

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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VIVINT, INC.,  
Petitioner,

v.

SB IP HOLDINGS LLC,  
Patent Owner.

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IPR2022-00811  
Patent 8,144,184 B2

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Before JAMESON LEE, KARL D. EASTHOM, and  
JON M. JURGOVAN, *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

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

## I. INTRODUCTION

Vivint, Inc., Petitioner, filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–13 and 16–20 (“challenged claims”) of U.S. Patent No. 8,144,184 B2 (Ex. 1001, the “’184 patent”). Pet. 6. SB IP Holdings LLC, Patent Owner, filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

After the Institution Decision (Paper 8, “Inst. Dec.”), Patent Owner filed a Response (Paper 12, “PO Resp.”), and Petitioner filed a Reply (Paper 13). Patent Owner did not file a sur-reply. Neither party requested an oral argument. *See* Paper 15. For the reasons set forth in this Final Written Decision pursuant to 35 U.S.C. § 318(a), we determine that Petitioner demonstrates by a preponderance of evidence that the challenged claims are unpatentable.

## II. BACKGROUND

### A. *Real Parties in Interest*

The parties identify themselves as real parties in interest. Pet. 1; Paper 3, 1. Petitioner also states that it “is an indirect subsidiary of Vivint Smart Home, Inc., which is merely a holding company.” Pet. 1.

### B. *Related Matters*

The parties identify the following proceedings as related matters involving the ’184 patent: *SB IP Holdings LLC v. Vivint Smart Home, Inc.*, No., 4:21-cv-00912 (E.D. Tex.); *Vivint, Inc. v. SB IP Holdings, LLC.*, No. 8:22-cv-00034 (C.D. Cal.) (declaratory judgment action without invalidity assertion). *See* Paper 3, 1–2; Pet. 1.

Patent Owner identifies the following *inter partes* reviews as involving related patents challenged by Petitioner: IPR2022-00810, IPR2022-00812, IPR2022-00813, and IPR2022-00814. Paper 3, 1.

### *C. The '184 Patent*

The '184 patent relates to an “audio-video communication system” having a “wireless exterior module located proximate an entrance” that includes a “video camera” and “remote peripheral devices” for “viewing an image from the video camera.” Ex. 1001, code (57). Figure 1 follows:

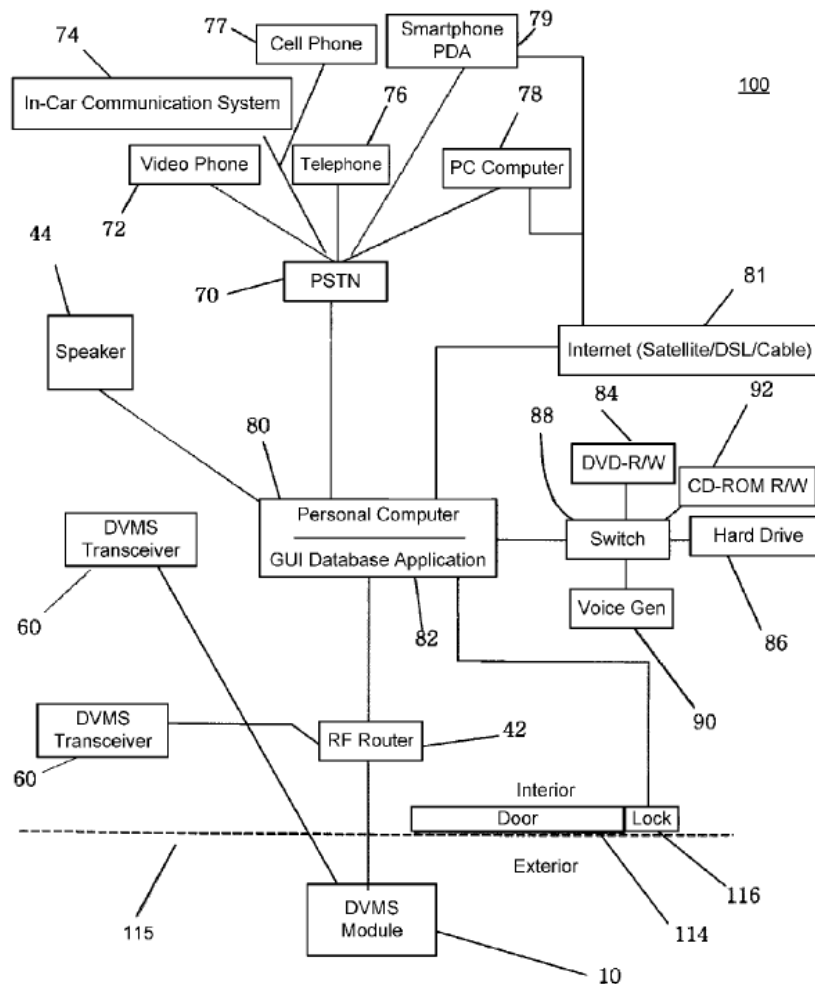


**FIG. 1**

Figure 1 above depicts a schematic diagram of system 100 with wireless module 10 (bottom) located proximate door 114 at the exterior side of a home or office, with personal computer 82 (middle) in the interior of the home or office, and peripheral devices (top), which include video phone 72, telephone 76, cell phone 77, and PC computer 78, etc., and which

communicate with personal computer 82 via public switching telephone network (PSTN) connection 70 or broadband connection 81. Ex. 1001, 6:41–54, 7:13–17, 7:50–67, 8:61–9:3.

Wireless module 10 includes “a video camera 22; speakers 12; a proximity sensor 26; a microphone 20; an LCD display 16; a quick connect electrical receptacle 24; and a radiofrequency receiver/transmitter represented by antenna 18.” Ex. 1001, 7:58–62 (describing Fig. 2).

*D. Illustrative Claim*

Independent claim 1 is illustrative of the challenged claims, and follows:

1. A detection and viewing system, comprising:
  - (a) a wireless device associated with a door and configured to communicate video data, the wireless device including a camera for providing the video data;
  - (b) a sensor for activating the camera;
  - (c) a plurality of peripheral devices, each peripheral device associated with a respective user, and
  - (d) a computer configured for communication with the wireless device and configured for communication with each of the peripheral devices;
  - (e) wherein the computer executes software, in accordance with which,
    - (i) the association of each of the peripheral devices with a respective user is maintained,
    - (ii) video data from the wireless device is received by the computer upon actuation of the sensor, and
    - (iii) a graphical user interface is provided through which video data from the wireless device is accessible by each respective user using one of the peripheral devices.

*E. Asserted Grounds of Unpatentability*

Petitioner contends that claims 1–13 and 16–20 are unpatentable as follows:<sup>1</sup>

| <b>Claim(s) Challenged</b>             | <b>35 U.S.C. §</b> | <b>Reference(s)/Basis</b>                        |
|----------------------------------------|--------------------|--------------------------------------------------|
| 1, 3, 4, 7, 9, 10, 12, 13 <sup>2</sup> | 102 (a, b)         | Vaios <sup>3</sup>                               |
| 1–4, 7–10, 12, 13, 20                  | 103(a)             | Vaios, Menard, <sup>4</sup> Saylor <sup>5</sup>  |
| 6, 16, 17, 19                          | 103(a)             | Vaios, Menard, Saylor, Naidoo-091 <sup>6</sup>   |
| 5                                      | 103(a)             | Vaios, Menard, Saylor, MacCormack <sup>7</sup>   |
| 11                                     | 103(a)             | Vaios, Menard, Saylor, Krzyzanowski <sup>8</sup> |
| 18                                     | 103(a)             | Vaios, Menard, Saylor, Nykerk <sup>9</sup>       |

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<sup>1</sup> The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103. Petitioner contends that “[t]he earliest potential effective filing date of the claims of the ’184 patent is October 15, 2002.” Pet. 2. Assuming for purposes of institution this is correct, the ’184 patent’s effective filing date is before the March 16, 2013 effective date of the applicable AIA amendment, and the pre-AIA versions of §§ 102, 103 apply.

<sup>2</sup> See Paper 11 (Petitioner’s Corrected Grounds of Unpatentability).

<sup>3</sup> U.S. Patent No. 6,271,752 B1, issued Aug. 7, 2001 (Ex. 1003).

<sup>4</sup> PCT Pub. No. WO 01/093230 A1, published December 6, 2001 (Ex. 1004).

<sup>5</sup> U.S. Patent No. 6,661,340 B1, published Dec. 9, 2003, filed Apr. 24, 2001 (Ex. 1008).

<sup>6</sup> U.S. Patent No. 6,658,091 B1, issued Dec. 2, 2003, filed Feb. 1, 2002 (Ex. 1005).

<sup>7</sup> U.S. Patent No. 5,828,848, issued Oct. 27, 1998 (Ex. 1012).

<sup>8</sup> U.S. Patent No. 7,933,945 B2, issued Apr. 26, 2011, filed June 27, 2002 (Ex. 1016).

<sup>9</sup> U.S. Patent No. 4,897,630, issued Jan. 30, 1990 (Ex. 1013).

| Claim(s) Challenged | 35 U.S.C. § | Reference(s)/Basis                      |
|---------------------|-------------|-----------------------------------------|
| 1, 3–7, 9           | 102(e)      | Naidoo-068 <sup>10</sup>                |
| 1, 3–7, 9           | 103(a)      | Naidoo-068, Vaios, Saylor               |
| 2, 8, 10, 20        | 103(a)      | Naidoo-068, Vaios, Saylor, Menard       |
| 12, 13, 16, 17, 19  | 103(a)      | Naidoo-068, Vaios, Saylor, Naidoo-091   |
| 11                  | 103(a)      | Naidoo-068, Vaios, Saylor, Krzyzanowski |
| 18                  | 103(a)      | Naidoo-068, Vaios, Saylor, Nykerk       |

Petitioner supports its Petition with the Declaration of Dr. Bertrand Hochwald (Ex. 1002) and its Reply with the Reply Declaration of Dr. Bertrand Hochwald (Ex. 1051). Patent Owner has not submitted declaration testimony of any technical expert.

### III. ANALYSIS OF THE GROUNDS

#### *A. Legal Standards*

Anticipation under 35 U.S.C. § 102 requires finding each and every element in a claim, arranged as recited in the claim, in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). The anticipation inquiry accounts for the literal teachings of the prior art reference, and the inferences the ordinarily skilled person draws from it. *Eli Lilly & Co. v. Los Angeles Biomedical Res. Inst. at Harbor-UCLA Med. Ctr.*, 849 F.3d 1073, 1074–75 (Fed. Cir. 2017); *Dayco*

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<sup>10</sup> U.S. Patent No. 8,520,068 B2, issued Aug. 27, 2013, filed Sept. 18, 2001, (Ex. 1007).

*Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368 (Fed. Cir. 2003); *In re Baxter Travenol Labs.*, 952 F.2d 388, 390 (Fed. Cir. 1991). “[T]he reference need not satisfy an *ipsissimis verbis* test.” *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *In re Bond*, 910 F.2d 831, 832–33 (Fed. Cir. 1990)).

Obviousness under 35 U.S.C. § 103(a)

forbids issuance of a patent when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious 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). “[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *KSR*, 550 U.S. at 416 (citing *United States v. Adams*, 383 U.S. 39, 50–51 (1966)). The question of obviousness involves resolving 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 if asserted (not here), (4) objective evidence of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

*B. Level of Ordinary Skill in the Art*

Determining whether an invention would have been obvious under 35 U.S.C. § 103 requires resolving the level of ordinary skill in the pertinent art at the time of the effective filing date of the claimed invention. *Graham*, 383 U.S. at 17. The person of ordinary skill in the art is a hypothetical person who knows the relevant art. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors in determining the level of ordinary skill in the art

include the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* One or more factors may predominate. *Id.*

Petitioner contends as follows:

A person of ordinary skill in the art (“POSITA”) for the ’184 patent is generally one who has a Bachelor’s degree in computer science, electrical engineering, or a related field, with two years of experience in audio and/or video processing, networked communication systems, sensor systems, and/or remote monitoring systems.

Pet. 6 (citing Ex. 1002 ¶¶ 21–24).

