

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

UNILOC 2017 LLC,¹
Patent Owner.

Case IPR2018-01093
Patent 7,944,353 B2

Before SALLY C. MEDLEY, GARTH D. BAER, and
SEAN P. O'HANLON, *Administrative Patent Judges*.

O'HANLON, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318(a)

¹ At the time the Petition was filed, Uniloc Luxembourg S.A. was the patent owner.

I. INTRODUCTION

A. Background

Apple Inc. (“Petitioner”) filed a Petition for *inter partes* review of claims 1–20 (“the challenged claims”) of U.S. Patent No. 7,944,353 B2 (Ex. 1001, “the ’353 patent”). Paper 1 (“Pet.”), 1. Uniloc 2017 LLC (“Patent Owner”) waived its right to file a preliminary response. Paper 7, 2. On November 7, 2018, we instituted an *inter partes* review of the challenged claims on the sole ground raised in the Petition. Paper 8 (“Institution Decision” or “Inst. Dec.”), 25–26.

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 11, “PO Resp.”), Petitioner filed a Reply to the Patent Owner Response (Paper 12, “Pet. Reply”), and Patent Owner filed a Sur-Reply to Petitioner’s Reply (Paper 13, “PO Sur-Reply”). An oral hearing was held on August 20, 2019. A transcript of the hearing has been entered into the record. Paper 19 (“Tr.”).

In our Scheduling Order, we notified the parties that “any arguments for patentability not raised in the [Patent Owner] response will be deemed waived.” *See* Paper 9, 5; *see also* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012) (“The patent owner response . . . should identify all the involved claims that are believed to be patentable and state the basis for that belief.”).

For the reasons that follow, we conclude that Petitioner has proven by a preponderance of the evidence that claims 1–12 and 15–18 of the ’353 patent are unpatentable. It, however, has failed to meet its burden of proof regarding the unpatentability of claims 13, 14, 19, and 20.

B. Real Parties-in-Interest

The Petition identifies Apple Inc. as the sole real party-in-interest. Pet. 7. Patent Owner states that its real parties-in-interest are Uniloc 2017 LLC, Uniloc USA, Inc., and Uniloc Licensing USA LLC. Paper 6, 1–2.

C. Related Matters

The parties indicate that the '353 patent is not subject to any district court litigation or any other Board proceeding. Pet. 7; PO Resp. 3.

D. The Challenged Patent

The '353 patent discloses a personal security system and method for detecting and signaling the existence of a critical event. Ex. 1001, 1:15–17. The '353 patent recognizes that when a critical event occurs, there may frequently be a delay in summoning assistance or dispatching emergency personnel or other equipment to the area of the emergency. *Id.* at 1:19–31. The '353 patent further recognizes that reducing response times to critical events would improve security, provide a valuable public service, and increase individual and public safety. *Id.* at 1:38–41.

Accordingly, the '353 patent discloses a personal safety alert system that broadcasts the occurrence of a critical event or other emergency situation so that public safety personnel or other assistance may be notified quickly. *Id.* at 1:45–48. Purported advantages of the system include minimizing response time to an emergency, automatically determining if an event should be categorized as requiring an emergency response and a

broadcast alert, and providing an advance warning of impending potentially negative events. *Id.* at 2:6–17. Figure 1 is reproduced below:

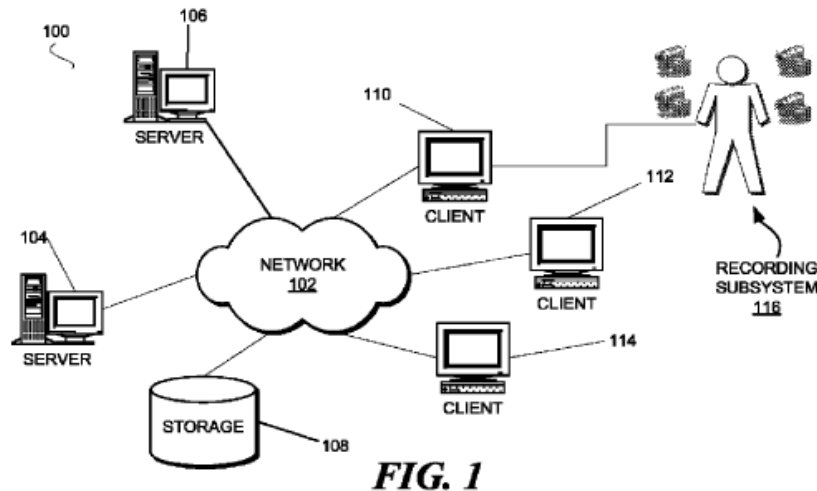


Figure 1 depicts a network of data processing systems in which illustrative embodiments may be implemented. *Id.* at 3:53–55. Data processing system 100 contains network 102, servers 104, 106, storage unit 108, clients 110, 112, 114, and recording subsystem 116. *Id.* at 3:55–4:27.

The data processing system may be used as a digital life recorder for capturing still images, video, audio, biometric information, and other types of data associated with the daily activities of a person via recording subsystem 116. *Id.* at 4:10–15. The recorded data is input into an analysis subsystem that compares the data to other information stored in a glossary, which is similar to a database and contains data specific to the output of a certain type of sensor or class of sensors—referred to as “signature data.” *Id.* at 6:50–54, 7:3–8. The glossary may contain, for example, data related to sound, data related to faces, biometric signature data, and G-force signature data. *Id.* at 6:54–66. If the input data matches information in the glossary, the signature matches may be categorized as an event that the

analysis subsystem reports to a reporting subsystem. *Id.* at 7:17–19, 28–32. A configuration database includes settings that establish sensitivity and context that affect the accuracy of the comparison process, and may include a threshold setting that functions to filter out certain events that should not be reported. *Id.* at 7:19–28, 8:53–60.

A reporting subsystem receives events reported by the analysis subsystem, and, if not filtered based on configuration settings, may broadcast an alert based on the event received. *Id.* at 7:34–38. The broadcast alert may be formatted as a text message, an automated telephonic message, an audible alarm, or may include any other type of notification signal. *Id.* at 7:51–55. The reporting subsystem may be configured to interface to a broadcasting subsystem, a public safety subsystem, or some other subsystem to broadcast an alert. *Id.* at 7:67–8:3. Upon receiving an alert, the broadcasting subsystem may broadcast the alert to a user-defined list of people, alarm companies, or any other user-defined entity specified in the configurations database. *Id.* at 8:4–8. The alert may also be a personal alert to the user of the system. *Id.* at 8:16–23. The public safety subsystem may interface with a plurality of reporting subsystems to send alerts to, for example, a hazardous material agency, missing persons bureau, traffic control, emergency, police, investigators, homicide detectives, and a Special Weapons and Tactics (SWAT) agency. *Id.* at 9:53–10:8.

E. The Challenged Claims

Petitioner challenges claims 1–20 of the '353 patent. Pet. 1. Claims 1, 12, and 18 are independent. Claim 1 is illustrative of the challenged claims and is reproduced below:

1. A computer-implemented method of reporting a critical event, the method comprising:
 - receiving input data, the input data comprising a digitized stream of signature data;
 - repeatedly analyzing the input data to determine an event context;
 - assessing a criticality of the determined event context;
 - and
 - responsive to the assessment of criticality, determining a reporting response.

Ex. 1001, 11:47–55.

F. The Prior Art

Petitioner relies on the following prior art references:

Reference	Date	Exhibit
U.S. Patent No. 6,028,514 (“Lemelson”)	Feb. 22, 2000	1003
U.S. Patent No. 6,847,892 B2 (“Zhou”)	Jan. 25, 2005	1004

G. Instituted Grounds of Unpatentability

We instituted trial based on all challenged claims and the sole asserted ground of unpatentability:

Claims Challenged	35 U.S.C. §	References
1–20	103(a) ²	Lemelson, Zhou

Inst. Dec. 25–26; Pet. 8. Petitioner submits a declaration of Dr. Kenneth Fyfe (Ex. 1005, “Fyfe Declaration”) in support of its contentions.

² The Leahy–Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103. Because the ’353 patent was filed before the effective date of the applicable AIA amendments, we refer to the pre-AIA version of § 103.

II. ANALYSIS

A. Principles of Law

To prevail in its challenge to Patent Owner's claims, Petitioner must demonstrate by a preponderance of the evidence that the claims challenged in the Petition are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). This burden of persuasion never shifts to the patentee. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

A 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 of the invention to a person having ordinary skill in the art. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner argues that a person having ordinary skill in the art ("PHOSITA" or "POSITA") "would have had at least a bachelor's degree in mechanical engineering, electrical engineering, or a similar field with at least two years of experience in event monitoring device design or in biometric tracking." Pet. 12–13; *see also* Ex. 1005 ¶ 31. "Patent Owner does not offer a competing definition for purposes of this proceeding." PO Resp. 4.

We find Petitioner's description to be consistent with the problems and solutions disclosed in the '353 patent and prior art of record, and adopt it as our own for purposes of this Decision. *See, e.g., In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

C. Claim Construction

In an *inter partes* review filed before November 13, 2018, such as this one, a claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.³ 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard). Consistent with the broadest reasonable construction, claim terms are presumed to have their ordinary and customary meaning as understood by a person of ordinary skill in the art in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). The presumption may be overcome by providing a definition of the term in the specification with reasonable clarity, deliberateness, and precision. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a definition, limitations are not to be read from the specification into the claims. *See In re Van Geuns*, 988 F.2d 1181, 1184

³ This Petition was filed before the effective date of the amendment to 37 C.F.R. § 42.100 that changed the claim construction standard applied in *inter partes* reviews. Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018). Thus, we use the broadest reasonable interpretation claim construction standard for this proceeding.

(Fed. Cir. 1993). Only those terms that are in controversy need be construed, and only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999); *see also Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (applying *Vivid Techs.* in the context of an *inter partes* review).

Petitioner contends that the terms of the ’353 patent claims should be interpreted to have their plain and ordinary meaning under the broadest reasonable interpretation standard, and proposes express constructions for “signature data,” “glossary,” “configuration data,” and “configuration setting.” Pet. 9–12. Petitioner contends that “its proposed constructions are consistent with both the broadest reasonable interpretation (‘BRI’) and *Phillips* standards.” *Id.* at 9.

Patent Owner does not contest Petitioner’s proposed constructions or offer constructions of its own. *See* PO Resp. 5.

For purposes of this Decision, and based on the record before us, we determine that no construction of any term is necessary.

