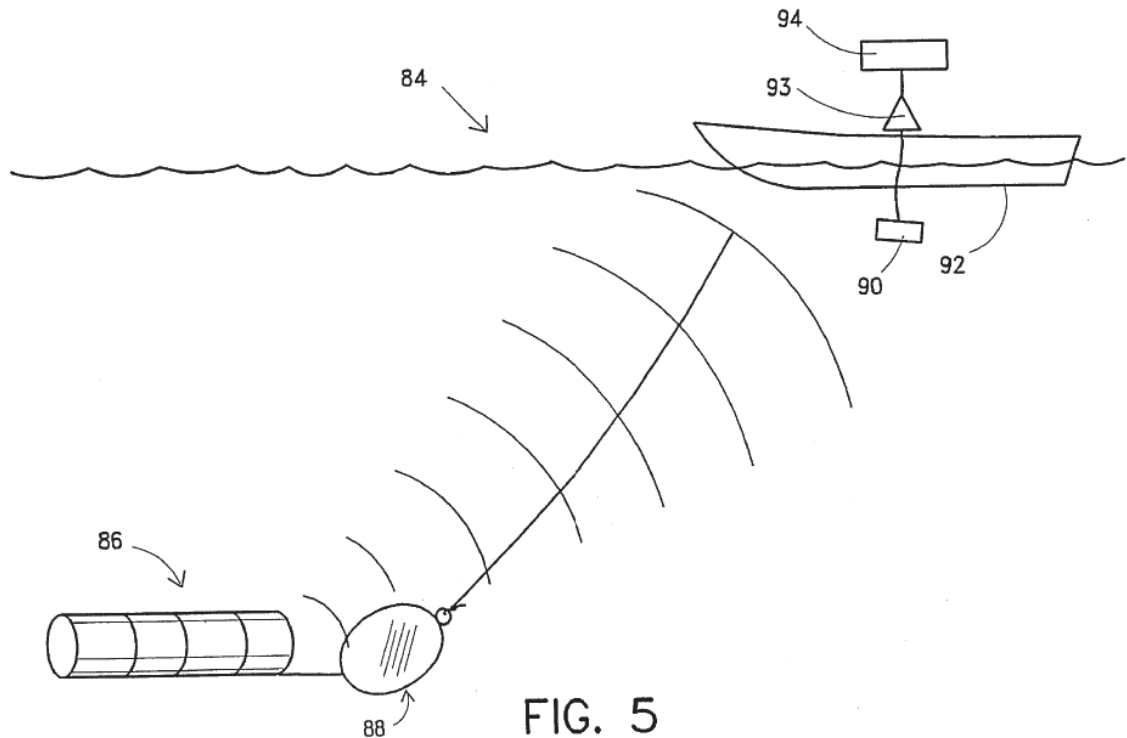
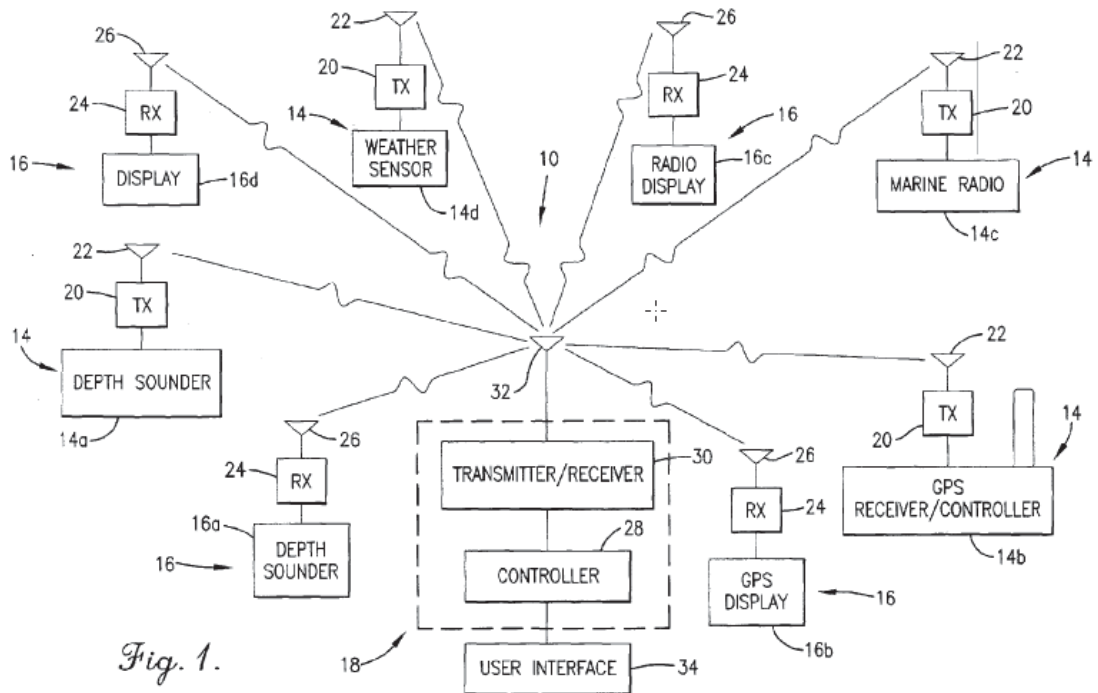