Patent Owner does not propose a level of ordinary skill in the art. However, Patent Owner submits that Dr. Hochwald “merely lists a handful of factors in stating that he has taken those factors ‘into account.’” PO Resp. 2–3 (citing Ex. 1002 ¶¶ 21–23). Based on this contention, Patent Owner further contends the Board cannot “determine whether his opinion ‘is based on sufficient facts or data; . . . is the product of reliable principles and methods; and . . . reliably applied the principles and methods to the facts of the case.’” *Id.* at 3 (quoting Fed. R. Evid. 702). Therefore, Patent Owner contends that “each of Petitioner’s grounds lack a reliable prerequisite determination of the level of skill of a POSITA and are flawed as a result.” *Id.*

Notwithstanding Patent Owner’s arguments, Dr. Hochwald declares that “[a]ll of the opinions contained in this declaration are based on the documents I have reviewed and my professional judgment, as well as my education, experience, and professional knowledge.” Ex. 1002 ¶ 17. Such documents include the “’184 patent (EX1001), the prosecution history of the ’184 patent (EX1017), the prior art references cited herein, and the exhibits I

have cited in this declaration.” *Id.* ¶ 18. In other words, Dr. Hochwald bases his proposed level of ordinary skill on the relevant documents.

Moreover, Patent Owner does not offer a proposed level of ordinary skill in the art or even argue that a different level would result in a different analysis by Dr. Hochwald or any other declarant. *See id.*

Based on a review of the record, we adopt Petitioner’s proposed level of ordinary skill in the art because it is consistent with the evidence of record, including the asserted prior art and ’184 patent specification. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1354–55 (Fed. Cir. 2001) (the applied prior art may reflect an appropriate level of skill).

### *C. Claim Construction*

In *inter partes* reviews, the Board interprets claim language using the district-court-type standard, as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b) (2020). Under this standard, claim terms have their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1313–14.

Petitioner relies on the plain an ordinary meaning under *Phillips*. *See* Pet. 6. Patent Owner “does not take a position regarding the need for claim construction at this time.” However, Patent Owner contends “Petitioner . . . improperly construe[s] certain terms,” which “[t]he Board should disregard, . . . particularly without the required showing of necessity.” PO Resp. 2. Patent Owner fails to point to any specific term in this trial that Patent Owner regards as an “improper construction,” and the Board is unable to find one.

Accordingly, for purposes of this trial, it is not necessary to explicitly construe any claim terms, because any construction would not impact the analysis of Petitioner's asserted grounds. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (stating that "we need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

*D. Hochwald Declaration (Ex. 1002)*

Patent Owner argues that the "Petition[] violates 37 C.F.R. § 42.6(a)(3) by citing Dr. Hochwald's declaration, which includes pages of arguments and evidence that are not in the Petition," thereby avoiding the word limits of § 42.6(a)(3) by improper incorporation by reference of the testimony. PO Resp. 20. Patent Owner also argues this alleged rule violation shows that "Petitioner . . . fails to provide adequate notice" such that "[t]he Board should afford that evidence no weight" and "deny the Petition." *Id.* at 20–21. To support this line of argument, Patent Owner provides a single example: "For example, Petitioner relies almost exclusively on Dr. Hochwald's declaration for why Vaios would be obvious on its own without providing analysis in the Petition." *Id.* at 20 (citing Pet. 15). Contrary to Patent Owner's characterization of the Petition, the Petition relies on the combined teachings of Vaios and Saylor, providing citations to Vaios, Saylor, and the Hochwald Declaration on pages 13–14 to support its rationale on page 15. *See* Pet. 13–15 (citing Ex. 1002 ¶¶ 126–141; Ex. 1003, code (57), 2:26–33, 4:5–20, 8:55–9:9; Ex. 1008, 1:7–12, 3:49–58).

Patent Owner does not explain how this is an improper reliance "without . . . analysis" on the Hochwald Declaration, how it is an improper

incorporation by reference, or how it fails to provide proper notice. The Petition includes “articulated reasoning with some rational underpinning,” combining Saylor’s camera security system with Vaios’s similar camera security system in order to “provide notifications and video to specific desired individuals (e.g., multiple individuals living in a home) via their associated devices” “in a predetermined order.” *See* Pet. 13–15 (citing Ex. 1002 ¶¶ 126–141; Ex. 1003, code (57), 2:26–33, 4:5–20, 8:55–9:9; Ex. 1008, 1:7–12, 3:49–58); *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[T]here must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”); *KSR*, 550 U.S. at 418 (“[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the art to combine the elements as the new invention does.”).

Patent Owner also argues that “Dr. Hochwald’s declaration offers no technical support or evidence for his statements.” PO Resp. 21. Patent Owner fails to provide a single example to support this argument. *See id.* The Hochwald Declaration cites to or reproduces record evidence, or provides reasoned analysis, throughout, including at the complained about portion of the Petition. *See, e.g.*, Ex. 1002 ¶¶ 127–141 (relying on citations to Vaios and Saylor (cited at Pet. 13–15)); PO Resp. 20 (citing Pet. 15 as allegedly deficient).

Based on the foregoing discussion, Petitioner does not improperly avoid word limits, and there is insufficient reason identified by Patent Owner on this record to dismiss the Petition or discount the weight of the Hochwald Declaration.

*E. The Grounds*

*1. Vaios, or Vaios, Menard, and Saylor (Ground 1)*

Petitioner asserts that Vaios anticipates claims 1, 3, 4, 7, 9, 10, 12, and 13 “under 35 U.S.C. § 102 (a) or (b),” or alternatively, claims 1–4, 7–10, 12, 13, and 20 would have been obvious under 35 U.S.C. § 103(a) based on the combined teachings of “Vaios with Menard and/or Saylor.” Pet. 7.

*a) Vaios*

Vaios discloses a “multi-access remote system having a security surveillance area [and] a plurality of end user locations.” Ex. 1003, code (57). “The security surveillance area” includes “a local computer system, a camera with motion sensor, and a network interface. When the motion sensor detects an obstruction the camera starts recording and the local computer system notifies a remote individual . . .” *Id.* Vaios’s “multi-access remote system” includes “viewing of . . . a house entrance.” *Id.* at 9:49–53; *see also id.* at 8:36–38, Fig. 4.

*b) Menard*

Menard “relates generally to communication and control systems, and in particular, to a wireless, modular, system suitable for . . . premises security and personal safety.” Ex. 1004, 1:6–10.

*c) Saylor*

Saylor relates to a personal security network. Ex. 1008, code (57). In using the security network, “a user may set up personalized alarms and alert services, identify various methods of contact; order at which to be contacted; individuals and entities to be contacted; type of situations to be alerted of and other relevant security and other information.” *Id.*

*d) Claim 1*

The preamble of claim 1 recites “[a] detection and viewing system, comprising.” Petitioner asserts that even if the preamble is limiting, Vaios discloses it. Pet. 7. In particular, Petitioner points to Vaios as disclosing a “multi-access remote system having a security surveillance area [and] a plurality of end user locations.” *Id.* at 7 (alteration in original) (quoting Ex. 1003, code (57)). Petitioner also quotes the following passage in Vaios:

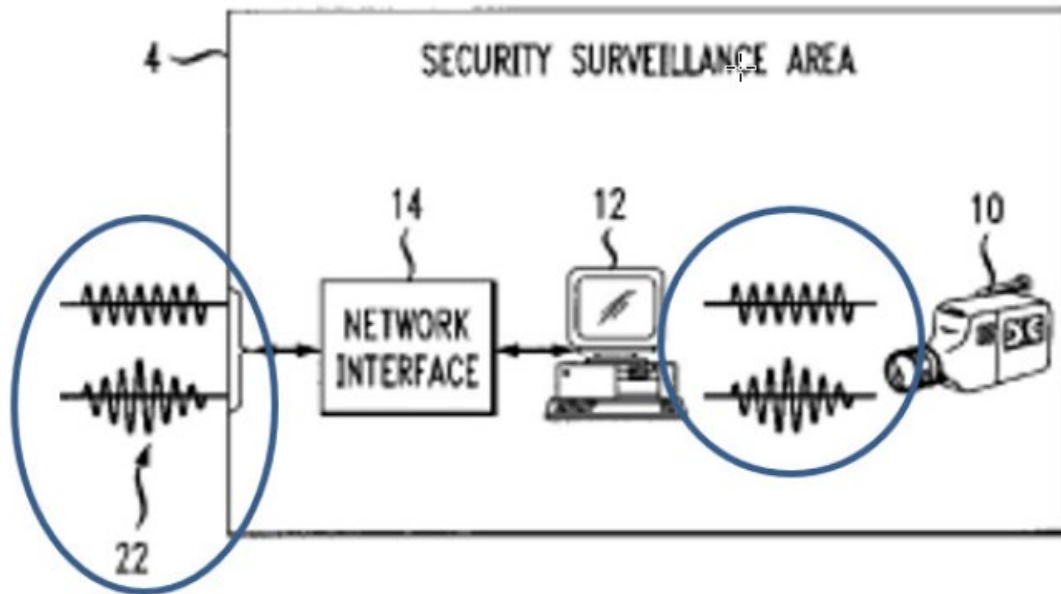
The security surveillance area is comprised of a local computer system [12], a camera [10] with motion sensor, and a network interface. When the motion sensor detects an obstruction the camera starts recording and the local computer system notifies a remote individual . . . . Using an end user location . . . the remote individual can . . . view video images.

Pet. 8 (alterations in original) (quoting Ex. 1003, code (57)).

Petitioner’s showing with respect to the preamble is persuasive. Patent Owner does not challenge Petitioner’s showing with respect to the preamble. *See generally* PO Resp.

Limitation 1(a) recites “a wireless device associated with a door and configured to communicate video data, the wireless device including a camera for providing the video data.” Petitioner asserts that Vaios’s “‘video camera 10’ is coupled to ‘local computer system 12’ so that ‘video, sound, and motion sensor data can be transmitted from the camera to the local computer system.’” Pet. 8 (quoting Ex. 1003, 3:24–30; citing *id.* at Fig. 1). Petitioner also contends that Vaios’s video camera 10 “is associated with a door, as evidenced by Vaios’[s] disclosure that ‘a monitoring site can be created to control viewing of . . . a house entrance’” ([Ex. 1003,] 9:49–53) and that the cameras provide a ‘door view’ (*id.*, 7:62–8:4).” *Id.* (citing Ex. 1002 ¶ 107).

Petitioner contends that Vaios teaches that video camera 10 is a wireless device. Petitioner annotates and reproduces Figure 10 of Vaios to support this contention, as follows:



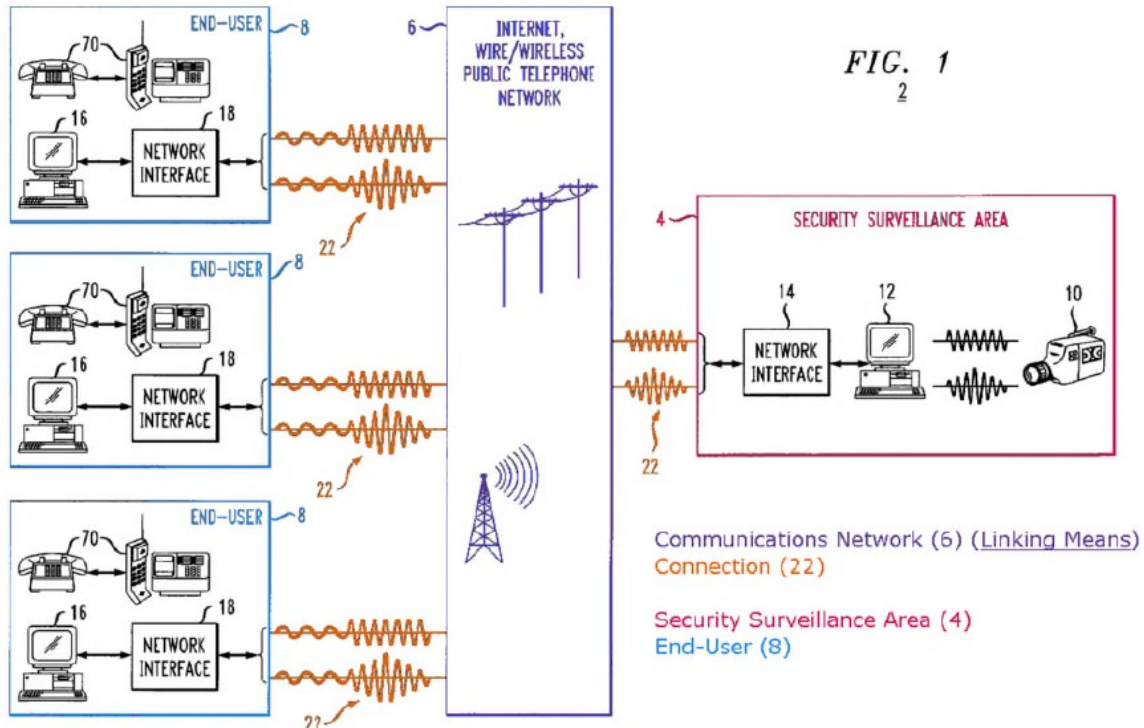
Petitioner annotates Vaios's Figure 10 with blue lines encircling squiggly lines 22 on the left of network interface 14 and also between local computer 12 and camera 10. *See* Pet. 9. Petitioner explains that because Vaios employs the same types of squiggly lines to indicate a connection, a person of ordinary skill would have understood that the connections are the same “wireless connections,” thereby “confirming that video camera 10 is a ‘wireless device.’” *See id.* (citing Ex. 1002 ¶ 111). Petitioner partly bases this wireless contention on Vaios's disclosure with respect to “connection 22.” *Id.* Specifically, Petitioner contends that Vaios's connection 22 “includes communication types that were commonly wireless (e.g., LAN, WAN, Internet, satellite).” *Id.* (citing Ex. 1003, 3:19–23, 4:30–65). At the latter cited passage, Vaios discloses that “connection 22 . . . include[s] the Internet, a local area network (LAN), a wide area network (WAN), a

bidirectional cable, a satellite or any other communications or computer structure that enables two remote computer systems to interoperate.”