D. Overview of the Prior Art

1. Lemelson

Lemelson discloses emergency warning systems and methods that have the capability to automatically warn individuals of a variety of types of emergencies in their immediate vicinity. Ex. 1003, 1:5–8. Figure 1 illustrates the system and is reproduced below:

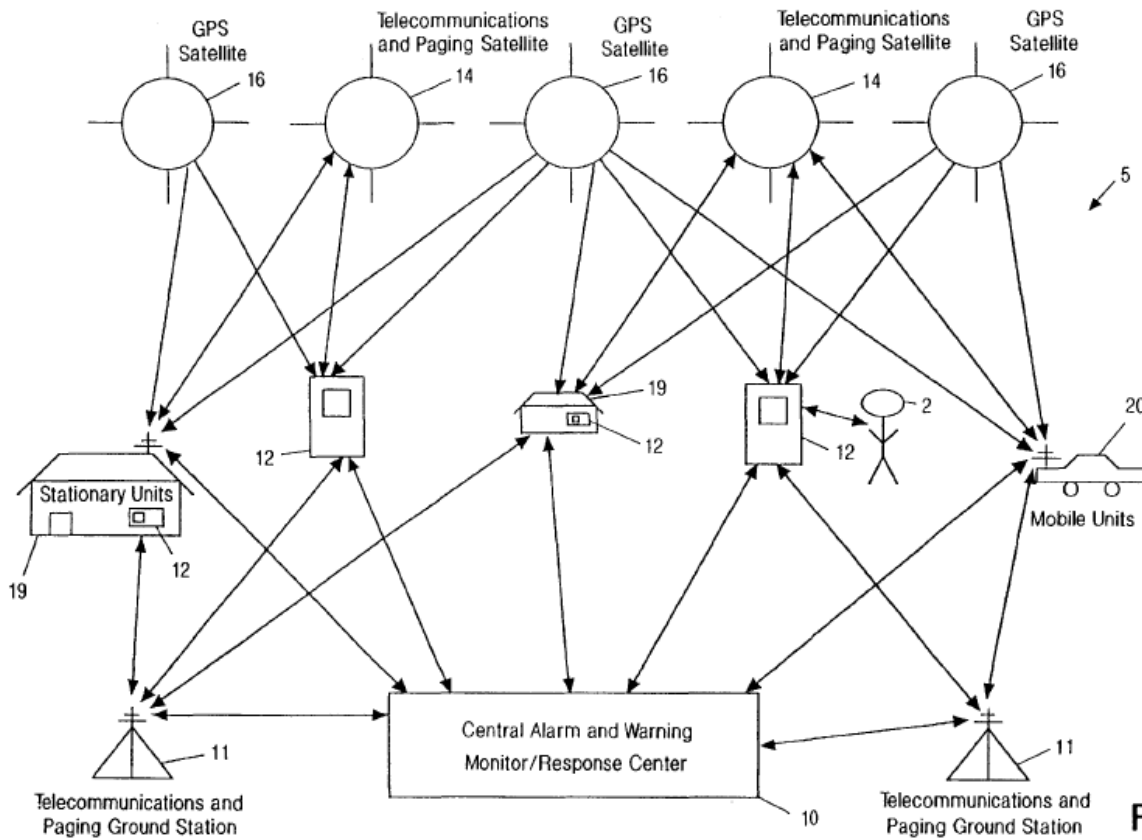


FIG. 1

Figure 1 illustrates a preferred embodiment of a personal emergency and safety warning system. *Id.* at 9:63–64. The system includes central alarm and warning monitor/response command control center 10, telecommunications and paging ground stations 11, warning units 12 (which may be stationary or mobile), telecommunications and paging satellites 14, and global positioning system (“GPS”) satellites 16. *Id.* at 9:65–10:21.

In operation, the warning unit system calculates its current location based on GPS data and monitors for receipt of warning messages from the control center. *Id.* at 13:5–15. If a warning message is received, the system determines if a warning should be generated and sent to the user based on either the proximity of the calculated system location to the dangerous situation or the determined likelihood that the user will travel to the

dangerous situation based on the user's prior frequented locations. *Id.* at 13:15–43. If the determination is made that a warning is to be sent, an alarm is sent to the user and the system recalculates its current location and again monitors for receipt of warning messages. *Id.* at 13:20–25, Fig. 4A.

If no warning message is received from the control center, the system monitors for a medical alert generated by the person using the warning unit or the warning unit itself. *Id.* at 13:47–57. If the system detects a medical alert, the system notifies the user that a request for help is being sent, and, if not disabled by the user, the system recalculates its current location and an alarm message containing the determined location and the nature of the detected signal is sent to the command control center. *Id.* at 13:57–14:26, 15:43–50. The system will continue to update its current location and send the alarm message until it receives confirmation that the message was received by the command control center. *Id.* at 15:50–60. Once message receipt is confirmed, the system broadcasts an audible message notifying the user that help is on the way. *Id.* at 15:61–16:4. The system then recalculates its current location and again monitors for receipt of warning messages. *Id.* at Figs. 4A, 4B.

If no medical alert is detected, the system monitors for human speech. *Id.* at 14:27–31. If speech is detected, the detected words are compared to a database of speech data for specific words indicating that an alarm or distressful situation is occurring that requires attention or immediate response. *Id.* at 14:31–42. If such speech is detected, an alarm message is sent in the same manner as with the medical alert alarm message. *Id.* at 14:42–44. The system then recalculates its current location and again monitors for receipt of warning messages. *Id.* at Figs. 4A, 4B.

If no human speech or no alarming speech is detected, the system monitors for gunshot sounds. *Id.* at 14:45–47. If a gunshot is detected, an alarm message is sent in the same manner as with the medical alert alarm message. *Id.* at 14:47–51. If no gunshot is detected, the received sound is monitored for other alarming noise, and, if such noise is detected, an alarm message is sent in the same manner as with the medical alert alarm message. *Id.* at 14:51–58. The system then recalculates its current location and again monitors for receipt of warning messages. *Id.* at Figs. 4A, 4B.

If no gunshot or alarming noise is detected, the system uses the calculated system location to determine if the user has traveled too far from a source of emergency services. *Id.* at 14:58–15:2. If the system determines the user is dangerously far from a source of emergency services, an alarm is sent to the user and the system then recalculates its current location and again monitors for receipt of warning messages. *Id.* at 15:2–9, Figs. 4A, 4B.

If the system determines the user is not dangerously far from a source of emergency services, the system monitors for unusual or dangerous motion or location. *Id.* at 15:9–13. Unusual motion is determined based on outputs from a motion detector and successive calculated system locations. *Id.* at 15:14–23. If the system detects unusual motion or location, the system prompts the user to answer if he/she is in danger. *Id.* at 15:23–29. If the user responds that there is no danger, the current location is categorized as safe and the system then recalculates its current location and again monitors for receipt of warning messages. *Id.* at 15:29–33, Figs. 4A, 4B. If the motion or location is not acceptable, an alarm message is sent in the same manner as with the medical alert alarm message. *Id.* at 15:33–40; *see also id.* at 18:11–13. The system then recalculates its current location and again

monitors for receipt of warning messages. *Id.* at Figs. 4A, 4B. If no unusual or dangerous motion or location is detected, the system then recalculates its current location and again monitors for receipt of warning messages. *Id.* at 15:40–42.

2. Zhou

Zhou discloses systems and methods for monitoring and tracking individuals and objects. Ex. 1004, 1:23–26. Figure 1, reproduced below, shows a schematic overview of Zhou’s system. *Id.* at 1:63–64.

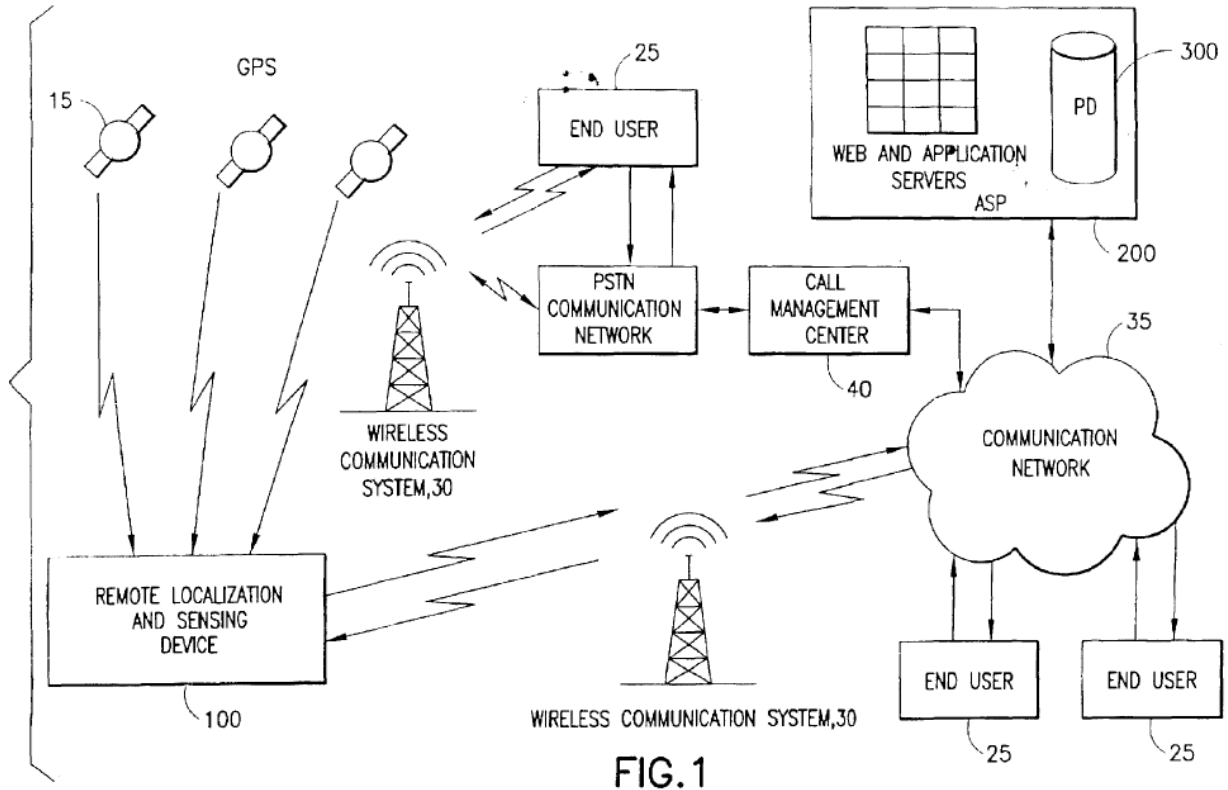


Figure 1 provides an overview of the system components and the components’ relation to each other. *Id.* at 2:36–38. The system collects position and sensor data via one or more remote localization and sensing devices 100, stores the device data at Application Service Provider (“ASP”)

200, and, via the ASP, makes such device position and sensor data available to one or more end users 25. *Id.* at 2:38–44. Each device is coupled to or associated with the individual or object being monitored and tracked, and receives position data from a localization system (such as a GPS system) and sensor data from one or more types of known sensors. *Id.* at 2:62–67. The sensors may include, for example, sensors for monitoring physiological parameters (such as heart rate, blood pressure, and respiratory rate), sensors for monitoring ambient parameters (such as temperature, motion, and speed), and inertial device-based fall detectors. *Id.* at 3:6–21, 8:42–44.