Figure 5 is a diagrammatic view of Langer's fish detection system. Ex. 1006, 3:57. In Figure 5, underwater detection system 84 includes sensor 86 that is coupled to lure 88. *Id.* at 12:57–58. Sensor 86 transmits signals

through the water to detector 90, which is placed on an underwater surface of boat hull 92. *Id.* at 12:58-60. Alternatively, Langer discloses that detector 90 may be disposed on various items that may be suspended over the side of the boat to put the detector in the water. *Id.* at 12:61-64. Amplifier 93 provides the output signals to output circuit 94, which may be a visual display, a headset, or another device that can provide a sensory indication to an angler. *Id.* at 12:65-13:3.

2. Overview of Kabel

Kabel is directed to a system and method for wirelessly linking electronic marine components to reduce or eliminate the need for application-specific wiring between those components and their associated displays. Ex. 1007, [54], 1:60-65. Figures 1 and 2 of Kabel are reproduced below:



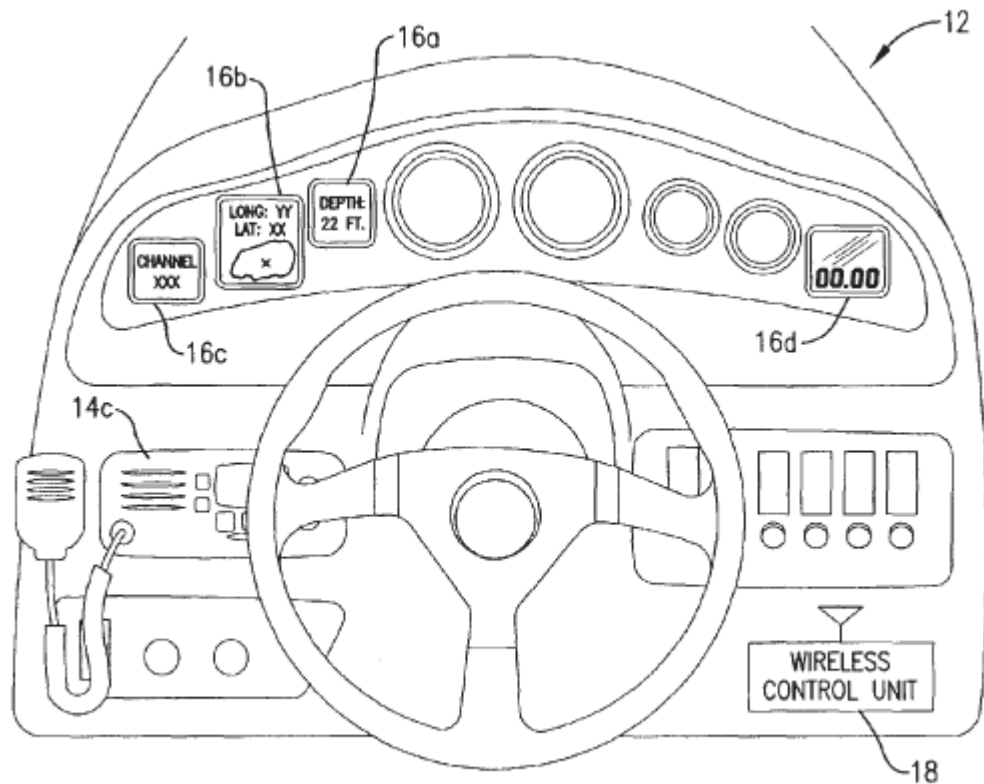


Fig. 2.