Ex. 1003, 4:30–43. Based on this passage and Vaios’s Figure 10, Dr. Hochwald testifies that because Vaios “provide[s] examples of wired and wireless connections (e.g., satellite would involve wireless communications), a POSITA would recognize that the connection 22 includes wireless communication networks.” Ex. 1002 ¶ 111.

Petitioner alternatively asserts obviousness, relying on Menard’s security system to supplement Vaios’s teachings. Menard discloses a wireless “exterior module 200D” including video camera 360 “mounted on the exterior of [a] residence and proximate to entry door 260.” *See* Pet. 10 (quoting Ex. 1004, 19:30–20:2; citing *id.* at Figs. 7, 8); Ex. 1004, code (57) (describing wireless module). Petitioner explains that Menard’s “‘video camera’ detects the ‘arrival of the caller.’” *Id.* (quoting Ex. 1004, 21:13–15; citing *id.* at Figs. 7, 8). Petitioner contends that Menard suggests implementing Vaios’s camera as a wireless device, with a reasonable expectation of success, based on advantages of “easier camera installation and maintenance” and also because this “combination merely incorporates known elements (e.g., radio frequency transmitter and receiver) into the device/camera of Vaios (or alternatively simply substitutes wireless connections and component parts for the connections between cameras 10 and local computer system 12) in a known manner to yield predictable results.” *See id.* at 11 (citing Ex. 1002 ¶¶ 117–120).

Patent Owner asserts that “Vaios does not disclose that video camera 10 can *wirelessly* transmit or receive ‘video data,’ including sounds, images, or communications.” PO Resp. 22. Patent Owner provides the following annotated version of Figure 1 to support its position:



As annotated by Patent Owner, Vaios's Figure 1 above reveals linking means 6, which includes wireless capability (purple), connections 22 (squiggly orange lines), security surveillance area 4 (pink/red), and video camera 10. *See* PO Resp. 23.

Patent Owner argues that Vaios does not disclose that camera 10 is a wireless device. PO Resp. 21–27. Patent Owner also argues that the combination of Vaios and Menard does not render a wireless camera obvious. *Id.* at 27–40. Because we determine, after considering the record including Patent Owner's arguments as discussed below, that Petitioner shows that the combined teachings of Vaios and Menard would have rendered a wireless camera device obvious, it is not necessary to reach the issue of whether Vaios discloses a wireless camera.

As noted above, to support its obviousness showing, Petitioner relies on teachings in Vaios and Menard. For example, Petitioner argues that Vaios’s connections include “communication types that were commonly wireless (e.g., LAN, WAN, Internet, satellite).” Pet. 9 (citing Ex. 1003, 3:19–23, 4:30–65). Dr. Hochwald notes that Vaios describes remotely controlled cameras for “*touring*, class attendance, and other viewing sites . . . , since remotely controllable cameras can be positioned *at any location or scenic lookout* and remote users can control dynamically which area they wish to view.” Ex. 1002 ¶ 108 (emphasis added) (quoting Ex. 1003, 9:57–61).

As depicted in Vaios’s Figure 1 above, video camera 10 communicates to computer 12 via what appears to signify time varying waveforms (i.e., the squiggly lines). See Ex. 1002 ¶ 110 (describing connections 22 and similar connections to camera 10 as lines superimposed with “waveform[s]” or “squiggly line[s]”), ¶ 111 (“Given that a similar graphic as that depicted for the connection 22[] is shown between local computer system 12 and video camera 10, a POSITA would further recognize that similar wireless connections may be made between video camera 10 and local computer system 12 and thus video camera 10 is a *wireless* device.”).

Petitioner generally points to Vaios’s descriptions of video camera transmissions at Figure 1 and columns 3, 4, 7, and 9, with the latter also describing “*remotely controllable* cameras . . . *positioned at any location*” and video monitoring of a “house entrance” (*id.* at 9:49–64 (emphasis added)). See Pet. 8 (citing Ex. 1003, 3:24–30, 4:30–65, 7:62–8:4, 9:49–53, Fig. 1; Ex. 1002 ¶¶ 107–111). Vaios also indicates a general need to eliminate “expensive” cabling (i.e., implement wireless). See Reply 16

(citing Ex. 1002 ¶ 120) (eliminating wiring suggests wireless). For example, Vaios states that one of the prior art problems for small businesses and individuals, which Vaios's system overcomes, is that, in the prior art, "expensive cables need to be installed" to "view a smooth high quality stream of video from a remote location," and "even if proper cabling can be installed," individuals and businesses "may desire a surveillance system that is accessible from any location, not only those that have cabling." Ex. 1003, 1:52–59.

Based on a review of the record, including Patent Owner's arguments, Petitioner at least shows that Vaios does not describe video camera 10 as limited to a wired device, and Vaios generally describes wired and wireless connections for transmissions with a preference toward eliminating expensive cables. *See* Reply 6 (arguing a person of ordinary skill in the art would have recognized that "wireless connections were an option for the communications between video camera 10 and local computer system 12" (citing Ex. 1002 ¶ 111; Ex. 1051 ¶ 25)). For example, Vaios specifically discloses a "wireless device" at end user locations 8. Ex. 1003, 4:5–11. In addition, Patent Owner acknowledges that Vaios's "local computer system 12 . . . perform[s] . . . wireless communications with a network interface 16." PO Resp. 10 (emphasis added) (citing Ex. 1003, 2:34–41, 8:47–57, Fig. 2).

Although Patent Owner contends that Vaios's camera adapter 116 at computer system 12 signifies a wired connection to video camera 10 to an artisan or ordinary skill in 1998, Patent Owner provides no evidentiary support for this argument. *See* Ex. 1003, Fig. 2 (camera adapter 116 on computer system 12); PO Resp. 26 ("One of ordinary skill in the art in 1998 would understand a camera adapter to connect to a camcorder like the one depicted by video camera 10 as being connected via an RCA connector or

coaxial cable.”); Reply 7 (arguing that Patent Owner’s “assertions here are merely attorney argument with no supporting evidence and should be afforded no weight”). As Petitioner also argues, 1998 is “the wrong timeframe . . . by at least four years given the earliest potential priority date for the ’184 Patent of October 15, 2002,” and “wireless camera adapters were known to be available in the 2002 timeframe.” Reply 7 (citing Ex. 1051 ¶¶ 26–28); Ex. 1051 ¶¶ 26–28 (providing evidence supporting his testimony that an artisan of ordinary skill would have known that some adapter cards include wireless functionality (citing Ex. 1021, 7:12–15, 16:15–19; Ex. 1040, 3:42–47, Fig. 1)). Patent Owner does not provide evidence showing that an artisan of ordinary skill would have considered Vaio’s camera to be a wired device at the relevant time frame.<sup>11</sup>

According to Petitioner, a wireless camera as recited in limitation 1(a) would have been obvious based on Menard’s wireless teachings, where “wired and wireless communications were well-known, interchangeable alternatives prior to the ’184 patent.” Pet. 9 (citing Ex. 1002 ¶¶ 112–120). Petitioner also asserts that “[s]uch a combination merely incorporates known elements (e.g., radio frequency transmitter and receiver) into the device/camera of Vaio (or alternatively simply substitutes wireless

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<sup>11</sup> Although the record indicates that an artisan or ordinary skill may have recognized that Vaio discloses a limited genus for its camera (i.e., with only two species, wired and wireless), and this means that Vaio discloses a wireless video camera, we need not reach this issue given Petitioner’s persuasive showing of obviousness. See *VirnetX Inc. v. Apple Inc.*, 665 F. App’x 880, 884–85, 888 (Fed. Cir. 2016) (nonprecedential) (holding that “[s]ubstantial evidence supports the PTAB’s finding that Wesinger’s disclosure of the genus ‘computer’ encompasses the ‘notebook computer’ species”).

connections and component parts for the connections between cameras 10 and local computer system 12) in a known manner to yield predictable results” with “a reasonable expectation of success.” *Id.* at 11 (citing Ex. 1002 ¶¶ 117–120). Petitioner also argues that “the proposed combination offered advantages that would have motivated a POSITA to make the combination, such as easier camera installation and maintenance,” with a “reasonable expectation of success . . . given the widespread knowledge and adoption of wireless communication protocols in security systems and other networks.” *Id.*

Patent Owner argues that Petitioner’s obviousness showing fails because “Petitioner has not explained how or why Menard and Vaios would be combined.” PO Resp. 28 (presenting related arguments including hindsight bias). Patent Owner also argues that “Petitioner would destroy key features of Vaios relied upon in the Petition including the architecture of the entire system, which would render the system in Vaios inoperable.” *Id.* at 29. Patent Owner also argues that “Petitioner fails to provide a persuasive explanation or reason for concluding that one of skill in the art would have combined these particular references to produce the claimed invention.” *Id.* In summary, Patent Owner presents a number of related arguments characterizing the Petition as failing to provide a proper or persuasive rationale for combining the teachings of Vaios and Menard. *Id.* at 28–40.

Patent Owner acknowledges that Petitioner explains that the “combination would have been implemented simply by arranging the video cameras 10” with “one or more of the transceiver[s] with wireless communications capabilities, proximity sensor, intercom, etc.” *See* PO Resp. 29–30. However, Patent Owner contends this is insufficient because “Petitioner ignores the other hardware components that would be required to

be added to the ‘video camera 10’ and at the same time be removed from the ‘local computer system 12,’ which destroys the architecture of Vaios.” *Id.* at 30–31 (listing nine different hardware components required to add to video camera 10, and in addition various “firmware, APIs, etc.”). Based on this argument, Patent Owner maintains that “Petitioner also fails to explain what happens to the architecture of Vaios when it would no longer be needed once the ‘video camera 10’ would add nine (9) different components.” *Id.* at 32.