The devices communicate with the ASP via a wireless communication system and a wired communication network, such as the Internet. *Id.* at 3:25–48. The ASP stores the position and sensor data, and acts as an intermediary between the devices and the end users. *Id.* at 3:49–51. The ASP includes servers and databases, and provides the end users with the ability to access the device data, specify alert threshold values for comparison to measured sensor values, and receive notifications from the ASP via an alert device (such as a cellular telephone). *Id.* at 3:57–4:8. The devices and/or ASP monitor the sensor output and generate alert messages to the end users if the sensor data exceeds an alarm threshold. *Id.* at 3:22–24.

End users interact with the ASP via a user device (such as a computer connected to the Internet) or a conventional telephone communication network. *Id.* at 4:9–45.

E. The Challenge

Petitioner argues that claims 1–20 would have been obvious over Lemelson and Zhou. Pet. 15–61. In support of its showing, Petitioner relies

upon the Fyfe Declaration. *Id.* (citing Ex. 1005). We have reviewed the Petition, Patent Owner Response, Petitioner Reply, Patent Owner Sur-Reply, and evidence of record and determine that, for the reasons explained below, Petitioner has shown, by a preponderance of the evidence, that claims 1–12 and 15–18 would have been obvious in view of Lemelson and Zhou and that Petitioner has set forth reasoning with rational underpinnings why it would have been obvious to combine the teachings of Lemelson and Zhou. However, we find that Petitioner has failed to make the requisite showing regarding claims 13, 14, 19, and 20.

1. Claims 1–11

a. Independent Claim 1

Petitioner relies on Lemelson to teach most of the limitations of independent claim 1, including repeatedly analyzing input data. Pet. 16–35. Petitioner relies on Zhou as an additional teaching of repeatedly analyzing input data. *Id.* at 27–29.

i. A computer-implemented method of reporting a critical event

Petitioner notes that Lemelson’s warning unit 12 includes microprocessor 42, and argues that Lemelson’s method, therefore, is computer-implemented. *Id.* at 16–17 (citing Ex. 1003, 5:39–46, 6:7–13, 11:30–49, Figs. 2, 6). Patent Owner does not challenge this aspect of the Petition. See PO Resp. 5 (“To simplify the issues before the Board, Patent Owner focuses deficiencies in the Petition with respect to the limitation, ‘assessing a criticality of the determined event context,’ as recited in claim 1.”).

We find that the cited portions of Lemelson support Petitioner's contentions. *See, e.g.*, Ex. 1003, 11:30–33 (disclosing that the warning unit includes a microprocessor and memory). We additionally note that Lemelson discloses that its command control center 10 also comprises computer system 100 that includes, *inter alia*, database computer 102, database storage 104, processor 106, and memory 108, and, thus, the command control center is computer-implemented. *See* Ex. 1003, 12:9–47, Fig. 3.

ii. receiving input data, the input data comprising a digitized stream of signature data

Petitioner relies on Lemelson's microphone 60 and medical sensor 51 as providing input data, in the form of streams of signature data, that is received by microprocessor 42 of warning unit 12. Pet. 17–20 (citing Ex. 1003, 4:29–41, 7:42–57, 11:24–49, 14:29–44, Figs. 2, 4; Ex. 1005 ¶¶ 34–35, 39). Petitioner notes that Lemelson discloses that its medical monitoring system monitors current medical conditions of the person wearing the warning unit, and argues that a person having ordinary skill in the art would have understood the warning unit system receives a continuous stream of signature data from the medical monitoring system. *Id.* at 20–21 (citing Ex. 1003, 4:29–32, Fig. 4A; Ex. 1005 ¶¶ 40–44). Petitioner similarly argues that Lemelson's audio monitoring system provides a continuous stream of data that is received by the warning unit. *Id.* at 21 (citing Ex. 1003, Fig. 4A; Ex. 1005 ¶¶ 40–44). Petitioner further notes that Lemelson discloses the command control center continually searches for alarm messages from the warning units, and argues that this indicates that the warning unit continuously monitors the user's medical conditions and that such indicated

continuous monitoring teaches a stream of input data. *Id.* at 21–22 (citing Ex. 1003, 16:10–19, 17:18–21; Ex. 1005 ¶¶ 40–44). Petitioner argues that a person having ordinary skill in the art would have understood the stream of input data to be digitized because it is received by microprocessor 42 via signal routing and control circuitry 30. *Id.* at 22 (citing Ex. 1003, 11:1–8, 38–49; Ex. 1005 ¶ 39). Patent Owner does not challenge this aspect of the Petition. *See* PO Resp. 5.

Lemelson discloses that its warning units monitor for such indications as medical alerts, speech-imparted alerts, and gunshot sounds, and, if such an indication is perceived, the warning units send an appropriate alarm message to the control center. Ex. 1003, 13:5–17:22, Figs. 4A, 4B. The ’353 patent explains that signature data is “data specific to the output of a certain type of sensor or class of sensors.” Ex. 1001, 6:53–54. Thus, we find that Lemelson supports Petitioner’s contentions.

iii. repeatedly analyzing the input data to determine an event context

Petitioner argues that Lemelson teaches analyzing a user’s biometrics or medical history data to determine an abnormal medical condition. Pet. 22–24 (citing Ex. 1003, 4:29–41, 7:48–54; Ex. 1005 ¶ 41). Petitioner similarly argues that Lemelson teaches analyzing audio data to determine an emergency event context. *Id.* at 24–25 (citing Ex. 1003, 14:29–44; Ex. 1005 ¶ 42). Petitioner argues that Lemelson’s Figure 4A teaches that the analysis of the medical and audio data is performed repeatedly. *Id.* at 25–27 (citing Ex. 1003, 13:50–14:7, 15:29–42, Fig. 4A; Ex. 1005 ¶¶ 40–44). Petitioner also argues that Lemelson’s analysis is performed repeatedly due to the aforementioned reference to monitoring the user’s *current* medical

condition. *Id.* at 27 (citing Ex. 1003, 4:29–32; Ex. 1005 ¶¶ 40–44). Patent Owner does not challenge this aspect of the Petition. *See* PO Resp. 5.

Lemelson discloses its warning units monitor for such indications as medical alerts, speech-imparted alerts, gunshot sounds, and loud noises, and, if such an indication is perceived, the warning units send an appropriate alarm message to the control center. Ex. 1003, 13:5–17:22, Figs. 4A, 4B. After transmitting the alarm message, the warning unit repeats the cycle of monitoring for alert indications. *See, e.g., id.* at 13:20–25, Fig. 4A. Similarly, if the warning unit determines that no message is to be sent, the warning unit repeats the cycle of monitoring for alert indications. *Id.* at 15:40–42, Figs. 4A, 4B. Thus, we find that Lemelson supports Petitioner’s contentions.

Petitioner alternatively relies on Zhou to teach repeatedly analyzing data. Pet. 27–29. Petitioner notes that Zhou discloses a system and method for tracking the status of individuals through a wireless device that may monitor periodically such individuals’ biological parameters and send an emergency signal based on such monitoring. *Id.* at 27 (citing Ex. 1004, 1:23–26, 3:6–12, 4:9–17, 8:4–12, 45:20–37). Petitioner argues that such periodic monitoring is a repeated analysis of the input data. *Id.* at 27–28 (citing Ex. 1003, 8:4–23; Ex. 1005 ¶ 44). Petitioner argues that it would have been obvious to a person having ordinary skill in the art to combine Zhou’s periodic monitoring with Lemelson’s monitoring for abnormal medical or audio-indicated emergency conditions to “conserve[] the limited power stored in *Lemelson*’s battery 32.” *Id.* at 28–29 (citing Ex. 1003, 11:8–11; Ex. 1005 ¶¶ 23–29, 44–45). Patent Owner does not challenge this aspect of the Petition. *See* PO Resp. 5.

Zhou discloses that “the sensing of parameters by the at least one sensor 240 may be a periodic (e.g., time based).” Ex. 1004, 8:7–9. Processing unit 260 of device 100 receives the signals from the sensor. *Id.* at 8:5–7. In the heart monitoring embodiment, “[t]he Device will transmit GPS signal location to the ASP when vital signs indicate the need for emergency care.” *Id.* at 45:23–25. Thus, we find that Zhou supports Petitioner’s contentions. Petitioner further sets forth articulated reasoning with rational underpinning why it would have been obvious to modify Lemelson based on the teachings of Zhou. Pet. 28–29.

iv. assessing a criticality of the determined event context

Petitioner notes that Lemelson discloses comparing the user’s current medical condition to a database of abnormal medical conditions and determining a variance of predefined degree between the user’s current and normal medical conditions. *Id.* at 29–30 (citing Ex. 1003, 4:29–41). Petitioner notes that Lemelson discloses that, if a variance of predefined degree exists, the warning unit generates signals defining the variance and transmits such signals to the command control center. *Id.* Petitioner argues that a person having ordinary skill in the art would have understood the generation of such signals to be a teaching of assessing the criticality of the event context of the user’s medical condition. *Id.* at 30–31 (citing Ex. 1003, 7:42–54,⁴ 13:50–58; Ex. 1005 ¶ 45); Tr. 10:3–16 (confirming that Petitioner relies on the generation of signals defining the variance to correspond to the recited “assessing a criticality of the determined event context”). Petitioner

⁴ Petitioner’s citation to column 7, lines 42–48 of Exhibit 1003 appears to be a typographical error, as the quoted language appears at lines 42–54.

also argues that Lemelson discloses that its command control center “determines the severity of the emergency and dispatches the proper emergency assistance,” which, according to Petitioner, also corresponds to the recited “assessing a criticality of the determined event context.” Pet. 35 (emphasis omitted) (quoting Ex. 1003, 4:43–49).

Petitioner similarly argues that Lemelson discloses assessing the criticality of an audio-indicated emergency condition. *Id.* at 31. Petitioner notes that Lemelson discloses that its warning unit contains a fuzzy logic controller that uses fuzzy logic inference rules to compute a degree of danger index for the person carrying the portable warning unit. *Id.* (citing Ex. 1003, 5:26–28). Petitioner argues that a person having ordinary skill in the art would have understood “that *Lemelson*, therefore, teaches assessing the criticality of the above-discussed ‘event context’ of an audio-indicated emergency condition.” *Id.* (citing Ex. 1005 ¶ 45).