Figure 1 is a block diagram depicting system 10, which is used to wirelessly link electronic marine components. Figure 2 is an isometric view of a helm marine vessel 12 with mounted portions of system 10. Ex. 1007, 2:64–3:3, 3:21–23.

System 10 includes electronic marine components 14, displays 16, wireless control unit 18, wireless transmitters 20, antennas 22, receivers 24, antennas 26, controller 28, transceiver 30, and radio frequency antenna 32. Ex. 1007, 3:21–4:9. Wireless control unit 18 is preferably “configured and programmed to use Bluetooth or WiFi transmission protocols.” *Id.* at 4:10–12. And wireless transmitters 20 and wireless receivers 24 “transmit

and receive . . . data via BlueTooth or WiFi communication protocols.” *Id.* at Abstract.

3. *Combining Langer and Kabel to Generate a WIFI Hotspot*

We focus on the limitations in the independent challenged claims regarding generating a WIFI hotspot: in particular, claim 1’s recitation of “a WIFI module arranged in the housing . . . configured to generate a WIFI hotspot”; claim 19’s recitation of “generating a WIFI hotspot at the housing”; and claim 22’s recitation of “a WIFI module arranged in the housing . . . configured to generate a WIFI hotspot.” We find that Petitioner has made an insufficient showing with respect to these limitations.

Petitioner argues that Langer discloses components that engage in wireless communications, but Petitioner does not argue that those components generate a WIFI hotspot. Pet. 38. Instead, Petitioner argues that an ordinarily skilled artisan would have modified a wireless transmitting component in Langer to generate such a hotspot. *Id.* The only specific component that Petitioner identifies for such modification is transmitter assembly 16. *Id.* Petitioner, however, also suggests that sensor 86 could be modified to generate a WIFI hotspot. *Id.* at 34–35. Both transmitter assembly 16 and sensor 86 in Langer, however, are used underwater. Transmitter assembly 16 is part of sensor assembly 13, which is part of underwater portion 11 of Langer’s detection system 10. Ex. 1006, 4:22–41. Sensor 86 is part of underwater detection system 84. *Id.* at 12:56–57; *see also* Fig. 5.

Petitioner argues that Langer discloses wireless communications and WIFI was a well-known wireless communication at the time of the filing of the challenged patent. Pet. 34–35. Petitioner cites Kabel as disclosing

WIFI communication between components for angling and argues that an ordinarily skilled artisan would have been motivated to combine the teachings of Langer and Kabel to generate a WIFI hotspot. *Id.*

Petitioner's proffered reasons for modifying Langer's transmitters to generate a WIFI hotspot are conclusory and do not address, for example, the underwater use of transmitter assembly 16 or sensor 86. Petitioner merely states: "A POSITA would have been motivated to combine the teachings of *Langer* and *Kabel* to achieve a wireless fish finder that uses WIFI, *i.e.*, a hotspot, to communicate, and transmit and receive data, between a fish finder and a display terminal." Pet. 35, citing Ex. 1010 ¶ 209. This conclusory rationale alone renders Petitioner's showing insufficient. But even if we were to go beyond the Petition and also consider the cited testimony of Mr. Geier, Petitioner's showing would still be insufficient because that testimony is similarly conclusory:

I believe a POSITA would be motivated to combine Langer and Kabel at least because they both pertain to marine electronics and are aimed at assisting anglers locate fish effectively. The Wi-Fi protocol was well-known as a wireless form of communication to a POSITA by 2012, and utilizing Wi-Fi as the wireless communication would have been a routine and obvious design choice to a POSITA. Wi-Fi permits the transmission of data efficiently and its use would have been desired by 2012 for convenience as well. The Wi-Fi protocol was standardized and known to a POSITA, and utilizing Wi-Fi as the wireless communication with the Langer fish finder would lead to predictable results.