Patent Owner similarly argues that “adding components or functionality from Menard to meet the claim language in Claim 1 of the ’184 Patent is based on impermissible hindsight,” because “‘local computer system 12’ could not operate with a modified ‘video camera 10’ as the modifications would be substantial.” PO Resp. 38. In addition, Patent Owner asserts that the ‘local computer system 12’ could not and would not work with Menard’s modifications added to the ‘local computer system 12’ because the ‘audio/video codec 114,’ ‘camera adapter 116,’ ‘fixed storage means 109,’ ‘streaming source filter socket 124’ at the very least would no longer be used or operate with the modified ‘video camera 10’ of Vaios.” *Id.*

Patent Owner also argues that Petitioner’s reasons for combining are unsupported because “neither Vaios nor Menard suggest or identify any advantages to having a single exterior device with the functionality required by Claim 1.” PO Resp. 40. Patent Owner contends that “Menard does not identify a benefit, goal, problem, or even using a single device as a possibility,” and “[t]here is no evidence a POSITA would recognize any advantage in combining Vaios with Menard as the architecture of these two systems were and are completely different and any attempt to modify the base reference Vaios with Menard would cause Vaios to be inoperable.” *Id.*

Patent Owner also argues that Dr. Hochwald's testimony that "[a] POSITA would therefore find it simple to modify the teachings of Vaios to incorporate the teachings of Menard, without requiring significant or unpredictable changes in interfaces, complexity, cost or methodology and would have had a high expectation that the combination would have succeeded," lacks evidentiary support. PO Resp. 39 (quoting Ex. 1002 ¶ 117). According to Patent Owner, Vaios requires an "inexpensive" "solution," and Dr. Hochwald fails to "analyz[e] the interface costs, complexity of the changes or costs associated with these proposed changes, which would include component changes, board changes that would include new components on the silicon, software changes, modifications of the 'local computer system 12' as well at least nine (9) changes to the 'video camera 10'." *Id.*

These arguments, and Patent Owner's similar arguments (*see* PO Resp. 27–40), largely rest on an improper requirement for bodily incorporation of the two video surveillance systems to show obviousness, and fail to undermine Petitioner's showing that implementing Vaios's camera as a wireless camera would have been obvious based on Menard's wireless camera teachings. An artisan of ordinary skill is not an automaton, blindly and bodily incorporating features of one teaching into those of another without any consideration of cost or other trade-offs. Moreover, Vaios indicates that its inexpensive systems eliminate expensive cables, further at least suggesting a wireless solution, as discussed above and as noted in the Institution Decision. *See* Ex. 1001, 1:46–63; Inst. Dec. 23 (citing Ex. 1001, 1:46–63); Ex. 1051 ¶¶ 33–34 (testifying that the combination would "facilitate easier camera installation and maintenance" and "the process of including wireless transmission and reception, and

specifically Bluetooth, into a camera was well known”), ¶ 39 (testifying “it was much easier to install and maintain wireless devices that did not require one to run wires throughout a building or access those wires in the event of a communication problem with the system”); Ex. 1002 ¶¶ 107–120 (providing similar analysis as to known wireless functionality).

There is not adequate evidentiary support for the argument that implementing Vaios’s camera wirelessly would require substantial changes or prohibitively high cost, or produce an inoperable system, where Vaios at least discloses using “wireless” “communications devices” and systems (Ex. 1003, 2:26–30, 4:7–11) and systems Fig. 2 (“INTERNET,” “WIRE/WIRELESS”) and eliminating “expensive” cables (*id.* at 1:46–59), and Menard discloses wireless video capability, without describing much detail, similar to the ’184 patent, thereby signifying that skilled artisans understood that “wireless” video for a camera would have been a readily available feature relatively simple to implement. *See* Ex. 1051 ¶ 35 (testifying that “the successful implementation of wireless transceivers into cameras w[as] already well documented, going back almost a full century” and “by 2002, it was well known how to build and implement cameras capable of wirelessly transmitting video, audio, and sensor data”). Even if providing wireless functionality to Vaios’s video camera results in eliminating hardware and software in Vaios’s computer system, this does not destroy the functionality or purpose of Vaios’s system, it simply results at most in rearranging hardware and software in the combined system. *See* Ex. 1051 ¶¶ 34–36 (testifying, *inter alia*, that “the combination of Vaios and Menard . . . would not have destroyed any aspects of Vaios”). Vaios supports this testimony, indicating that rearranging components and their functionality to function with systems at different locations does not destroy

any functionality. *See, e.g.*, Ex. 1003, 4:23–29 (noting that “any component . . . can be solely situated at either the local computer system or the remote computer systems without losing functionality” where “[i]t is commonly understood to those skilled in the art that various components, including those listed above, can function properly despite being situated at remote locations”).

Moreover, as Patent Owner notes, Vaios’s end user computer system 16 uses the same software and hardware as local computer system 12. *See* PO Resp. 36 (citing Ex. 1003, 4:15–17 (“Remote computer systems 16 of end user locations 8 each advantageously comprise the same software and hardware components as the local computer system.”)). This shows that both computer systems 8 and 12 have the capability to interact with wireless devices, as noted above. *See* Ex. 1003, 4:5–11 (stating a “wireless device may be added to an end user location”). In other words, Vaios shows that local computer system 12, like computer system 8, is wireless ready without necessarily requiring all the modifications argued by Patent Owner. And even if the combination requires some modifications, as Petitioner argues, Dr. Hochwald provides unrebutted testimony showing how the proposed modifications to Vaios’s system could have been predictably implemented “using standard engineering techniques at the time including the optional incorporation of hardware and/or software components and standard communication protocols.” Reply 10 (quoting Ex. 1002 ¶ 117; citing Ex. 1051 ¶¶ 29–32, 34–37).

Further regarding motivation, contrary to Patent Owner’s arguments, it need not come from the references themselves. *See DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006) (“The motivation need not be found in the references sought

to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”). Petitioner relies on the combined teachings of the references and the knowledge of an artisan of ordinary skill. Accordingly, Patent Owner’s arguments do not undermine Petitioner’s showing that wireless cameras provide an interchangeable option “in the context of . . . detecting and monitoring” doors with a video camera as Menard teaches, and also provide easy access and maintenance, where there was “widespread knowledge and adoption of wireless communication protocols in security systems and other networks.” *See* Pet. 9–10 (quoting Ex. 1004, Abstract), 11.

As Dr. Hochwald also testifies, wireless functionality eliminates “hidden wiring” and provides for easy access for servicing:

[I]n case of a fault in hardwiring (i.e., if the wires connecting the video camera to the computer were defective or otherwise stopped working properly), a user would have to access the wire along the path through which the wire travels (e.g., behind the wall) to service (e.g., fix or replace) the wiring. By contrast, if there is a fault in the wireless communications capabilities of the video camera, the video camera (or its components) could be more easily accessed for servicing, without needing to access hidden wiring.

Ex. 1002 ¶ 120; *see also* Reply 16 (arguing that “Dr. Hochwald elaborates on the installation and maintenance benefits associated with wireless communications as recognized by [persons of ordinary skill] at the time, including eliminating wires, increasing location flexibility, and eliminating need to access hidden wiring for maintenance” (citing Ex. 1002 ¶ 120)).

Eliminating wiring, as Vaios teaches, results in a “cleaner” and more compact system, with a “more efficient” product, with respect to access for servicing relative to a wired device, as Dr. Hochwald’s testimony suggests.

*See Dystar*, 464 F.3d at 1368 (“[W]e have repeatedly held that an implicit motivation to combine exists not only when a suggestion may be gleaned from the prior art as a whole, but when the ‘improvement’ is technology-independent and the combination of references results in a product or process that is more desirable, for example because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient.”).

Based on the foregoing discussion, Petitioner persuasively shows that using a wireless video camera in Vaios’s system provides a simple, effective, and predictable manner for using a video camera to monitor an entrance for security reasons.

Patent Owner also argues that “Petitioner seems to focus on the wireless versus wired distinction, which is only one small part of the issue and as previously discussed modification of the ‘video camera 10’ would be substantial.” PO Resp. 35. Patent Owner also argues that

[w]holesale substitution of Menard’s ‘module 200D’ renders the basic function of the system of Vaios inoperable as “video camera 10” would be removed from the system” completely and the “local computer system 12” would not work with Menard’s “module 200D” as the “local computer system 12” would also need to be modified as well. Petitioner has not identified any way this wholesale modification could work with the system identified in Vaios.

*Id.* at 34–35. The record does not support these arguments, which are similar to arguments addressed above, for reasons similar to those discussed above. Specifically, Menard shows that implementing wireless cameras was well-known, and as explained above, Vaios’s computer systems 8 and 12 are wireless ready for wireless communications devices without any required modifications. *See* Ex. 1003, 2:26–30, 4:5–17, Fig. 2 (showing that “wireless” “communications devices” are compatible with local computer

system 12 and remote end user locations system 8 where they “comprise the same software and hardware”); Pet. 9–10 (showing that Menard’s camera “[m]odule 200D is in wireless communication” (quoting Ex. 1004, 19:30–20:2); citing Ex. 1002 ¶¶ 112–120 (testifying that wired and wireless communications were well-known)); Reply 7 (citing Ex. 1051 ¶¶ 26–28 (evidencing wireless camera adapters); Reply 13 (describing Patent Owner’s position as characterizing Menard as disclosing “*so many* wireless communication options” (citing PO Resp. 33–34)).

Given the level of skill in the art and known interchangeability of wired and wireless devices, Petitioner persuasively shows that it would have been obvious “to apply the wireless communications capabilities of Menard’s exterior module 200D/video camera 370 to Vaios’ video camera 10, thereby making Vaios’ video camera 10 a ‘wireless device.’” Pet. 11 (citing Ex. 1002 ¶¶ 117–120). In other words, Petitioner persuasively combines Menard’s wireless camera teachings to Vaios without requiring a bodily incorporation of the two systems. To the extent the parties agree that Petitioner also argues “it was obvious to substitute Menard’s wirelessly connected module 200D for Vaios’ video camera,” Petitioner persuasively replies that both have “similar monitoring functionalities,” and

[u]pon this substitution, module 200D would simply capture and send “video data” to Vaios’ local computer and Vaios’ local computer would continue to receive such data and perform other corresponding functionalities (e.g., providing a GUI to remote devices to enable viewing of the video data), with the key addition being that Menard even more expressly teaches sending such data from the module wirelessly.

Reply 11–12 (citing Ex. 1002 ¶¶ 118–119); PO Resp. 35 (arguing that “Petitioner argues Vaios would not use the ‘video camera 10’ at all but would instead use Menard’s ‘module 200D’” (citing Ex. 1002 ¶ 120)), 36

(arguing that “Petitioner does not explain how Menard’s ‘module 200D’ and Vaios’ ‘local computer system 12’ would function together”). And as found above, Vaios’s computer system 12 is wireless ready as it has the same software and hardware as wireless ready computer system 16 at end user location 8. Ex. 1004, 5–17; *see also* Reply 12 (arguing that Vaios generally discloses wireless capabilities for computers given its disclosure of wireless capabilities for remote computers).

Patent Owner also argues that a “goal” and “advantage” of the ’184 patent is a “self-contained” unit. PO Resp. 37. However, Patent Owner fails to provide a citation to support this argument, explain why Petitioner’s alleged failure to address an unclaimed “goal or problem in the art” is “hindsight bias,” or relate the argument to a claim limitation. *See id.* Claim 1 recites “a wireless device . . . including a camera for providing the video data” and “a sensor for activating the camera,” but does not recite a “self-contained” unit.

Patent Owner also argues that Vaios does not disclose “a wireless device associated with a door” because “under the plain and ordinary meaning” of that phrase, it means “at the exterior of the door.” PO Resp. 41. Patent Owner relies on examples in the ’184 patent to support its construction. *Id.* at 41–42 (citing Ex. 1001, 6:46–51, 7:50–57, Fig. 1). Patent Owner also argues that Petitioner “combine[s] distinct embodiments” by relying on “Vaios’[s] reference to monitoring a house entrance.” *Id.* at 45.

These arguments do not undermine Petitioner’s showing. Patent Owner’s citations to examples in the ’184 patent specification do not support the assertion that “associated with” means “exterior to.” For example, Patent Owner relies on the ’184 patent’s description of “a DVMS module 10

*located on the exterior of the home or office proximate the door 114.”* PO Resp. 41 (quoting Ex. 1001, 7:50–57). This description undercuts Patent Owner’s claim construction, because it refers to “*a DVMS module . . . on the exterior of the home or office,*” which shows that the claim language, “a wireless device associated with a door,” is broader. Patent Owner’s other example similarly refers to “the exterior of the home or office” in relation to Figure 1 of the ’184 patent. *See id.* at 42 (quoting Ex. 1001, 5:45–51). Contrary to Patent Owner’s assertion that Petitioner agrees with Patent Owner’s claim construction, Petitioner does not. *See* Reply 16–17 (arguing there is no support for Patent Owner’s claim construction).