Patent Owner argues that the recited steps of “repeatedly analyzing the input data to determine an event context” and “assessing a criticality of the determined event context” must necessarily be separate and distinct process steps. PO Resp. 5–6. Patent Owner argues that the Petition falls short because it relies on “the same alleged ‘monitoring’ [to] satisfy both ‘repeatedly analyzing the input data to determine an event context’ *and* ‘assessing a criticality of the determined event context,’ as recited in claim 1.” *Id.* at 6. Patent Owner argues that the Petition is deficient because Lemelson discloses that the command center, rather than the warning units, determines the severity of the emergency. *Id.* at 7–8.

Petitioner replies that “*Lemelson* teaches distinct steps of (1) determining abnormal medical conditions, (2) assessing the level of

abnormality, and (3) reporting that level of abnormality to the central control center.” Pet. Reply 3–4 (citing Ex. 1003, 4:34–41). Petitioner also argues that the severity assessment performed by Lemelson’s command control center determines a reporting response and also satisfies the requirements of claim 1. *Id.* at 5–6.

Patent Owner replies that Petitioner “points to nothing in Lemelson expressly disclosing that determining an abnormal medical condition is an inquiry that is separate from, and antecedent to, detecting a variance of a predefined degree.” PO Sur-Reply 4. Patent Owner also argues that Lemelson’s command center does not dispatch emergency assistance in response to a determined severity of the emergency. *Id.* at 6.

We disagree with Patent Owner’s argument that claim 1 requires the analyzing and assessing steps to be completely divorced. Our reviewing court has recognized “the principle that in . . . obviousness analysis, a single element, feature, or mechanism can ordinarily satisfy multiple claim limitations, including by performing multiple claimed functions.” *Google LLC v. Personal Audio, LLC*, 743 Fed. App’x 978, 985 (Fed. Cir. 2018) (citing *Powell v. Home Depot U.S.A., Inc.*, 663 F.3d 1221, 1231–32 (Fed. Cir. 2011)).

Additionally, we disagree with Patent Owner’s arguments regarding Lemelson’s command control center determining “the severity of the emergency.” In its analysis mapping the command control center’s criticality determination to the recited assessing a criticality, Petitioner relies on the command control center’s dispatch for the proper emergency assistance (which occurs *after* assessing the severity of the alarm reported by

the warning unit) to correspond to the recited reporting response. Pet. 35 (citing Ex. 1003, 4:43–49).

Lemelson explains that its portable warning unit includes “a medical monitoring system that monitors and generates signals defining selected current medical conditions of the person wearing the warning unit.” Ex. 1003, 4:29–32. The portable warning unit includes a computer that is programmed to compare the signals generated by the medical monitoring system to stored data defining abnormal medical conditions. *Id.* at 4:32–37. If the computer detects “a variance of predefined degree . . . between the person’s current and normal medical conditions, the computer generates and causes the transmission circuit to transmit signals *defining the variance* to the command control center.” *Id.* at 4:37–41 (emphasis added). The signals “alert[] the command control center of the user’s location and condition.” *Id.* at 4:43–47; *see also id.* at 7:42–57 (describing the signals as “an emergency transmission”). “The command control center *determines* the severity of the emergency and *dispatches* the proper emergency assistance.” *Id.* at 4:48–49 (emphases added). Thus, Lemelson supports Petitioner’s contentions.

Patent Owner fails to explain persuasively why the dispatch transmitted by the command control center does not constitute a reporting response as required by claim 1. Additionally, we find that by sending *proper* medical emergency assistance (*see id.* at 4:48–49), the command control center is responsive to the determination of the severity of the emergency when determining a reporting response.

Regarding Petitioner’s contentions addressing audio-based conditions, Patent Owner argues that the Petition cites to Lemelson’s fuzzy logic

discussion regarding location-based conditions rather than audio-based conditions. PO Resp. 8–9. Patent Owner argues Lemelson discloses that its fuzzy logic analysis of audio-based data is performed by the command control center, not the personal warning unit. *Id.* at 9 (citing Ex. 1003, 5:4–7). Patent Owner argues that the Petition only identifies the user’s speech as the audio-based data. *Id.* at 10.

Petitioner replies that two separate audio-based mappings satisfy the assessing recitation. Pet. Reply 6. First, Petitioner argues that Lemelson discloses that the portable warning unit detects loud noises and alerts the command control center, which uses fuzzy logic to assess criticality of the detected noise. *Id.* at 6–7 (citing Ex. 1003, 4:67–5:10; Inst. Dec. 18). Second, Petitioner argues that it would have been obvious to apply Lemelson’s description of assessing location-based conditions to compute a degree of danger index for the person carrying the portable warning unit to audio-based conditions. *Id.* at 7–8 (citing Pet. 31; Ex. 1003, 5:26–29; Ex. 1005 ¶¶ 45–46). Petitioner also argues that the assessment of criticality can be performed by Lemelson’s command control center, as claim 1 “does not require that all of the steps be performed by a single device.” *Id.* at 8–9.

Patent Owner replies that Petitioner’s Reply adds a new argument, not provided in the Petition, that the command control center performs the criticality assessment. PO Sur-Reply 10. Patent Owner argues that “Lemelson identifies *only* the command and control center as calculating the ‘fuzzy logic degree of danger’ arising from an audio event reported by the portable warning unit.” *Id.* at 11–12.

We agree with Patent Owner to the extent that, when addressing audio-based warnings, the Petition cites to a discussion of location-based

warnings in Lemelson rather than to audio-based warnings. See Pet. 31 (citing Ex. 1003, 5:26–28). The portion of Lemelson relied upon by Petitioner discloses that “[t]he computer controller of the portable warning unit’s expert system comprises fuzzy logic inference rules and a fuzzy logic controller to compute a degree of danger index for the person carrying the portable warning unit.” Ex. 1003, 5:26–29. However, Lemelson explains that these “fuzzy logic inference rules include fuzzy variables defining the distance between the portable warning unit and the dangerous situation, vulnerability of the person carrying the portable warning unit to the dangerous situation, and the relative velocity between the portable warning unit and the dangerous situation.” *Id.* at 5:29–35. Thus, we do not agree with Petitioner’s contention that this portion of Lemelson teaches assessing the criticality of [an] ‘event context’ of an audio-indicated emergency condition.” Pet. 31 (citing Ex. 1005 ¶ 45). Nor does Petitioner’s citation to the Fyfe Declaration support Petitioner’s contention, as Dr. Fyfe references Lemelson’s discussion of the control command center performing a fuzzy logic analysis. Ex. 1005 ¶ 45 (citing Ex. 1003, 4:67–5:10). Notably, the cited portion of the Fyfe Declaration does not assert that it would have been obvious to perform the fuzzy logic analysis in the warning unit.

However, Petitioner also argues that the assessment of criticality can occur at the command control center. Pet. 35 (citing Ex. 1003, 4:43–49; Ex. 1005 ¶¶ 45–46). As noted by Patent Owner, Lemelson discloses that its fuzzy logic analysis of audio-based data is performed by the command control center to define the emergency condition. Ex. 1003, 5:4–7; PO Resp. 9 (citing same). Thus, we find that Lemelson supports Petitioner’s contentions.

Regarding Patent Owner's contention that the Petition only identifies speech as an example of audio-based data, we note that the Petition also identifies gun shots and other loud noises. *See* Pet. 25.

Thus, for the foregoing reasons and based on the uncontested declaration testimony of Petitioner's declarant,⁵ we find that Lemelson supports Petitioner's contentions.

v. responsive to the assessment of criticality, determining
a reporting response

Petitioner argues that, in response to determining the variance of the user's abnormal medical condition from normal medical conditions, Lemelson's warning unit alerts the control center of the user's condition and whether the user is in need of medical attention by sending signals defining the variance to the command control center. Pet. 31–33 (citing Ex. 1003, 4:29–47, 7:42–54⁶; Ex. 1005 ¶ 46). Petitioner argues that by dispatching the proper emergency assistance, the command control center determines a reporting response. *Id.* at 35 (citing Ex. 1005, 4:43–49; Ex. 1005 ¶¶ 45–46); *see also* Tr. 11:1–12 (clarifying Petitioner's position that only the command control center determines the reporting response). Petitioner similarly argues that Lemelson discloses determining a reporting response based on the assessed criticality of an audio-indicated emergency condition. Pet. 33–

⁵ Although provided opportunity to do so, Patent Owner did not cross-examine Dr. Fyfe, nor did Patent Owner provide a declaration from an expert witness.

⁶ Petitioner's citation to column 7, lines 42–48 of Exhibit 1003 appears to be a typographical error, as the quoted language appears at lines 42–54.

35. Patent Owner does not challenge this aspect of the Petition. *See* PO Resp. 5.

As noted above, if Lemelson’s warning unit detects “a variance of predefined degree . . . between the person’s current and normal medical conditions, the [warning unit] computer generates and causes the transmission circuit to transmit signals *defining the variance* to the command control center.” Ex. 1003, 4:37–41 (emphasis added). The signals “alert[] the command control center of the user’s location and condition.” *Id.* at 4:43–47; *see also id.* at 7:42–57 (describing the signals as “an emergency transmission”). In response to receiving such alerts, “[t]he command control center determines the severity of the emergency and dispatches the proper emergency assistance.” *Id.* at 4:48–49. We are persuaded by the uncontested declaration testimony of Petitioner’s declarant that such transmissions constitute a “reporting response” as required by claim 1. *See* Ex. 1005 ¶ 45. The command center also uses fuzzy logic to determine the degree of danger of a detected loud noise, and generates and transmits signals to an emergency response unit defining the type of emergency, the fuzzy logic degree of danger, and the current geographic location of the user. Ex. 1003, 4:67–5:10. We are persuaded by the uncontested declaration testimony of Petitioner’s declarant that this signal, sent by the command control center, constitutes a “reporting response” as required by claim 1. Ex. 1005 ¶ 45; *see also* Pet. 35 (citing same).