Ex. 1010 ¶ 209.

Absent from Petitioner's rationale and cited testimony is any discussion of whether or how WIFI would work for the underwater wireless communications of transmitter assembly 16 or sensor 86. Petitioner does

not argue that Kabel discloses the use of WIFI for underwater communications, and the BlueTooth or WIFI communications illustrated in Kabel do not appear to be underwater. Ex. 1007, Figs. 1, 2. Dr. Nettleton testifies that WIFI would not work for Langer’s underwater communications. Ex. 2001 ¶¶ 73–80, citing Ex. 2004. As discussed above, the disclosures cited by Petitioner indicate that the involved communications are underwater. And other disclosures in Langer note the underwater location of Langer’s sensors. For example, the Abstract describes: “A method and apparatus for detecting the presence of fish and other underwater objects includes a fish attractor and an *underwater sensor assembly* coupled to the fish attractor.” Ex. 1006, Abstract; *see also* 1:6–7; Fig. 12A.

Considering the conclusory nature of Petitioner’s rationale for combining the teachings of Langer and Kabel, the conclusory nature of Mr. Geier’s testimony in support of that rationale, that transmitter assembly 16 and sensor 86 are described as being underwater, and that Petitioner has not addressed the involved underwater communications, we determine Petitioner has not provided a sufficient showing for modifying Langer to generate the requisite WIFI hotspot. Thus, we determine that Petitioner has not demonstrated a reasonable likelihood of success in prevailing in its challenges to claims 1–4, 11, 12, 19, and 20 based on Langer and Kabel, and claims 5–10, 13–18, and 21–23 based on Langer, Kabel, and Park.

V. DENIAL OF INSTITUTION

Pursuant to 35 U.S.C. § 314(a), an *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner

would prevail with respect to at least 1 of the claims challenged in the petition.” But even when a petitioner demonstrates a reasonable likelihood of prevailing with respect to one or more claims, institution of review remains discretionary. *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) (“[Section] 314(a) invests the Director with discretion on the question whether to institute review” (emphasis omitted)); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”). In exercising that discretion, we are guided by the statutory requirement, in promulgating regulations for *inter partes* review, to consider the effect of any regulations on “the efficient administration of the Office [and] the ability of the Office to timely complete proceedings,” 35 U.S.C. § 316(b), as well as the requirement to construe our rules to “secure the just, speedy, and inexpensive resolution of every proceeding,” 37 C.F.R. § 42.1(b). Office guidance, issued June 5, 2018, also explains that the Board may consider the number of claims and grounds that meet the reasonable likelihood standard when deciding whether to institute *inter partes* review under 35 U.S.C. § 314(a). SAS Q&A’s, Part D, Effect of SAS on Future Challenges that Could Be Denied for Statutory Reasons (June 5, 2018), available at https://www.uspto.gov/sites/default/files/documents/sas_qas_20180605.pdf (“[T]he panel will evaluate the challenges and determine whether, in the interests of efficient administration of the Office and integrity of the patent system (*see* 35 USC § 316(b)), the entire petition should be denied under 35 USC § 314(a).”). Here, Petitioner challenged twenty-three claims under four asserted grounds of unpatentability, with each claim being the subject of two separate grounds. Petitioner

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demonstrates a reasonable likelihood of prevailing with respect to only two claims on one asserted ground. On this record, and based on the particular facts of this proceeding, instituting a trial with respect to all twenty-three claims and on all four grounds based on evidence and arguments directed to only two claims and one ground would not be an efficient use of the Board's time and resources. *See, e.g., Chevron Oronite Co. v. Infineum USA L.P.*, Case IPR2018-00923, slip op. at 10–11 (PTAB Nov. 7, 2018) (Paper 9). Thus, we do not institute an *inter partes* review.

VI. ORDER

It is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314, the Petition is denied and no *inter partes* review is instituted.

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