In any event, Petitioner shows that Vaios’s system monitors “a house entrance” to the extent Patent Owner’s claim construction somehow applies to the challenged claims. *See* Pet. 8 (citing Ex. 9:49–65). Patent Owner does not dispute that this disclosure satisfies its claim construction, but as noted above, argues that Petitioner impermissibly combines distinct embodiments in Vaios. PO Resp. 45. Contrary to this argument, Petitioner persuasively relies on Vaios’s disclosures that show that its video monitoring system applies at different locations, including to monitor a “door view” and “to control viewing of . . . a house entrance,” instead of different embodiments. *See* Pet. 8 (citing Ex. 1003, Ex. 3:24–30; quoting *id.* at 8:62–84, 9:49–64); Reply 16–17. In other words, as Petitioner explains, “[t]he ‘alternative embodiments’ described in column 9, lines 49–64, are merely different possible locations that Vaios’ system (*i.e.*, the same system described throughout its specification) can monitor, which expressly includes entrances and exterior locations.” Reply 17. Moving the location of Vaios’s camera is not relying on a distinct embodiment, because there is no other change to Vaios’s system in simply moving the camera. *See, e.g.,*

Ex. 1003, Fig. 1 (showing camera 10 in a security surveillance area for transmission of video to end users 8 without showing wired connections at camera 10). Vaios further supports Petitioner by stating that “[i]t is understood that the present invention is not limited to the embodiments as described hereinabove,” including monitoring “multiple surveillance areas.” Ex. 1003, 9:28–32.

Patent Owner also argues that Vaios’s “browser allows the user to view the video, but it would not make sense for the user to view the video on a browser located at the entrance or the exterior, and Petitioner does not attempt to explain otherwise.” PO Resp. 43. Vaios’s disclosure does not require locating the browser (or graphical user interface) at the exterior of a house or building. Rather, Vaios teaches that a “remote individual can . . . control the video camera remotely.” *See* Ex. 1003, code (57). As Petitioner argues, Vaios’ cameras can be positioned “at any location at the premises for which video monitoring was desired.” Reply 16 (citing Ex. 1002 ¶ 109). In addition, claim 1 also does not specify the location of the claimed GUI relative to the claimed wireless device.

Accordingly, based on a review of the record, including Patent Owner’s arguments, Petitioner persuasively shows that the combination of Vaios and Menard renders limitation 1(a) obvious.

Limitation 1(b) recites “a sensor for activating the camera.” Petitioner argues that “Vaios discloses a motion sensor for activating video camera 10.” Pet. 12 (citing Ex. 1002 ¶¶ 123–125; Ex. 1003, code (57), 3:24–30, 8:36–53). Petitioner notes that Vaios states that “[w]hen the motion sensor detects an obstruction the camera starts recording.” *Id.* (quoting Ex. 1003, code (57)). Petitioner additionally notes that Vaios states that “[t]he ‘local computer system . . . checks if

the motion sensor alarm has been triggered, and once triggered the operation loop jumps to active mode . . . . The active mode commences . . . by awakening the local computer system and turning on the video camera.” *Id.* (quoting Ex. 1003, 8:42–49; citing Ex. 1002 ¶¶ 122–125).

Accordingly, for the reasons outlined above, Petitioner persuasively shows that Vaios discloses limitation 1(b).

With further respect to limitation 1(b), Patent Owner argues that Menard’s “module 200D” does not have a “sensor for activating the camera,” asserting that it is only Menard’s “interior module 200E” that includes a “motion sensor” and not Menard’s “exterior module 200D.” PO Resp. 33. As Petitioner explains, however, this argument is not relevant to Petitioner’s showing, because Petitioner relies on Vaios’s camera, which includes a motion sensor. *See* Reply 13 (citing Pet. 12; Ex. 1003, 3:24–30); Pet. 12 (citing Ex. 1003, 3:24–30, 15:19–20).

Even if Menard’s motion sensor is relevant, as Petitioner also argues, Menard discloses that “[e]xterior module 200D includes video camera 370,’ that ‘[o]ther sensors or detector modules are also contemplated as part of exterior module 200D,’ and that the ‘exterior module’ includes a ‘proximity detector’ such as a ‘video camera.’” Reply 13 (quoting Ex. 1004, 21:5–7, 6:14–15 (“In one embodiment, the proximity detector comprises a doorbell button or a video camera.”); citing Pet. 76); Pet. 76 (arguing “Menard’s exterior module 200D includes a motion sensor (e.g., ‘video camera 370’”)) (citing Ex. 1004, 21:6–7, 21:11–15, 6:14–15; Ex. 1002 ¶ 472). At the

quoted passage on page 21, Menard supports Petitioner, and describes “detection by video camera 370” of “exterior module 200D.”<sup>12</sup>

Limitation 1(c) recites “a plurality of peripheral devices, each peripheral device associated with a respective user.” Petitioner contends that Vaios discloses “end user locations” associated with respective users. Pet. 13 (citing Ex. 1002 ¶¶ 129–132). Referring to Vaios’s Figure 1 (above), Petitioner contends that Vaios’s “‘end user locations 8’ include ‘remote computer system 16’ and ‘communicative devices 20’ such as ‘a telephone, beeper, fax, e-mail, or wireless device.’” *Id.* (quoting Ex 1003, code (57), 4:5–20). Petitioner also relies on Vaios’s statement that “[u]sing an end user location, having a remote computer system . . . and . . . communications devices, the remote individual can . . . control the video camera remotely, or view video images.” *Id.* (alterations in original) (quoting Ex. 1003, code (57)). Petitioner also asserts that Vaios’s system provides security, limiting access to individual users: “this system . . . can additionally be secured . . . to allow access only to certain individuals.” *Id.* (quoting Ex. 1003, 9:61–64).

Petitioner alternatively argues that it would have been obvious in view of Saylor to associate user devices with a respective user. Pet. 13–14. According to Petitioner, “[u]sers in Saylor ‘register security devices . . . with [a] central security network.’” *Id.* at 14 (last two alterations in original) (quoting Ex. 1008, 3:49–50). Petitioner explains that Saylor’s system “automatically inform[s] an owner and other authorized entities . . . when

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<sup>12</sup> To the extent it is relevant, Petitioner provides persuasive reasoning with factual underpinnings to implement a wireless video camera, which includes a motion sensor, according to Menard’s teachings, as indicated above. *See* Pet. 9–11. On the other hand, claim 1 does not require a wireless sensor.

alarm situations . . . occur.” *Id.* (quoting Ex. 1008, 1:7–12). In addition, “[t]he system accesses ‘the user’s personal preferences . . . and/or other information . . . to execute notifications in the manner specified by the user.” *Id.* (last two alterations in original) (quoting Ex. 1008, 3:51–58). The system relies on databases, including a user database 140, which stores a “personal address book where contact information (e.g., phone, pager, mobile device, etc.) associated with various individuals may be stored and accessed based on various identified alarm situations.” *Id.* (quoting Ex. 1008, 7:3–7).

Based on these teachings, Petitioner asserts that it would have been obvious in view of Saylor’s teachings to provide notifications to specific users of Vaios’s system via their associated devices so that they will be aware of alarm conditions and also receive video, where the combined system is useful for providing notifications to selected users per their preferences in a predetermined order. *See* Pet. 15 (citing Ex. 1003 ¶¶ 137–140). Other than generally asserting that the Petition does not address “which elements are met by Saylor versus Menard or Vaios and relies entirely on arguments in the expert’s declaration” (PO Resp. 49), an argument the record does not support as indicated above and further below in summarizing Petitioner’s showing, Patent Owner does not contest Petitioner’s reliance on Saylor, which the record supports, and which is persuasive.

Rather, Patent Owner argues that that neither Vaios’s remote computer system 16 nor communicative devices 20 “is ‘associated with a respective user.’” PO Resp. 46. According to Patent Owner, limitation 1(c) requires that “a particular device” “can allow access to certain individuals and deny it to others.” *Id.* However, as Petitioner argues, this is an

improper attempt to read limitations into claim 1, because claim 1 does not require allowing or denying access to certain users. *See* Reply 17.

Vaios's communication devices 20 and remote computer system 16, which are part and parcel of Vaios's end user locations 8, provide the claimed association. *See* Ex. 1003, Fig. 1; Pet. 18–20; Reply 18–19. As Petitioner notes, Vaios states that “[u]sing an end user location, having a remote computer system . . . and . . . communications devices, the remote individual can . . . control the video camera remotely, or view video images.” Pet. 13 (quoting Ex. 1003, code (57)). In addition, Petitioner points out that “the user can receive notifications at and access local computer 12 from either communicative device 20 or remote computer 16.” Reply 18 (citing Pet. 18–20; Ex. 1002 ¶¶ 153–159) (addressing related limitation 1(e)(i), which requires “maintaining” the association, as discussed further below). Petitioner also relies on Vaios's claim 8, “which explains that the ‘communicative devices’ may include the ‘computer system.’” *Id.* at 18–19. In addition, local computer 12 stores “predetermined addresses” for the remote individuals so that they can be notified at such locations.” *Id.* at 19 (citing Pet. 19–20; Ex. 1003, 2:26–33, 4:5–20, 8:59–9:5, Fig. 4). Vaios supports Petitioner at the cited locations. For example, Figure 4, step 10, states “NOTIFY A REMOTE INDIVIDUAL AT A PREDETERMINED ADDRESS.” *See also* Ex. 1003, 2:26–30 (“The end user locations each comprise a remote computer system connected to a network interface, and one or more optional communications devices, such as a telephone, beeper, fax, e-mail, or wireless device for being contacted by the security surveillance area when an alarm triggers.”), 4:5–20 (similar), 8:59–9:5 (“The notification sent by the local computer system *is received by the remote individual* in step 312,” and that “remote individual can . . . logon with the

surveillance system . . . for additional information” and/or to “operate the camera and retrieve additional video”). By notifying a remote individual at a predetermined address of a communications device (which include the remote computer system according to Vaios’s claim 8), with logon functionality by the remote individual, Vaios describes an association between remote individuals and communications devices as Petitioner shows.

Accordingly, Petitioner persuasively shows that Vaios discloses peripheral devices associated with end users as claimed. As indicated above, this is consistent with the ’184 patent specification, which generally indicates that the system associates users with peripheral devices by providing users access via peripheral devices (without specifically describing a grant or denial of access). *See, e.g.*, Ex. 1001, Fig. 1 (illustrating peripheral PC computer 278 and cell phone 277), 2:34–42 (stating as one or more “feature[s],” “the remote peripheral device is configured to remotely actuate the camera,” “enables a user to view streaming video,” and may be a computer, personal digital assistant, cell phone, or video phone).

Accordingly, Petitioner shows persuasively that Vaios discloses limitation 1(c), and alternatively, that the combined teachings of Vaios and Saylor would have rendered it obvious.<sup>13</sup>

Limitation 1(d) recites “a computer configured for communication with the wireless device and configured for communication with each of the peripheral devices.” Petitioner reads limitation 1(d) on Vaios’s local

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<sup>13</sup> Patent Owner advances another argument with respect to limitation 1(c), coupling it with limitation 1(e)(i), which we address below.

computer system 12, which communicates with video camera 10, and peripheral devices 16 and 20 at end user locations 8. *See* Pet. 16 (reproducing Ex. 1001, Fig. 1). Petitioner quotes Vaios as teaching that “[l]ocal computer system 12 is coupled . . . to video camera 10 so that video, sound, and motion sensor data can be transmitted from the camera to the local computer system, and instructions or other data can be transmitted from the local computer system to the video camera.” *Id.* (quoting Ex. 1003, 3:27–32).

Accordingly, Petitioner’s persuasively shows that Vaios discloses limitation 1(d). Patent Owner does not challenge Petitioner’s showing with respect to limitation 1(d).

Limitation 1(e) reads as follows:

(e) wherein the computer executes software, in accordance with which,

- (i) the association of each of the peripheral devices with a respective user is maintained,
- (ii) video data from the wireless device is received by the computer upon actuation of the sensor, and
- (iii) a graphical user interface is provided through which video data from the wireless device is accessible by each respective user using one of the peripheral devices.

Petitioner contends that Vaios’s local computer system 12 executes “operating system software 111 to provide basic resource allocation and computational mechanisms.” Pet. 17 (quoting Ex. 1003, 18:25–26). Petitioner also relies on Vaios’s local computer system 12 as “compris[ing] application software 136 to handle customized tasks unique to each embodiment of the multi-access system, and browser software 138 for display control and management.” *Id.* (quoting Ex. 1003, 3:65–4:4).