Thus, for the foregoing reasons and based on the uncontested declaration testimony of Petitioner’s declarant, we find that Lemelson supports Petitioner’s contentions.

vi. Conclusion

For the foregoing reasons, we are persuaded by Petitioner’s showing, which we adopt, that claim 1 would have been obvious in view of Lemelson and Zhou.

b. Dependent Claims 2–11

We have reviewed the Petition, Patent Owner Response, Petitioner Reply, Patent Owner Sur-Reply, and evidence of record and determine that Petitioner has shown, by a preponderance of the evidence, that dependent claims 2–11 would have been unpatentable in view of Lemelson and Zhou.

i. Claim 2

Claim 2 depends directly from claim 1 and recites “wherein the digitized stream of signature data is selected from the group consisting of biometric information and g-force information.” Ex. 1001, 11:56–58. Relying on its showing regarding claim 1, Petitioner argues that “*Lemelson* teaches ‘signature data’ through its input data specific to the output of a heart rate sensor.” Pet. 35. Patent Owner does not make any arguments with respect to claim 2 apart from arguments directed to independent claim 1 from which it depends, and which we have addressed above. Lemelson discloses that its warning unit monitors for biometric information such as “heart rate, blood level, sugar level, circulatory system, respiratory system, nervous system, etc.” Ex. 1003, 13:53–56. Thus, we find that Lemelson supports Petitioner’s contentions, which we adopt.

ii. Claim 3

Claim 3 depends directly from claim 1 and recites “wherein the input data comprises data received from a digital life recorder.” Ex. 1001, 11:59–

60. Petitioner notes that the '353 patent “teaches that a digital life recorder ‘captur[es] still images, video, audio, biometric information and other types of data associated with the daily activities of a person.’” Pet. 35 (alteration in original) (quoting Ex. 1001, 4:10–13). Petitioner argues that, because “*Lemelson* teaches capturing sound information via a sound sensor and biometric information via a heart rate sensor,” a person having ordinary skill in the art “would have understood that *Lemelson*’s warning unit comprises a digital life recorder, from which data is received.” *Id.* at 35–36 (citing Ex. 1005 ¶ 38). Patent Owner does not make any arguments with respect to claim 3 apart from arguments directed to independent claim 1 from which it depends, and which we have addressed above. *Lemelson* discloses that its warning unit monitors for biometric information such as “heart rate, blood level, sugar level, circulatory system, respiratory system, nervous system, etc.” Ex. 1003, 13:53–56. Thus, we find that *Lemelson* supports Petitioner’s contentions, which we adopt.

iii. Claim 4

Claim 4 depends directly from claim 1 and recites “wherein the digitized stream of data is selected from the group consisting of video information and sound information.” Ex. 1001, 11:61–63. Relying on its showing regarding claim 1, Petitioner argues that “*Lemelson* teaches capturing a digitized stream of sound information via a sound sensor.” Pet. 36. Patent Owner does not make any arguments with respect to claim 4 apart from arguments directed to independent claim 1 from which it depends, and which we have addressed above. *Lemelson* discloses that its warning unit contains microphone 60 that inputs speech and other noise

signals. Ex. 1003, 11:11–14, 14:27–55. Thus, we find that Lemelson supports Petitioner’s contentions, which we adopt.

iv. Claim 5

Claim 5 depends directly from claim 1 and recites

wherein the repeatedly analyzing comprises:

[5A] iteratively comparing the input data to signature data stored in a glossary;

[5B] determining whether a match exists between the input data and the signature data; and

[5C] responsive to a match existing between the detected sensor data and the signature data, categorizing the input data as an event.

Ex. 1001, 11:64–12:7 (alphanumeric characters provided in brackets for reference in this Decision).

Regarding recitation 5A, Petitioner relies on its showing regarding claim 1 and argues that “*Lemelson* teaches iteratively (i.e., repeatedly) analyzing data received through a biometric sensor (e.g., heart-rate sensor).” Pet. 36. Petitioner notes that Lemelson discloses “comparing a user’s heart rate to medical history data for the user, including data defining a signature of ‘abnormal medical conditions.’” *Id.* (citing Ex. 1003, 4:32–41, 7:42–48). Petitioner argues that a person having ordinary skill in the art would have understood such a stored medical history to be a glossary. *Id.* at 37 (citing Ex. 1003, 4:29–37; Ex. 1005 ¶¶ 39, 47). Similarly, Petitioner argues that Lemelson discloses repeatedly analyzing audio data by comparing it to a speech library stored in memory. *Id.* at 38 (citing Ex. 1003, 14:29–40; Ex. 1005 ¶¶ 43, 48). Patent Owner does not make any arguments with respect to claim 5 apart from arguments directed to independent claim 1 from which it depends, and which we have addressed above.

Regarding recitation 5B, Petitioner argues that “*Lemelson* teaches that when a monitored patient’s current heart rate reaches a ‘predefined degree’ of variance with historical data defining a normal medical condition, an emergency signal is sent to the command control center.” *Id.* at 39 (citing Ex. 1003, 4:32–47, 7:42–53). Petitioner argues that a person having ordinary skill in the art would have understood this teaching “to be determining whether a match exists between the heart rate input data and the ‘predefined degree’ of variance with heart rate signature data stored in memory.” *Id.* at 40 (citing Ex. 1005 ¶ 47).

Regarding recitation 5C, Petitioner argues that “*Lemelson* clearly teaches that in response to the match being determined, a medical alert is generated.” *Id.* (citing Ex. 1003, 4:43–47, 7:42–53, 13:50–58). Petitioner argues that a person having ordinary skill in the art would have understood *Lemelson*’s teaching of “categorizing a user’s physiological state as ‘abnormal’” to be “‘categorizing’ that sensor data as indicating an ‘event.’” *Id.* at 40–41 (citing Ex. 1005 ¶ 47).

Lemelson discloses that its warning unit compares input data against stored data to determine a match indicating that an event has occurred:

The warning unit carried by the person further includes a medical monitoring system that monitors and generates signals defining selected current medical conditions of the person wearing the warning unit. The portable warning unit computer controller memory includes *data defining abnormal medical conditions*. The computer is programmed to *compare the signals generated by the medical monitoring system to the data stored in memory defining abnormal medical conditions*. If a variance of predefined degree exists between the person’s current and normal medical conditions, *the computer generates and causes the transmission circuit to transmit signals defining the variance* to the command control center. The medical

monitoring system detects abnormal medical conditions in the blood, circulatory system, respiratory system, and nervous system. If the medical monitoring system detects abnormal conditions in the user's blood, circulatory system, respiratory system, or nervous system, the medical monitoring system alerts the command control center of the user's location and condition.

Ex. 1003, 4:29–47 (emphases added). As noted in section II.E.1.a.iii above, Lemelson discloses that this cycle of monitoring and comparing is performed repeatedly. Thus, we find that Lemelson supports Petitioner's contentions concerning limitations 5A, 5B, and 5C.

Petitioner also relies on its showing regarding claim 1 to argue that Zhou “teaches ‘periodically’ monitoring biological parameters such as heart rate to transmit an emergency signal ‘when vital signs indicate the need for emergency care,’” and that a person having ordinary skill in the art would have understood Lemelson and Zhou to teach “a method of repeatedly analyzing data comprising iteratively comparing the input data to signature data stored in a glossary.” Pet. 39 (citing Ex. 1005 ¶¶ 43–45, 47–48). For the reasons set forth in section II.E.1.a.iii above, we find that Zhou supports Petitioner's contentions and that Petitioner sets forth articulated reasoning with rational underpinning why it would have been obvious to modify Lemelson based on the teachings of Zhou.

For the foregoing reasons and based on the uncontested declaration testimony of Petitioner's declarant, we find that Lemelson and Zhou support Petitioner's contentions concerning limitations 5A, 5B, and 5C, which we adopt.

v. Claim 6

Claim 6 depends directly from claim 1 and recites “wherein the assessing a criticality comprises determining whether the event data meets a threshold setting, the threshold setting being part of a configuration data.” Ex. 1001, 12:8–11. Petitioner notes that “the event data” lacks antecedent basis, and interprets “event data” to refer to “event context” as used in claim 1. Pet. 41 (citing Ex. 1005 ¶ 49). Petitioner relies on its showing regarding claim 1 to argue that “*Lemelson* teaches assessing a criticality of an abnormal medical condition.” *Id.* (citing Ex. 1003, 4:29–41). Petitioner argues that “*Lemelson*’s ‘variance of predefined degree’ is a threshold.” *Id.* (citing Ex. 1003, 4:29–41, 7:42–57, 13:50–58; Ex. 1005 ¶ 50). Petitioner relies on Zhou to teach a threshold setting that is part of a configuration data, noting that Zhou discloses end users may specify alert thresholds. *Id.* at 42 (citing Ex. 1004, 3:23–24, 4:9–25). Petitioner argues that “*Zhou* teaches that a user may ‘input[] specific values for alert parameter thresholds.’” *Id.* (alteration in original) (citing Ex. 1004, 9:51–58, 16:20–26). Petitioner argues that it would have been obvious to a person having ordinary skill in the art to combine Zhou’s user-configurable threshold settings with Lemelson’s system “for the advantage of allowing customization of alert thresholds for users that may desire a heightened or lessened level of caution.” *Id.* at 43 (citing Ex. 1005 ¶¶ 50–53). Patent Owner does not make any arguments with respect to claim 6 apart from arguments directed to

independent claim 1 from which it depends, and which we have addressed above.⁷

As discussed in sections II.E.1.a.iv and II.E.1.b.iv above, if Lemelson’s portable warning unit detects a variance of predefined degree between the person’s current and normal medical conditions, it generates and causes the transmission circuit to transmit signals defining the variance to the command control center. Ex. 1003, 4:37–41. Zhou’s ASP includes servers and databases, and provides end users with the ability to access the device data, specify alert threshold values for comparison to measured sensor values, and receive notifications from the ASP via an alert device (such as a cellular telephone). Ex. 1004, 3:57–4:8. The devices and/or ASP monitor the sensor output and generate alert messages to the end users if the sensor data exceeds an alarm threshold. *Id.* at 3:22–24.

Thus, we find that Lemelson and Zhou support Petitioner’s contentions, which we adopt. We note that Petitioner sets forth articulated reasoning with rational underpinning why it would have been obvious to modify Lemelson based on the teachings of Zhou. Pet. 43.

vi. Claims 7 and 8

Claim 7 depends from claim 6 and recites “wherein responsive to the event data meeting a threshold setting, filtering the event data based on a configuration setting.” Ex. 1001, 12:12–14. Claim 8 depends from claim 7 and recites “wherein the filtering comprises inhibiting the reporting response.” *Id.* at 12:15–16. Petitioner argues,

⁷ Although Patent Owner purports to present arguments for claim 6 (see PO Resp. 11), Patent Owner’s arguments are directed to “filtering,” which appears in claim 7 but does not appear in claim 6.

Lemelson in view of *Zhou* teaches a two-level process, wherein an event context is locally compared to a threshold setting (on the user's warning unit), a message is sent to a remote location such as *Lemelson's* Command Control Center or *Zhou's* ASP, and then a second "filtering" evaluation is conducted at the remote location, which may inhibit a reporting response from the reporting location to a recipient such as emergency response personnel.

Pet. 44 (citing Ex. 1005 ¶¶ 50–51). Specifically, Petitioner contends that *Lemelson* describes a two-level process that includes a basic threshold evaluation of whether to send an alert to the command control center occurring in the portable warning unit (that is, determining whether the event data meets a threshold setting) and a more sophisticated evaluation of whether and what type of emergency assistance alert to dispatch occurring in the command control center (that is, filtering/inhibiting the event data based on a configuration setting). *Id.* at 44–46. Petitioner relies on *Zhou* to "provide[] more detail as to how a two level determination of a reporting response may be accomplished," including specifying alert parameters and conditions. *Id.* at 45–46.

Patent Owner argues that, when addressing the "filtering" recitation of claim 7, the Petition relies on a reporting response not being sent when the configuration setting is not met. PO Resp. 11. Patent Owner argues that this does not explain how the requirement of claim 7 that the event data is filtered when the event data meets a threshold setting. *Id.*; *see also* PO Sur-Reply 13–14.

Petitioner replies by explaining that the '353 patent sets forth a two-step inquiry and arguing that the Petition sets forth a similar two-step inquiry in which *Lemelson's* warning unit performs a first threshold inquiry and the

command control center performs a second threshold inquiry. Pet. Reply 9–11 (citing Ex. 1001, 7:43–48, 8:53–62, Fig. 5).

As discussed above, Lemelson’s warning unit compares the signals generated by the medical monitoring system to the data stored in memory defining abnormal medical conditions and, if a variance of predefined degree exists, generates and transmits to the command control center signals defining the variance. Ex. 1003, 4:34–41. As also discussed above, Zhou’s ASP includes servers and databases, and provides end users with the ability to access the device data, specify alert threshold values for comparison to measured sensor values, and receive notifications from the ASP via an alert device. Ex. 1004, 3:57–4:8. Petitioner’s declarant testifies,

Addition of user-configured thresholds and filters to the system taught by *Lemelson* would have made the system more desirable to potential users. For example, the device could be configured by a user to allow for higher or lower allowed heart rate variance under special circumstances such as during recovery from surgery or while undergoing intense physical training. Additionally, user-configured “inhibiting” functionality would have allowed users to control the level at which alerts are produced.

Ex. 1005 ¶ 52; *see also* Pet. 46–47 (citing same).

Thus, for the foregoing reasons and based on the uncontested declaration testimony of Petitioner’s declarant, we find that Lemelson and Zhou support Petitioner’s contentions, which we adopt. We note that Petitioner sets forth articulated reasoning with rational underpinning why it would have been obvious to modify Lemelson based on the teachings of Zhou. Pet. 46–47; Ex. 1005 ¶ 52.

vii. Claim 9

Claim 9 depends directly from claim 1 and recites “wherein determining the reporting response comprises configuring an alert based on the determined event context.” Ex. 1001, 12:17–19. Petitioner argues that a person having ordinary skill in the art would understand Lemelson’s generation of signals defining the variance “would comprise ‘configuring’ the alert to include such ‘signals defining the variance.’” Pet. 47 (citing Ex. 1003, 4:29–41; Ex. 1005 ¶ 45). Petitioner also relies on Zhou, arguing that a person having ordinary skill in the art would understand Zhou’s disclosure of configuring an alert to select a destination or message type “teaches ‘configuring an alert based on a determined event context.’” *Id.* at 47–48 (citing Ex. 1004, 16:3–13, 15:50–67, 16:29–60, 17:10–20; Ex. 1005 ¶ 53). Petitioner argues that it would have been obvious to a person having ordinary skill in the art to combine Zhou’s configuring of alerts for particular destinations or message types into Lemelson’s system for broadcasting alerts “in order to achieve broader applicability and more flexible functionality for end users that may prefer to receive alerts in varied formats.” *Id.* at 48–49 (citing Ex. 1005 ¶¶ 50–53). Patent Owner does not make any arguments with respect to claim 9 apart from arguments directed to independent claim 1 from which it depends, and which we have addressed above.

As noted above, Lemelson’s “command control center determines the severity of the emergency and dispatches the proper emergency assistance.” Ex. 1003, 4:48–49. As also noted above, Zhou’s ASP includes servers and databases, and provides end users with the ability to access the device data, specify alert threshold values for comparison to measured sensor values, and

receive notifications from the ASP via an alert device. Ex. 1004, 3:57–4:8. Zhou further discloses that the end user can specify the format in which the alerts are received, such as via pager, email, or phone. *Id.* at 16:3–13; *see also id.* at 3:66–4:8 (disclosing alerts delivered to end users “through any number of alert devices . . . such as a cellular telephone, telephone, pager, WAP enabled cellular telephones, Personal Digital Assistants (PDAs), computer or other devices having electronic mail, Short Message Service (SMS) messages, or Instant Messages (IM) capability, fax, computer generated voice phone calls/voicemail, or messages sent to a Call Management Center, which will generate a human phone call to alert the user”). Petitioner further sets forth articulated reasoning with rational underpinning why it would have been obvious to modify Lemelson based on the teachings of Zhou. Pet. 48–49.

Thus, for the foregoing reasons and based on the uncontested declaration testimony of Petitioner’s declarant, we find that Lemelson and Zhou support Petitioner’s contentions, which we adopt.

viii. Claims 10 and 11

Claim 10 depends directly from claim 1 and recites “wherein the reporting response comprises an alert.” Ex. 1001, 12:20–21. Claim 11 depends from claim 10 and recites “wherein the alert comprises one of an auditory alarm and a text message.” *Id.* at 12:22–23. In addressing claim 10, Petitioner argues that “*Lemelson* explicitly characterizes the reporting response generated to the central command center as an ‘alert.’” Pet. 49 (citing Ex. 1003, 4:41–47, 7:42–53, 13:50–58, Fig. 4A). Patent Owner does not make any arguments with respect to claim 10 apart from arguments

directed to independent claim 1 from which it depends, and which we have addressed above.

Petitioner's claim 10 mapping of the recited reporting response to the alert sent by Lemelson's portable warning unit is incompatible with Petitioner's claim 1 mapping of the recited reporting response to the command control center's dispatching the proper emergency assistance. *See id.* at 35; *see also* Tr. 11:1–12 (clarifying Petitioner's position that only the command control center determines the reporting response).

However, we find that Petitioner's arguments discussed in section II.E.1.b.vii above regarding claim 9 also apply to claim 10. Of particular note, Petitioner relies on Zhou to teach configuring alert thresholds and delivering alerts via multiple formats, including text messages. *See* Pet. 47–49. Furthermore, regarding claim 11, Petitioner relies on Zhou's teaching of sending alerts via text message. *Id.* at 50 (citing Ex. 1004, 3:66–4:8). Petitioner argues that it would have been obvious to a person having ordinary skill in the art to combine Zhou's teaching of sending alerts via text message with Lemelson's system to “provide more options to end users to receive alerts in the most convenient, desirable way.” *Id.* (citing Ex. 1005 ¶¶ 50–53).

Thus, for the foregoing reasons and based on the uncontested declaration testimony of Petitioner's declarant, we find that Lemelson and Zhou support Petitioner's contentions, which we adopt. We note that Petitioner sets forth articulated reasoning with rational underpinning why it would have been obvious to modify Lemelson based on the teachings of Zhou. *Id.*

2. Claims 12–17

a. Independent Claim 12

Petitioner relies on Lemelson to teach all of the limitations of independent claim 12. Pet. 51–52.

- i. A system comprising a plurality of integrated subsystems configurable for processing sensory data

Petitioner argues that Lemelson’s warning unit comprises a plurality of subsystems. *Id.* at 51 (citing Ex. 1003, 11:24–56, Figs. 2–3). Patent Owner does not challenge this aspect of the Petition.

We find that the cited portions of Lemelson support Petitioner’s contentions.

- ii. an analysis subsystem that determines an event context based on a glossary comprising signature data

Petitioner relies on Lemelson’s warning units as with respect to claims 1 and 5 in arguing that the warning units have “an analysis subsystem including a medical monitor.” *Id.* We understand Petitioner to rely on Lemelson’s monitoring and analysis of medical data via medical sensor 51 as described above with respect to claim 1. Patent Owner does not challenge this aspect of the Petition.

For the same reasons as discussed above, we find that Lemelson supports Petitioner’s contentions.

- iii. a reporting subsystem, communicatively coupled to the analysis subsystem, that receives the event context determined by the analysis subsystem

Petitioner argues that “*Lemelson* teaches a reporting subsystem including a transmit/receive radio and an antenna.” Pet. 51 (citing Ex. 1003,

3:22–24, 11:60–12:2). Petitioner argues that “common sense would have indicated to a PHOSITA that . . . *Lemelson*’s reporting subsystem ‘receives’ the event context from the analysis subsystem.” *Id.* at 52 (citing Ex. 1005 ¶ 54).

Patent Owner argues that the Petition fails to show that Lemelson discloses “that the ‘reporting subsystem’ is *both* ‘communicatively coupled to the analysis system’ *and* ‘receives the event context’ from the analysis subsystem.” PO Resp. 12. Patent Owner argues that if the receipt by the reporting subsystem of an event context from the analysis subsystem necessarily means the subsystems are communicatively coupled together, “then the additional requirement that the reporting subsystem must be ‘communicatively coupled to the analysis subsystem’ would be rendered superfluous.” *Id.*

Petitioner replies that Lemelson’s portable warning unit includes “an internal processing system that maps to the claimed ‘analysis subsystem’ and communicates its information to the command control center using a transceiver and antenna that maps to the ‘reporting subsystem.’” Pet. Reply 12–13. “Petitioner’s position is simple—in order for the processing system to send its data using the transceiver/antenna, it must communicate that data to the transceiver/antenna.” *Id.* at 13.

Patent Owner replies that “communicatively coupled” indicates a direct connection between the reporting subsystem and the analysis subsystem and that Lemelson does not disclose such a direct connection. PO Sur-Reply 15–16.

As noted above, Lemelson explains that the medical monitoring system of its warning unit compares monitored signals with data defining

abnormal medical conditions, detects the degree of variance between the two, and generates and sends to the command control center signals defining the variance. Ex. 1003, 4:29–41. Petitioner’s declarant testifies that a person having ordinary skill in the art would have understood that in order for Lemelson’s warning unit to transmit signals defining an abnormal medical condition, the transmitting portions of the warning unit must have received such information from the analysis components of the warning system. Ex. 1005 ¶ 54. Thus, we find that Lemelson supports Petitioner’s contentions.