Regarding limitation 1(e)(i), Petitioner contends that after Vaios's local computer system 12 receives video from video camera 12, it "notif[ies] a remote individual at a predetermined address." Pet. 18 (citing Ex. 1003, 8:53–62, Fig. 4, step 310 ("NOTIFY A REMOTE INDIVIDUAL AT A PREDETERMINED ADDRESS, OR ALTERNATIVELY STORE THE DATA FOR LATER RETRIEWAL"). Petitioner explains that "[t]his 'predetermined address' of step 310 refers to an address of a communicative device of end user location 8 that is known and maintained by local computer system 12 in order to provide notifications and data to a specific remote individual." *Id.* at 19 (citing Ex. 1002 ¶¶ 156–157). Petitioner states that step 312 informs this understanding of step 310 at "which the 'remote individual receives [the] notification' via e-mail, telephone, beeper, etc.; which are each exemplary communicative devices of end user locations 8." *Id.* at 19–20 (quoting Ex. 1003, Fig. 4, step 312; citing Ex. 1003, 4:5–20, 8:59–9:5, Fig. 4). Petitioner also relies on Vaios's claim 17, which recites that "notifying a remote individual" is performed "via a communications device . . . so as to make available to said remote individual a view of said obstruction." *Id.* at 20 (alteration in original) (quoting Ex. 1003, claim 17).

Petitioner alternatively asserts that it would have been obvious based on Saylor to maintain an association of each peripheral device with a respective user. Pet. 20 (citing Ex. 1002 ¶¶ 160–167). Similar to its showing with respect to limitation 1(c), Petitioner maintains that "Saylor teaches a database that stores an address book which maintains associations between peripheral devices and respective individuals so that alarm notifications can be provided to desired individuals via respective associated devices." *Id.* (citing Pet. at 13–14 (discussed above); Ex. 1002 ¶¶ 153–168).

Patent Owner asserts that Vaios does not “disclose[] that ‘the computer executes software, in accordance with which, (i) the association of each of the peripheral devices with a respective user is maintained, as claimed.’” PO Resp. 47–48. According to Patent Owner, Petitioner only relies on “communicative devices 20,” the only devices in Vaios that receive alarm notifications. *Id.* at 48 (citing Ex. 1003, 4:5–11, 8:60–62, code (57); Pet. 18–20). Patent Owner argues that Vaios’s “remote computer 16 does not receive these notifications and alarms.” *See id.*

Patent Owner acknowledges that Petitioner “relies on Vaios’[s] disclosure in Fig. 4 that the local computer can notify a remote individual at a predetermined address to meet this limitation.” PO Resp. 49. According to Patent Owner, however, “there is no evidence that the predetermined address is 1) associated with a particular peripheral device or 2) that the predetermined address is associated with a respective user.” *Id.* Rather, Patent Owner asserts that “Vaios refers generally to ‘a remote individual,’ which Vaios teaches could be whatever security guard or employee or person is on duty or at home at that time.” *Id.*

Patent Owner’s arguments do not undermine Petitioner’s showing. The Petition relies on the devices at the end user location without restricting them to Vaios’s “communicative devices 20” at the end user locations. *See* Pet. 18–20. Patent Owner’s argument that “there is no evidence” that Vaios associates the predetermined address with a peripheral device or user does not account for Figure 4 and other teachings of Vaios as discussed further below. *See* PO Resp. 48. At Figure 4, Vaios specifically discloses “NOTIFY[ING] A REMOTE INDIVIDUAL AT A PREDETERMINED ADDRESS” in step 310, which associates an address with a device or remote individual at that predetermined address using that device.

Moreover, Vaios does not limit alarm notices to “communicative devices 20,” contrary to Patent Owner’s arguments. *See* PO Resp. 48. Rather, Vaios describes communicative devices 20 as optional. *See, e.g.,* Ex. 1003, 4:5–7 (“End user locations 8 each comprise a remote computer system 16, a network interface 18, and one or more optional communicative devices 20”). Vaios is agnostic as to the particular device used to communicate at end user locations. For example, Vaios generally describes “an end user location logged on or permanently connected to the Internet”—i.e., without specifying that an end user’s log-on occurs at communicative devices 20 as opposed to remote computer system 16 at end user location 8. *See id.* at 4:64–65. Similarly, Vaios generally states that “[t]he notification sent by the local computer system is received by the remote individual in step 312.” *Id.* at 8:59–60. Although Vaios states in the next sentence that “[t]his notification *could be* a beeper message, a telephone call, or an e-mail message,” these examples are merely exemplary as Petitioner argues—mere examples of what “could be” used do not exclude remote computer 16, where Vaios describes sending notifications to remote individuals who use remote computer 16 and/or at communicative devices 20. *See id.* at 8:62–65 (emphasis added), Fig. 4, step 310; Pet. 12–13 (peripheral devices include “‘remote computer system’ and/or ‘communicative devices’ of ‘end user locations 8’”); Reply 18 (arguing “the user can receive notifications at and access local computer 12 from either communicative device 20 or remote computer 16”). Vaios’s claim 8 supports this understanding and recites “wherein said plurality of *communicative devices comprise a computer system, a telephone, a beeper, and e-mail*” (emphasis added), thereby blurring any purported distinction in Vaios’s system as advanced by Patent

Owner.<sup>14</sup> Finally, as indicated above, Petitioner maintains that Vaios’s “system . . . can additionally be secured . . . to allow access only to certain individuals,” which generally shows an association between communicative devices and/or remote computer 16 with *a secured user*. See Pet. 13 (quoting Ex. 1003, 9:61–64). Patent Owner’s arguments do not address this showing. See PO Resp. 46–48.

Regarding obviousness with respect to limitations 1(c) (“each peripheral device associated with a respective user”) and 1(e)(i) (“the association of each of the peripheral devices with a respective user is maintained,”), Patent Owner argues that “Petitioner fails to identify with particularity in the Petition which elements are met by Saylor versus Menard or Vaios and relies entirely on arguments in the expert’s declaration.” PO Resp. 49. Patent Owner also argues that “Petitioner has not explained how or why Saylor and Vaios would be combined.” *Id.* at 50. Patent Owner contends that “Saylor itself teaches otherwise.” *Id.* (quoting Ex. 1008, 1:54–57 (“[H]ome security systems offer limited services . . . . The industry itself has remained stagnant and inflexible.”)). Patent Owner further explains that “[n]othing in the Petition or expert declaration explain the opposing

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<sup>14</sup> Vaios describes at least one difference in using the different devices at end user location 8. In context to communications devices at end user location 8, Vaios describes a problem that “many individuals use a low bandwidth connection to the Internet, which is insufficient for *high-quality live video* streaming” (Ex. 1003, 9:10–12), implicitly referring to remote individuals who use the browser software on communications devices as described in the previous paragraph of Vaios (*see id.* at 9:2–9). Vaios describes “one embodiment” using “the local computer system” to solve this problem—transferring compressed files from the local computer system “to the remote user, whereby the downloaded video is played in high quality.” *See id.* at 9:13–18.

limitations of Vaios (e.g., local computer, camera, network requirements) and Saylor (e.g., need for long battery life, wireless connection, and reduced alarm notifications) would not inhibit such combination.” *Id.*

Patent Owner’s assertions do not undermine Petitioner’s obviousness showing. It is not clear what Patent Owner means by “opposing limitations.” Also, Saylor’s description of prior art systems as inflexible and stagnant is not relevant to Petitioner’s reliance on other aspects of Saylor. *See* Ex. 1008, 1:54–57. Petitioner persuasively shows how and why to combine the two references, as indicated above. Pet. 12–15, 18–20. In summary, Petitioner combines teachings in Saylor, which show how to associate user devices with specific users for specific alarm notifications via a database, with Vaios’s alarm notification teachings so that specific peripheral device users will be notified of an alarm condition via their associated devices, including, for example, in a certain order of preference. *See id.*

Patent Owner’s argument that Vaios does not “disclose[] that ‘the computer executes software, in accordance with which, (i) the association of each of the peripheral devices with a respective user is maintained,’ as claimed,” is a generic argument that appears to rest on Patent Owner’s unsupported argument that Vaios distinguishes between functionality of remote computer system 16 and communicative devices 20 at end-user location 8. *See* PO Resp. 47–48 & n.1 (also arguing that “communicative devices 20” do not provide a GUI). This argument is not persuasive for the reasons noted above and further below (addressing the GUI argument). In summary, Vaios is agnostic as to which devices a user employs at the remote location to communicate, as Figure 4 and claim 8 of Vaios show. *See also* Ex. 1003, 9:2–5 (“Employing the browser software, as described above, the

remote individual can operate the camera and retrieve additional video, sound, or other data via connection 22.”).

Accordingly, Petitioner persuasively shows that Vaios discloses limitation 1(e) and 1(e)(i), and alternatively, that the combined teachings of Vaios and Saylor render the limitations obvious.

Addressing limitation 1(e)(ii), “wherein the computer executes software, in accordance with which, . . . (ii) video data from the wireless device is received by the computer upon actuation of the sensor,” as indicated above, Petitioner asserts that Vaios’s “local computer system 12 executes software to enable its functionalities.” Pet. 21. With respect to the receiving video data from the wireless video camera, the Petition quotes Vaios as disclosing that “[w]hile in sleep mode the local computer system . . . checks if the motion sensor alarm has been triggered, and once triggered . . . jumps to active mode . . . by awakening . . . and turning on the video camera. Thereafter, . . . the video camera . . . transmits the video data to the local computer system . . . .” *Id.* (quoting Ex. 1003, 8:42–52). Also, Petitioner quotes Vaios’s abstract as stating that “[w]hen the motion sensor detects an obstruction the camera starts recording.” *Id.* at 12 (quoting Ex. 1003, code (57)).

Petitioner’s showing is persuasive. Patent Owner does not address this limitation. Accordingly, Petitioner persuasively shows that Vaios discloses limitation 1(e)(ii).

Addressing limitation 1(e)(iii), “wherein the computer executes software, in accordance with which, . . . (iii) a graphical user interface is provided through which video data from the wireless device is accessible by each respective user using one of the peripheral devices,” Petitioner contends that Vaios’s browser software at local computer system 12

provides video via a graphical user interface. Pet. 22–24. Petitioner quotes Vaios as teaching that “[e]mploying the browser software . . . , the remote individual can operate the camera and retrieve . . . video.” *Id.* at 22 (second and third alterations in original) (quoting Ex. 1003, 8:65–9:5) (second and third alterations in original). Petitioner also asserts that “[u]sing an end user location, having a remote computer system, a network interface, and . . . communications devices, the remote individual can logon to the local computer system . . . and . . . view video images.” *Id.* (alterations in original) (quoting Ex. 1003, code (57)). In addition, the “local computer system . . . captures . . . video . . . and transmits it to the remote user who subsequently plays the downloaded image.” *Id.* (alterations in original) (quoting Ex. 1003, 2:35–38). Petitioner also contends that the “browser and application software” are components of “interface layer 102” of local computer system 12, which provides the graphical user interface to peripheral devices. *Id.* at 23 (citing Ex. 1002 ¶¶ 178–184; Ex. 1003, 7:39–43, 6:35–40, Figs. 2, 3). Petitioner cites similar teachings as showing that the browser software provides the graphical interface (illustrated in Figure 2) to end user devices. *Id.* at 23–24 (citing Ex. 1003, 7:40–59; Ex. 1002 ¶ 179). Petitioner quotes Vaios’s claim 10 to support its showing: “said controller module . . . comprises . . . browser software for interfacing said controller module with an end-user at said end-user location, said browser software further providing, said user interface.”

In a footnote, Patent Owner asserts that Vaios’s “‘communicative devices 20’ do not provide a graphical user interface for a respective user to access video data.” PO Resp. 47 n.1 Patent Owner fails to explain how this assertion is relevant to a claim limitation. Limitation 1(e)(iii) recites “wherein the computer executes software, in accordance with which, . . .

(iii) a graphical user interface is provided through which video data from the wireless device is accessible by each respective user using one of the peripheral devices.” The passive phrase “graphical user interface is provided” does not specify whether any device provides or receives the graphical user interface, and it does not state that a peripheral device even uses a graphical user interface. Rather, it broadly requires rendering video data accessible to users at the peripheral devices, “wherein the computer executes software, in accordance with which, . . . a graphical user interface is provided” somewhere perhaps by the executing software.