We disagree with Patent Owner’s arguments. Claim 12 claims a “system.” Ex. 1001, 12:24. We interpret the “communicatively coupled” recitation of claim 12 to describe the physical connection between the recited analysis and reporting subsystems and the “receives the event context” recitation to describe a function performed by the reporting subsystem. We determine that, by explaining how Lemelson’s warning units measure and transmit data, Petitioner has sufficiently explained how the reporting subsystem is communicatively coupled to and receives event context from the analysis subsystem as required by claim 12; it is axiomatic that if these subsystems were not communicatively coupled, the reporting subsystem would not be able to report what the analysis subsystem analyzes. Patent Owner’s arguments fail to apprise us how the reporting subsystem could receive the event context (that is, receive a communication) from the analysis subsystem without being communicatively coupled to the analysis subsystem. We note that although receiving event context communications evidences that the reporting subsystem is communicatively coupled to the analysis subsystem, “communicatively coupled” encompasses receiving

additional types of communications and, thus, is not rendered superfluous as asserted by Patent Owner. Nor are we persuaded by Patent Owner's unsupported assertion that "communicatively coupled" indicates a direct connection between the reporting subsystem and the analysis subsystem. *See, e.g., Bradford Co. v. Conteyor North America, Inc.*, 603 F.3d 1262, 1270 (Fed. Cir. 2010) (construing "coupled to" to allow for indirect attachment).

iv. Conclusion

For the foregoing reasons, we are persuaded by Petitioner's showing, which we adopt, that claim 12 would have been obvious in view of Lemelson.

b. Dependent Claims 13–17

We have reviewed the Petition, Patent Owner Response, Petitioner Reply, Patent Owner Sur-Reply, and evidence of record and determine that Petitioner has shown, by a preponderance of the evidence, that dependent claims 15–17 would have been unpatentable in view of Lemelson and Zhou, but has failed to show that claims 13 and 14 would have been unpatentable.

i. Claims 13 and 14

Claim 13 depends directly from claim 12 and recites "a public safety subsystem interfaced to the analysis subsystem and the reporting subsystem, the public safety subsystem enabled to receive reported events and broadcast an alert." Ex. 1001, 12:32–35. Claim 14 depends from claim 13 and recites "wherein the public safety subsystem receives reported events from a plurality of reporting subsystems." *Id.* at 12:36–38. Petitioner relies on Lemelson to teach all of the limitations of claims 13 and 14, mapping

Lemelson's command control center to the recited public safety subsystem and noting that the command control center is used to keep track of multiple warning units. Pet. 52–53; *see also* Pet. Reply 14.

Patent Owner notes that claim 13 requires a public safety subsystem interfaced to both the analysis subsystem and the reporting subsystem, and argues that the Petition reproduces the language of claim 13 without explaining how Lemelson teaches the recitations. PO Resp. 13. Patent Owner argues that “claim 13 requires that ‘a public safety subsystem’ must be ‘interfaced’ not only to ‘the reporting subsystem’ but also to “the analysis subsystem.”” PO Sur-Reply 17.

Petitioner asserts that the command control center computer receives reported events from the warning units (*see* Pet. 53), which we understand to assert that the command control center is interfaced to the warning units' reporting subsystem. However, the Petition fails to set forth adequately how the command control center is *also* interfaced to the analysis subsystem of the warning units. As noted in section II.E.2.a.ii above, Petitioner maps Lemelson's “medical monitor” to the recited analysis subsystem. Pet. 51. The Petition fails to address how Lemelson's command control center is interfaced to the warning unit's medical monitor, or its internal processing system (which processes the monitored medical data).

For the foregoing reasons, we are not persuaded by Petitioner's showing that claims 13 and 14 would have been obvious in view of Lemelson.

ii. Claim 15

Claim 15 depends directly from claim 12 and recites “wherein the analysis subsystem further comprises a glossary, the glossary comprising a

digitized stream of signature data.” Ex. 1001, 12:39–41. Petitioner relies on Lemelson as set forth in its showing regarding claims 1 and 5. Pet. 53. Patent Owner does not make any arguments with respect to claim 15 apart from arguments directed to independent claim 12 from which it depends, and which we have addressed above.

For the reasons set forth in section II.E.1.b.iv above, we find that Lemelson supports Petitioner’s contentions, which we adopt.

iii. Claim 16

Claim 16 depends directly from claim 12 and recites “wherein the reporting subsystem configures an alarm based on the event context and broadcasts the alarm notice.” Ex. 1001, 12:42–44. Petitioner relies on Lemelson and Zhou as set forth in its showing regarding claim 9. Pet. 53.

Patent Owner argues that the “Petition only expressly identifies Lemelson’s ‘radio 48 and antenna system 50 of FIG. 2’” as corresponding to the recited reporting subsystem. PO Resp. 14. Patent Owner argues that Petitioner does not explain how the radio and antenna system configures an alarm and broadcasts the configured alarm. *Id.* Patent Owner suggests that “broadcasts” requires more than “a single, point-to-point transmission.” *Id.*; *see also* PO Sur-Reply 17–20.

Petitioner replies that “the mapping for Claim 9 provides full support for Petitioner’s proposition that the prior art also teaches Claim 16.” Pet. Reply 14–15. Petitioner argues that the “processing components [that] create and populate the alarm message” are “part of the ‘reporting subsystem.’” *Id.* at 16.

In addressing claim 16, Petitioner relies exclusively on its analysis of claim 9. Pet. 53. Petitioner’s analysis of claim 9 relies on “the computer” to

“generate[] and cause[] the transmission circuit to transmit signals defining the variance [between the user’s current and normal medical conditions] to the command control center.” *Id.* at 47 (emphasis omitted). Petitioner identifies Lemelson’s microprocessor 42 as corresponding to the recited computer. *Id.* at 17 (regarding claim 1, from which claim 9 depends). We understand that, by referencing Lemelson’s computer as configuring the alarm, Petitioner asserts that the computer is a component of the recited reporting subsystem. *See* Pet. Reply 16 (confirming the same). We note that Petitioner uses the open-ended term “including” when identifying that radio 48 and antenna system 50 are components of the reporting subsystem (*see* Pet. 51 (regarding claim 12, from which claim 16 depends)), suggesting that the reporting system may also comprise additional components.

Additionally, Patent Owner’s arguments suggesting that “broadcasting” requires “a point-to-many transmission” are presented in conclusory fashion with no supporting evidence or persuasive technical reasoning, and, thus, do not outweigh Petitioner’s evidence.

Accordingly, for the foregoing reasons, we find that Lemelson and Zhou support Petitioner’s contentions, which we adopt.

iv. Claim 17

Claim 17 depends directly from claim 12 and recites “wherein the glossary comprises a signature data selected from one of sounds, faces, and sensor events.” Ex. 1001, 12:45–47. Petitioner relies on its showing regarding claims 2, 4, and 5 to argue that “*Lemelson* teaches that words spoken by a user and captured by its warning unit may be compared to a ‘speech library’ containing words and phrases such as ‘help’ and ‘heart attack,’ indicating an emergency situation.” Pet. 54 (citing Ex. 1003, 14:35–

40.) Petitioner argues that a person having ordinary skill in the art “would have understood this is a glossary comprising sound signature data.” *Id.* (citing Ex. 1005 ¶ 48). Patent Owner does not make any arguments with respect to claim 17 apart from arguments directed to independent claim 12 from which it depends, and which we have addressed above.

Lemelson discloses comparing monitored speech to a database of speech data:

The speech detection circuitry at block 154 is used to determine whether or not human speech is present. If speech is recognized, control is passed to compare the speech to *data stored in a speech library* at block 158. *The spoken words are compared with a speech library stored in memory* at block 160 as illustrated in FIG. 4A. Particular or specific words stored in the *library memory* at block 160 determines and indicates whether an alarm or distressful situation is occurring that requires attention or immediate response.

Ex. 1003, 14:29–38 (emphases added). The ’353 patent explains that a “glossary” is similar to a database:

Analysis subsystem 320 may compare the input data received to other information stored in a glossary. The glossary may be similar to a database or other file repository and may organize signature data, that is, data specific to the output of a certain type of sensor or class of sensors.

Ex. 1001, 6:50–54. Thus, we find that Lemelson supports Petitioner’s contentions, which we adopt.

3. Claims 18–20

a. Independent Claim 18

Petitioner relies on Lemelson to teach most of the limitations of independent claim 18, including logging a receipt of a reported event and grading the urgency of a received reported event. Pet. 54–59. Petitioner

relies on Zhou as an additional teaching of logging a receipt of a reported event and grading the urgency of a received reported event. *Id.* at 56–59.

i. A system for broadcasting a critical alert

Petitioner relies on Lemelson in the same manner as with respect to claim 1. *Id.* at 54. Patent Owner does not challenge this aspect of the Petition.

For the same reasons as discussed above in connection with claim 1, we find that Lemelson supports Petitioner’s contentions.

ii. an external interface

Petitioner argues that Lemelson’s command control center 10 corresponds to the recited external interface because it communicates with the warning units. *Id.* at 55 (citing Ex. 1003, 3:28–41, Fig. 1). Patent Owner does not challenge this aspect of the Petition.

We find that the cited portions of Lemelson support Petitioner’s contentions.

iii. a receiving mechanism that logs a receipt of a reported event

Petitioner notes that Lemelson discloses that its command control center has a database computer and a database storage unit that is configured to monitor and track the existence of emergency situations. *Id.* at 55–56 (citing Ex. 1003, 3:28–41, Fig. 1). Petitioner notes that the database is capable of storing “learned data,” and argues that a person having ordinary skill in the art would have understood this storing of “learned data” to include logging a receipt of a reported event. *Id.* at 56 (citing Ex. 1003, 8:8–

9; Ex. 1005 ¶ 54). Patent Owner does not challenge this aspect of the Petition.

Petitioner also relies on Zhou to teach a receiving mechanism that logs receipt of a reported event. *Id.* at 56–57. Petitioner notes that Zhou’s device sends data, such as physiological parameter data, to the ASP, which stores the device data. *Id.* at 56 (citing Ex. 1004, 1:46–55, 2:38–44, 3:6–12). Petitioner notes that Zhou’s ASP includes a platform database (“PD”) having a device log table that tracks instances when data is received from each device. *Id.* at 56–57 (citing Ex. 1004, 14:3–14). Petitioner argues that the device log table of the ASP platform database corresponds to a receiving mechanism that logs a receipt of a reported event as recited in claim 18. *Id.* at 57 (citing Ex. 1005 ¶ 55). Petitioner argues that it would have been obvious to a person having ordinary skill in the art to incorporate Zhou’s data logging into Lemelson’s command control center such that the data defining the variance between the user’s current and normal medical conditions would be logged “in order to efficiently and conveniently organize the data for subsequent retrieval, analysis, and/or display.” *Id.* (citing Ex. 1005 ¶¶ 54–55). Patent Owner does not challenge this aspect of the Petition.

As correctly noted by Petitioner, Lemelson discloses that its command control center includes a database computer and a database storage unit. Ex. 1003, 3:29–30. Zhou explains that its ASP includes at least one platform database, which includes a device log table that “is an archival table that tracks instances when data is received from each Device 100.” Ex. 1004, 3:57–60, 14:6–9. Zhou further explains that an end user, such as a caregiver, can access device data via a user device. *Id.* at 2:50–53, 4:9–13.

Thus, we find that Lemelson and Zhou support Petitioner's contentions. Petitioner further sets forth articulated reasoning with rational underpinning why it would have been obvious to modify Lemelson based on the teachings of Zhou. Pet. 57.

iv. a prioritizing mechanism that grades the urgency of the received reported event based on a configuration setting

Petitioner argues that, by disclosing that its command center determines the severity of an emergency reported by a warning unit, Lemelson discloses a prioritizing mechanism as recited in claim 18. *Id.* at 58 (citing Ex. 1003, 4:41–49, 12:9–15). Petitioner argues that a person having ordinary skill in the art “would have understood that ‘determining the severity of an emergency’ satisfies the limitation of ‘grading the urgency’ of the received reported event at the command control center.” *Id.* (citing Ex. 1005 ¶ 51).