Patent Owner’s argument implies that peripheral devices (e.g., Vaios’s communicative devices 20) must “provide a graphical interface.” *See* PO Resp. 47 n.1. In any event, the argument fails to address the claim language or the showing in the Petition with sufficient clarity to undermine it. Petitioner persuasively shows that software executing on Vaios’s local computer system 12 causes the software to provide the graphical interface and video to peripheral devices comprising communicative devices 20 and/or remote computer system 16. *See* Pet. 22–24.

Accordingly, Petitioner persuasively shows that Vaios discloses limitation 1(e)(iii).

As summarized above, the record supports Petitioner’s persuasive showing. Based on the foregoing discussion, we determine that Petitioner shows by a preponderance of evidence that Vaios claim 1 would have been obvious over the combined teachings of Vaios with Menard, and/or Saylor.

*e) Dependent claims 2–4, 7–10, 12, 13, and 20*

Claims 2–4, 7–10, 12, and 13 depend directly or indirectly from independent claim 1. Claim 20 is independent. Petitioner generally contends that Vaios anticipates these claims and alternatively, that Vaios

with Menard and/or Saylor would have rendered these claims obvious. Pet. 14, 14–40. In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings in Vaios, Menard and/or Saylor. *Id.* However, it is clear that Petitioner does not assert anticipation with respect to claim 8. *See* Pet. 32 (asserting that “the combination of Vaios, Menard, and Saylor renders obvious these limitations” in claim 8).

Petitioner persuasively maps the limitations of claims 3, 4, 7–10, 12, and 13 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See* Pet. 27–36. We adopt and incorporate Petitioner’s showing as our own. *See id.* Patent Owner does not address Petitioner’s showing with respect to these claims. *See* PO Resp. 50 (asserting that Petitioner’s showing for claims 2–4, 7–10, 12, and 13 fails for the same reasons as claim 1).

Claim 2 depends from claim 1 and recites that “the wireless device . . . includes a microphone, a speaker, an RF transmitter, and an RF receiver.” Petitioner contends that “Vaios’[s] cameras 10 record and transmit video, sound, and sensor data to local computer system 12.” Pet. 24 (Ex. 1003, 2:12–14, 3:27–29; Ex. 1002 ¶ 189). Petitioner also contends that “[c]ameras 10 also receive commands/instructions from local computer system 12.” *Id.* (citing Ex. 1003, 3:30–32). Therefore, according to Petitioner, Vaios’s cameras each include “a microphone (to receive/record sound), a transmitter (to send data), and a receiver (to receive instructions).” *Id.* at 24–25 (citing Ex. 1002 ¶¶ 190–191).

Petitioner alternatively asserts that claim 2 would have been obvious based on Menard’s teachings that “module 200D transmits a wireless signal,” “communication to, and from, module 200D involves a

BLUETOOTH® channel,” and “modules 200” include a “transceiver 150” having “a receiver and . . . transmitter to enable wireless communication.” Pet. 26 (quoting Ex. 1004, 21:15, 20:20–22, 13:27–29). Petitioner contends it would have been “obvious to combine Vaios’ video camera 10 with a microphone, speaker, RF transmitter and RF receiver in a wireless exterior module as taught in Menard. . . . in a known manner to yield predictable results, which had a reasonable expectation of success, given the interchangeability and widespread use of these components in network and monitoring devices at the time.” *Id.* (citing Ex. 1002 ¶¶ 195–199). Petitioner also contends that the proposed combination “offered motivating advantages, such as creating a single device that collects audio-video data at an entrance, communicates wirelessly with other network components, and enables two-way communication with a remote individual, thereby creating a more user-friendly and convenient monitoring system.” *Id.* at 26–27 (citing Ex. 1002 ¶¶ 195–199).

Independent claim 20 is similar to independent claim 1, except that, unlike claim 1, but like claim 2, claim 20 additionally requires transmission of audio data from a wireless device, with the wireless device also including other components not required by claim 1 but required by claim 2, including “a microphone, a speaker, an RF transmitter, and RF receiver.” Claim 20 also requires the capability to record audio and video data received from the wireless device, unlike claim 1.

Addressing claim 20, Petitioner relies partly on its showing with respect to claims 1 and 2, and other dependent claims. Petitioner contends that “Vaios, with Menard, teaches a wireless device associated with a door and configured to communicate video data, the wireless device including a camera, a microphone, a speaker, an RF transmitter, and an RF receiver.”

*See* Pet. 36–40 (citing Pet. 8–12, 22–29, 32–33). Petitioner also provides reasons with factual underpinnings to combine the reference teachings, alleging a reasonable expectation of success. *See id.* at 26–27. For example, Petitioner asserts that “motivating advantages” include “creating a single device that collects audio-video data at an entrance, communicates wirelessly with other network components, and enables two-way communication with a remote individual, thereby creating a more user-friendly and convenient monitoring system.” *Id.* (citing Ex. 1002 ¶¶ 287–200).

Patent Owner argues with respect to claim 20 that “Vaios has no disclosure of two-way communication.” PO Resp. 51. Patent Owner also argues that Vaios discloses a need for inexpensive systems, and therefore, “discloses the use of a traditional video camera and motion sensor as part of its system.” *Id.* As an example, Patent Owner argues “Vaios [does] not disclose a speaker as part of its video camera, but there is also no discussion of the software or the other components required to capture audio, transmit it to the speaker, and play the audio through the speaker.” *Id.* at 51–52.

In Reply, Petitioner concedes that Vaios does not disclose a speaker (as claim 2 recites and as implicitly required for the two-way audio communication as recited in claim 20). *See* Reply 19. Petitioner, however, asserts that the Petition alternatively relies on the combined teachings of Vaios and Menard. *Id.* (citing Pet. 25–27, 36–40. As Petitioner concedes, Patent Owner’s arguments undermine the Petition’s showing that Vaios discloses a speaker. *See* Pet. 24–25, 37.

Patent Owner’s arguments, however, do not address or undermine Petitioner’s obviousness showing with respect to claims 2 and 20. *See* Pet. 25–27, 40 (relying partly on its showing for claim 2 to reach claim 20 in

reference to two-way audio communication). Petitioner contends that it would have been obvious in view of Menard to employ Vaios's camera with a microphone, speaker, an RF receiver, and an RF transmitter to "in a known manner yield predictable results," with a "reasonable expectation of success, given the interchangeability and widespread use of these components in network and monitoring devices at the time." *Id.* at 26 (citing Ex. 1002 ¶¶ 287–200). As indicated above, Petitioner adds that "motivating advantages" include "creating a single device that collects audio-video data at an entrance, communicates wirelessly with other network components, and enables two-way communication with a remote individual, thereby creating a more user-friendly and convenient monitoring system." *Id.* (citing Ex. 1002 ¶¶ 287–200).

Patent Owner also argues that "Vaios requires a camera adapter to couple the local computer to the video camera." PO Resp. 52 (citing Ex. 1003, 1:60–67). Patent Owner contends that camera adapter 116 is necessary "so that video, sound, and motion sensor data can be transmitted from the camera to the local computer system, and instructions or other data can be transmitted from the local computer system to the video camera." *Id.* (quoting Ex. 1003, 3:24–36). Largely repackaging one of its arguments in addressing claim 1, Patent Owner contends that camera adapter 116 "undercuts [Patent Owner's] argument that Vaios is a wireless device and that it has an RF transceiver and RF receiver or that it would be obvious to add these features based on Menard." *Id.* For the reasons addressed above in connection with claim 1, however, Patent Owner's arguments do not undermine Petitioner's obviousness showing as to a wireless camera based on the combined teachings of Vaios and Menard.

On this record, we determine that Petitioner shows by a preponderance of evidence that claims 2–4, 7–10, 12, 13, and 20 would have been obvious over the combined teachings of Vaios with Menard and/or Saylor. *See* Pet. 24–40.

*2. Vaios, Menard, Saylor, and Naidoo-091 (Ground 2)*

Petitioner asserts that claims 6, 16, 17, and 19 would have been obvious over the combined teachings of “Vaios with Naidoo-091 (and optionally Menard and/or Saylor).” Pet. 41.

On this record, Petitioner persuasively maps the limitations of claims 6, 16, 17, and 19 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See* Pet. 41–47. Patent Owner relies on alleged deficiencies with respect to Petitioner’s showing regarding claim 1. PO Resp. 52–53 (stating that “Petitioner has failed to show Claim 1 is invalid” with respect to claims 6, 16, and 17, and repeating arguments for claim 1 with respect to claim 19). Patent Owner’s arguments are unavailing as discussed above.

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claims 6, 16, 17, and 19 would have been obvious over the combined teachings of Vaios and Naidoo-091, and optionally, Menard and/or Saylor.

*3. Vaios, Menard, Saylor, and MacCormack (Ground 3)*

Petitioner asserts that claim 5 would have been obvious over the combined teachings of “Vaios and MacCormack (and optionally Menard and/or Saylor).” Pet. 47.

On this record, Petitioner persuasively maps the limitations of claim 5 to the asserted prior art and provides reasons supported by factual

underpinnings to combine the reference teachings with a reasonable expectation of success. *See* Pet. 47. Patent Owner relies on alleged deficiencies with respect to Petitioner’s showing regarding claim 1. PO Resp. 53 (stating that “Petitioner has failed to show Claim 1 is invalid” with respect to Ground 3). Patent Owner’s arguments are unavailing as discussed above.

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claim 5 have been obvious over the combined teachings of Vaios and MacCormack, and optionally Menard and/or Saylor.

*4. Vaios, Menard, Saylor, and Krzyzanowski (Ground 4)*

Petitioner asserts that claim 11 would have been obvious over the combined teachings of “Vaios with Krzyzanowski (and optionally Menard and/or Saylor).” Pet. 49.

On this record, Petitioner persuasively maps the limitations of claim 5 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See* Pet. 49. Patent Owner relies on alleged deficiencies with respect to Petitioner’s showing regarding claim 1. PO Resp. 53 (stating that “Petitioner has failed to show Claim 1 is invalid” with respect to Ground 4). Patent Owner’s arguments are unavailing as discussed above.

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claim 11 have been obvious over the combined teachings of Vaios and Krzyzanowski, and optionally Menard and/or Saylor.

5. *Vaios, Menard, Saylor, and Nykerk (Ground 5)*

Petitioner asserts that claim 18 would have been obvious over the combined teachings of “Vaios and Nykerk (and optionally Menard and/or Saylor).” Pet. 52.

On this record, Petitioner persuasively maps the limitations of claim 5 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See* Pet. 52. Patent Owner relies on alleged deficiencies with respect to Petitioner’s showing regarding claim 1. PO Resp. 53 (stating that “Petitioner has failed to show Claim 1 is invalid” with respect to Ground 5). Patent Owner’s arguments are unavailing as discussed above.

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claim 18 have been obvious over the combined teachings of Vaios and Nykerk, and optionally Menard and/or Saylor.

6. *Naidoo-068, Vaios, and Saylor*

Petitioner asserts that Naidoo-068 anticipates claims 1, 3–7, and 9 under U.S.C. §102(e), or alternatively, the claims would have been obvious over “Naidoo-068 with Vaios and/or Saylor” under 35 U.S.C. §103(a). Pet. 54.

a) *Naidoo-068*

Naidoo-068 relates to a “video security system for the remote verification and monitoring of conditions surrounding an alarm signal.” Ex. 1007, code (57). “[T]he security gateway is operable to detect an alarm condition and to record video of at least a portion of the premises relating to the alarm condition . . . .” *Id.* at 2:51–53.