Petitioner also relies on Zhou to teach a prioritizing mechanism. Pet. 58–59. Petitioner argues that, by disclosing that end users can specify alert thresholds, Zhou teaches grading the urgency of a received reported event based on a configuration setting as recited in claim 18. *Id.* at 58; *see also id.* at 42 (citing Ex. 1004, 3:23–24, 4:9–25). Petitioner argues that it would have been obvious to a person having ordinary skill in the art to configure Lemelson's determination of the severity of a reported emergency to be based on Zhou's user-configurable setting “for the advantage of allowing users to customize alerts, minimizing unwanted false alarms.” *Id.* at 58–59 (citing Ex. 1005 ¶ 52).

Patent Owner argues that Petitioner does not provide support for its position that “[a] PHOSITA would have understood that ‘determining the severity of an emergency’ satisfies the limitation of ‘grading the urgency’ of the received reported event at the command control center.” PO Resp. 15 (alteration in original) (citing Pet. 58). Patent Owner argues that Petitioner’s reference to claim 6 “is inapplicable and unavailing to the distinct context recited in claim 18.” *Id.* at 16.

Petitioner replies that “*Lemelson* clearly teaches determining how severe a user’s need is for emergency assistance, thus determining (or ‘grading’) its urgency.” Pet. Reply 19 (citing Pet. 58; Ex. 1005 ¶ 45).

Patent Owner replies by arguing that claim 18 requires a “specific ‘prioritizing’ requirement” and that the Petition fails to set forth how *Lemelson* and Zhou satisfy such requirement. PO Sur-Reply 20–21.

We fail to see, and Patent Owner fails to identify adequately, any difference between “determining the severity of an emergency” and “grading the urgency” of a reported event. We note that Patent Owner does not offer a definition for either term. We further note that the ’353 patent and *Lemelson* use the terms in substantially the same manner to characterize an emergency event to notify appropriate response personnel. *Compare* Ex. 1001, 1:67–2:5 (“The system comprises . . . a prioritizing mechanism that grades the urgency of the received alert based on a configuration setting and a distributing mechanism that broadcasts an alarm responsive to grading the urgency of the received alert.”), *with* Ex. 1003, 4:48–49 (“The command control center determines the severity of the emergency and dispatches the proper emergency assistance.”).

We disagree with Patent Owner’s arguments regarding Petitioner’s citation to its claim 6 analysis. Petitioner cites to its claim 6 analysis regarding Zhou’s disclosure of user-configurable settings, arguing that they correspond to the recited “configuration setting.” Pet. 58.

Lemelson explains that “[t]he command control center determines the severity of the emergency and dispatches the proper emergency assistance.” Ex. 1003, 4:48–49. Zhou explains that an end user can access device data and “specify alert thresholds” via a user device. Ex. 1004, 4:9–13. As noted by Petitioner, Zhou further explains that “the Device 100 and/or ASP 200 monitor the sensor output and generate alert messages to the end users 25 if the sensor data exceeds an alarm threshold.” *Id.* at 3:22–24. Thus, we find that Lemelson and Zhou support Petitioner’s contentions. Petitioner further sets forth articulated reasoning with rational underpinning why it would have been obvious to modify Lemelson based on the teachings of Zhou. Pet. 58–59.

v. responsive to grading of the urgency of the received
reported event, a distributing mechanism that
broadcasts an alert

Petitioner notes that, in addition to determining the severity of an emergency situation, Lemelson’s command center also dispatches the proper emergency assistance. Pet. 59 (citing Ex. 1003, 4:41–49, 12:39–47, Fig. 3). Petitioner argues that a person having ordinary skill in the art would have understood this to be a teaching of a distributing mechanism as recited in claim 18. *Id.* (citing Ex. 1005 ¶ 52). Patent Owner does not challenge this aspect of the Petition.

For the reasons set forth above, we find that the cited portions of Lemelson support Petitioner's contentions.

vi. Conclusion

For the foregoing reasons, we are persuaded by Petitioner's showing, which we adopt, that claim 18 would have been obvious in view of Lemelson and Zhou.

b. Dependent claims 19 and 20

We have reviewed the Petition, Patent Owner Response, Petitioner Reply, Patent Owner Sur-Reply, and evidence of record and determine that Petitioner has not shown, by a preponderance of the evidence, that dependent claims 19 and 20 would have been unpatentable in view of Lemelson and Zhou.

Claim 19 depends directly from claim 18 and recites "a filtering mechanism that determines a validity of a received reported event." Ex. 1001, 12:58–60. Claim 20 depends from claim 19 and recites "wherein the external interface networks to a plurality of reporting subsystems." *Id.* at 12:61–62. Petitioner argues that a person having ordinary skill in the art would have understood that the recitation of claim 19 "would be satisfied by a mechanism that 'filters out' an invalid received reported event (or otherwise inhibits a particular action in response to the reported event)." Pet. 59 (citing Ex. 1005 ¶ 57). Petitioner relies on Zhou's discussion of a two-level alert threshold process in arguing that "*Zhou* describes a 'filtering' mechanism in which the 'validity' of a received reported event is determined through application of . . . logical rules [that] may check multiple thresholds,

such as heart rate or body temperature.” *Id.* at 59–61 (citing Ex. 1004, 15:50–63, 17:32–45;⁸ Ex. 1005 ¶ 57).

Patent Owner argues that “the claimed validity determination requires exactly what it states—an affirmative determination of whether the ‘received reported event’ is either valid or invalid.” PO Resp. 18 (citing Ex. 1001, 9:26–31). According to Patent Owner, “this claim language is not met simply by filtering out an alleged ‘received reported event’ for any reason, without having first affirmatively made a determination *as to its validity* in particular.” *Id.*; *see also* PO Sur-Reply 21–22.

Petitioner replies by reiterating its interpretation that any event that is inhibited is invalid. *See* Pet. Reply 20. Petitioner cites a portion of Figure 7 of the ’353 patent in arguing that “an invalid report is inhibited.” *Id.* at 20–21.

We agree with Patent Owner that Petitioner has not explained adequately how Lemelson and Zhou teach determining the *validity* of a received reported event as required by claim 19. Petitioner relies on Zhou’s disclosure of user-configurable settings for determining the criticality of measured data. Pet. 59–61; *see also* Ex. 1005 ¶ 57 (providing the same reasoning). Petitioner relies on part two of the aforementioned two-level process. Zhou’s ASP configurations are consulted to determine whether the alert (reported event) sent from the sensing device should be broadcast. *See, e.g.*, Ex. 1004, 15:56–61 (explaining that the ASP uses logical rules “to create an alert threshold rule”). However, Petitioner does not explain how

⁸ Petitioner’s citation to column 16, lines 14–28 of Exhibit 1004 appears to be a typographical error, as the quoted language appears at column 17, lines 32–45.

filtering the message based on Zhou's user-configurable settings evaluates the *validity* of the alert sent from the device to the ASP. We note that Petitioner relies on the same components and functionality for the filtering mechanism as relied upon for the prioritizing mechanism. *Compare* Pet. 61, *with id.* at 58.

To the extent Petitioner asserts that any message that is filtered out must necessarily be invalid, we are not persuaded that “determin[ing] a validity” has such a broad meaning. Petitioner's observation that “an invalid report is inhibited” (Pet. Reply 21) does not establish the truth of the converse that all inhibited reports are invalid. Petitioner's arguments attempt to equate validating and filtering. The '353 patent, however, uses “valid” in accordance with its ordinary meaning, explaining that invalidity can be based on a false or disabled alarm. *See* Ex. 1001, 9:26–29. Petitioner has not explained adequately how Lemelson and Zhou address the validity of a reported event.

For the foregoing reasons, on this record, Petitioner has not shown, by a preponderance of the evidence, that claim 19 or its dependent claim 20 would have been obvious in view of Lemelson and Zhou.

F. Patent Owner's Estoppel Argument

Patent Owner states that, “[u]pon information and belief, Apple may be a licensee of the '353 patent,” and suggests that such a license may “forbid[] Apple to challenge the validity of the '353 patent.” PO Resp. 3. Petitioner avers that “Apple has never been, and is not now, bound by any agreement that would limit its ability to challenge the '353 Patent.” Pet. Reply 1. Patent Owner replies that “it has reason to believe that a prior

owner [of the '353 patent] (IBM) *may have* licensed the '353 patent to a number of entities, including Apple.” PO Sur-Reply 23 (emphasis added).

We agree with Petitioner that Patent Owner’s assertion is based on speculation and is unsupported by any facts or evidence of record. *See* Pet. Reply 1. Given the complete lack of any substantiating fact or evidence, and given Petitioner’s statements contradicting Patent Owner’s assertions, we are not apprised of any reason that the Petition should be dismissed.

G. Patent Owner’s Constitutional Argument

Patent Owner notes that an appeal pending at the U.S. Court of Appeals for the Federal Circuit asserts that “the Board’s appointments of administrative patent judges violate the Appointments Clause of Article II” of the U.S. Constitution. PO Resp. 19. “Patent Owner . . . adopts this constitutional challenge.” *Id.*

Our rules preclude incorporation by reference of argument from other documents. 37 C.F.R. § 42.6(a)(3). Patent Owner merely refers to a pending appeal in the Federal Circuit, *Polaris Innovations Ltd. v. Kingston Technology Co.*, No. 18-01768. PO Resp. 19. In the absence of any presentation in the Patent Owner Response of argument and the basis therefore as to the alleged constitutional defect in this proceeding, the argument is not framed for our consideration.

III. CONCLUSION⁹

In summary,

Claims	Basis	References	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–20	§ 103(a)	Lemelson, Zhou	1–12, 15–18	13, 14, 19, 20

IV. ORDER

Accordingly, it is

ORDERED that claims 1–12 and 15–18 of the '353 patent are determined to be unpatentable;

FURTHER ORDERED that claims 13, 14, 19, and 20 of the '353 patent are not determined to be unpatentable; and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

⁹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. §§ 42.8(a)(3), (b)(2).

IPR2018-01093
Patent 7,944,353 B2

For PETITIONER:

Adam P. Seitz
Paul R. Hart
Erise IP, P.A.
adam.seitz@eriseip.com
paul.hart@eriseip.com

For PATENT OWNER:

Brett Mangrum
Ryan Loveless
James Etheridge
Jeffrey Huang
Etheridge Law Group
brett@etheridgelaw.com
ryan@etheridgelaw.com
jim@etheridgelaw.com
jeff@etheridgelaw.com