Naidoo-068's Figure 1 follows:

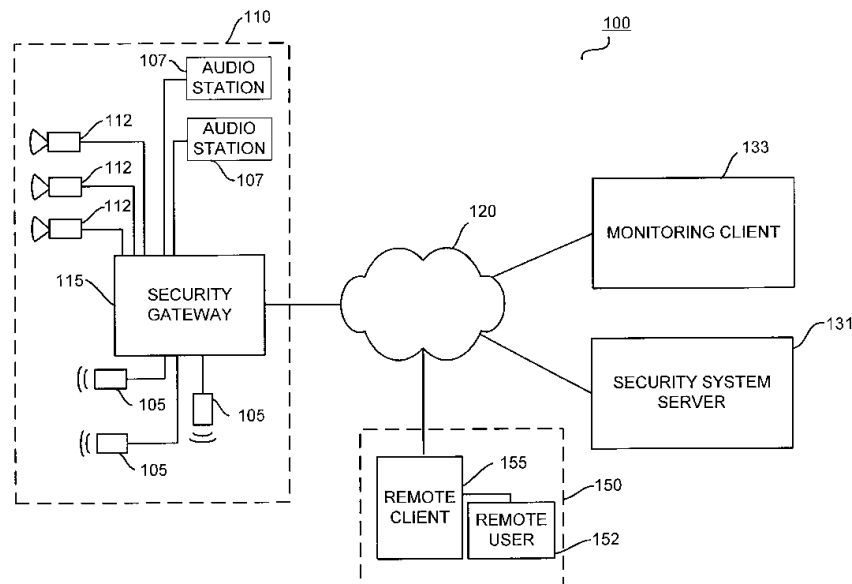


FIG. 1

Figure 1 above depicts a block diagram of security system 100, which comprises security gateway 115, and video cameras 112 and alarm sensor 105 coupled thereto and located at premises 110. Ex. 1007, 6:39–50. Monitoring client 133 and security system server 131 also couple to security gateway 115, albeit through network 120. *Id.* As background, Naidoo-068 states that “[c]onventional security systems typically protect a building” with “[s]ensors . . . installed on doors and/or windows,” and “[w]hen the system is on and a sensor is tripped, a signal is sent . . . using radio frequencies (on wireless systems) . . . whenever an alarm occurs.” *Id.* at 1:25–36.

In Naidoo-068's system, alarm sensors 105 coupled to security gateway 115 detect alarm conditions. Ex. 1007, 7:38–39. “Upon detection of an alarm condition, security gateway 115 captures video (usually through an attached video camera 112) of the target site, and sends the video to

security system server 131 in real time.” *Id.* at 6:51–54. “Whether separate alarm sensors 105 are present or not, security gateway 115 may use video from video camera 112 to assist in the determination of whether an alarm condition exists and thereby whether to generate and send an alarm signal to the security system server 131.” *Id.* at 7:60–64.

“Alarm sensors 105 may be wired directly into an alarm control panel built into security gateway 115 or they may be wirelessly connected.” Ex. 1007, 7:45–47. “It is understood that ‘coupled’ and ‘operatively coupled’ do not require a direct connection, a wired connection, or even a permanent connection.” *Id.* at 6:60–63. “[S]ecurity gateway 115 may be located remotely, but remain operatively coupled to security sensors 105 and video cameras 112 which are at the premises.” *Id.* at 6:48–50.

*b) Claims 1, 3–7, and 9*

The preamble of claim 1 recites “[a] detection and viewing system, comprising.” Petitioner asserts that the preamble reads on Naidoo-068’s disclosure of a “video security system for the remote verification and monitoring of conditions surrounding an alarm signal.” *See* Pet. 55 (citing Ex. 1007, code (57), Fig. 1. Petitioner also notes that Naidoo-068 discloses that its system “detects alarm conditions and transmits information and video relating to the alarm condition” and provides “remote clients 155 with the ability to . . . view live and recorded media from their home.” *Id.* at 55–56 (quoting Ex. 1007, code (57), 20:14–17).

Although Patent Owner argues that “[c]laim 1 is directed at a ‘method for receiving a person at an entrance’” and asserts Naidoo-068 does not disclose this (PO Resp. 54), claim 1 does not recite a method either in the

preamble or in any other limitation.<sup>15</sup> Patent Owner does not otherwise challenge Petitioner’s showing with respect to the preamble. *See* PO Resp. 53–57 (challenging claim 1 limitations as discussed below). Even if the preamble is limiting, Petitioner’s showing with respect to the preamble is persuasive.

Limitation 1(a) recites “a wireless device associated with a door and configured to communicate video data, the wireless device including a camera for providing the video data.” Petitioner contends that Naidoo-068’s video camera 112 wirelessly captures video of monitored premises 110. Pet. 56 (citing Ex. 1007, 7:54–64, 6:51–54, 16:53–17:3, Fig. 1; Ex. 1002 ¶ 353). Petitioner explains that “[v]ideo cameras 112 include ‘smart cameras’ that ‘perform video capture, compression and storage and . . . communicate with the security gateway using a home area network, e.g., wireless.’” *Id.* (quoting Ex. 1007, 16:53–17:3). Petitioner also contends that “[v]ideo cameras 112 are ‘associated with a door’ [as claim 1 recites] as demonstrated by Naidoo-068’s teaching that they are ‘positioned at the front door of a residence.’” Pet. 56 (quoting claim 1 and Ex. 1007, 14:22–23).

Patent Owner argues that Petitioner improperly combines different embodiments in Naidoo-068, one that involves triggering an alarm without reference to a door, and a separate door monitoring embodiment that involves non-alarm conditions. PO Resp. 54–55. In particular, Patent Owner argues that “Naidoo-068 provides, ‘in certain circumstances video from *non-alarm conditions* may also be viewed—for example, with an exterior camera 112, positioned at the front door of a residence.’” *Id.* at 54

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<sup>15</sup> This recitation is in the preamble of claim 1 of the challenged patent in related IPR2022-00810. *See* IPR2022-00810, Ex. 1001, claim 1.

(alteration in original) (quoting Ex. 1007, 14:20–23). Patent Owner explains that “[t]he reference to ‘non-alarm conditions’ refers to instances of simple video monitoring or surveillance where a security sensor is not triggered.” *Id.* (citing Ex. 1007, 7:38–40).

As Petitioner argues, this line of argument mischaracterizes Naidoo-068, because Naidoo-068 “both monitors doors responsive to alarm conditions *and also* during non-alarm conditions.” Reply 21 (citing Ex. 1007, 14:15–28). In context to the passage cited by the parties, Naidoo-068 states as follows:

In addition, CMS *operators can also access audio and video associated with the current alarm condition*. Operators can access live audio and video from the home, and the operator can switch between available cameras and control the muting of individual microphones. *In addition, in certain circumstances video from non-alarm conditions may also be viewed—for example, with an exterior camera 112, positioned at the front door of a residence. In some embodiments, due to privacy concerns, monitoring client 133 may be configured to only allow display audio and video content associated with an open alarm conditions*. Once the alarm condition has been closed by an operator, that content may no longer be made available for viewing.

Ex. 1007, 14:15–28 (emphasis added). The passage shows that “in addition” to viewing video instigated by alarm conditions “from the home,” operators are able to *also* view video during non-alarm conditions, including at the door of a home. Describing the background of the invention, Naidoo-068 also notes that “[c]onventional security systems typically protect a building” with “[s]ensors . . . installed on doors and/or windows,” and “[w]hen the system is on and a sensor is tripped, a signal is sent . . . using radio frequencies (on wireless systems) . . . whenever an alarm occurs.” *Id.* at 1:25–36. Therefore, as Petitioner persuasively shows, Naidoo-068

contemplates implementing its system at a door to view video instigated by alarm conditions and optionally during non-alarm conditions when privacy is not a concern. Accordingly, Petitioner's showing as to limitation 1(a) is persuasive.

Limitation 1(e)(iii) recites "wherein the computer executes software, in accordance with which, . . . (iii) a graphical user interface is provided through which video data from the wireless device is accessible by each respective user using one of the peripheral devices."

Petitioner contends that Naidoo-068's security system server 131 includes a "messaging interface 738" which "provides remote clients 155 with the ability to . . . view live and recorded media from their home." Pet. 66 (quoting Ex. 1007, 18:30–33, 20:14–19). Petitioner also contends that "[m]essaging interface 738' is a 'network-based interface' through which 'application server 734' of security system server 131 'provides and/or facilitates the features available to remote client 155' including 'viewing and editing account information [and] viewing . . . media.'" *Id.* (citing Ex. 1007, 20:18–22, 21:43–49). Petitioner concludes that "[s]erver 131 thus provides a 'graphical user interface' (GUI) via messaging interface 738, given that messaging interface 738 enables a user to view graphical data (e.g., 'live and recorded media') and allows a user to provide inputs (e.g., to edit account information)."). *Id.* (citing Ex. 1002 ¶¶ 409–410).

Patent Owner argues that "Naidoo-068 does not disclose a computer that executes software to provide a graphical user interface." PO Resp. 55. Patent Owner explains that "there is no disclosure in Naidoo-068 that the security system server has software on it that provides a graphic user interface to a peripheral device." *Id.* According to Patent Owner,

“Petitioner infers the existence of a graphic user interface because the security system server in Naidoo-068 provides a messaging interface.” *Id.* (citing Pet. 66). However, according to Patent Owner, “[t]he interface could be entirely text based with no graphical interface.” *Id.* at 56.

Petitioner replies that Dr. Hochwald testifies that Naidoo-068’s messaging interface 738 displays graphical data at least by presenting “live and recorded media” as opposed to text, and it also enables a user to provide inputs. Reply 21 (citing Ex. 1002 ¶ 410; Ex. 1007, 18:30–33, 20:14–28; Ex. 1007, 21:43–49. As noted above, Petitioner also argues that Naidoo-068’s security system server 131 includes a “messaging interface 738” which “provides remote clients 155 with the ability to . . . view live and recorded media from their home” through a “network-based interface.” *See* Pet. 66 (quoting Ex. 1007, 18:30–33, 20:14–19).

Based on these disclosures, an artisan of ordinary skill would have understood that “messaging interface 738” at the server, which provides a “network-based interface” to remote clients, is software-based functionality provided by the server. Naidoo-068 also states that this “network-based interface is an Internet website, or a portion of a website” in many embodiments. However, it is not clear if Naidoo-068’s messaging interface is a *graphical* interface. *See* Ex. 1007, 20:18–19. Given Petitioner’s obviousness showing as discussed above and below, there is no need to reach the issue of whether Naidoo-068 discloses a GUI.

Petitioner alternatively asserts with respect to limitation 1(e)(iii) that it would have been “obvious to use a similar GUI in Naidoo-068 by simply incorporating Vaios’ corresponding GUI software or substituting Vaios’[s] GUI for Naidoo-068’s interface.” Pet. 67 (citing Ex. 1002 ¶¶ 411–412;

Pet. 22–24). Petitioner contends that “[s]uch a GUI presented motivating advantages including improved user experience, convenience, and control.” *Id.* (citing Ex. 1002 ¶¶ 411–412). At cited paragraph 411, Dr. Hochwald testifies that using a GUI “could have been easily accomplished by a [person of ordinary skill in the art] simply by incorporating Vaios’ corresponding software that provides its graphical user interface or by substituting Vaios’ graphical user interface for Naidoo-068’s interface.” Ex. 1002 ¶ 411. In addition, Dr. Hochwald testifies that “[t]he use of a graphical user interface was becoming standardized at the time of the alleged invention because of the computational and graphical power available, the ease of implementation and modification of such an interface.” *Id.* At paragraph 412, Dr. Hochwald testifies that “[s]uch an interface would allow consistent, convenient, and aesthetically pleasing control and direction of the surveillance system irrespective of the location of the user.” *Id.* ¶ 412. This testimony is un rebutted.

Patent Owner argues that “nowhere in the cited paragraphs does Petitioner’s expert explain why a POSITA would be motivated to combine Naidoo-068 with Vaios, two different surveillance systems.” PO Resp. 56–57. Patent Owner also argues that “Petitioner’s expert fails to adequately explain for how and why a POSITA would modify Naidoo-068 to use the graphical user interface of Vaios.” *Id.* at 57. Patent Owner contends that Petitioner’s assertion of “motivating advantages including improved user experience, convenience, and control” is conclusory. *Id.* at 56.

These arguments do not undermine Petitioner’s showing. As summarized above, Petitioner and Dr. Hochwald show persuasively that implementing Vaios’s GUI in Naidoo-068’s system was a simple and predictable software modification (i.e., obtainable with a reasonable

expectation of success), where GUIs were standardized software products known to provide ease of implementation and improve user experience and control. *See* Pet. 67 (citing Ex. 1002 ¶¶ 411–412; Pet. 22–24); Ex. 1002 ¶¶ 411–412. As Petitioner also argues, “the Petition identifies one motivation (the ‘why’) as ‘to provide an improved user experience, convenience, and control,’ as well as the ‘how,’ e.g., ‘by simply incorporating Vaios’ corresponding GUI software or substituting Vaios’ GUI for Naidoo-068’s interface.” Reply 22 (citing Pet. 67; Ex 1002 ¶¶ 411–412). It is not conclusory to rely on known advantages of a well-known software component as a reason to combine the reference teachings and employ this component in a predictable fashion according to its function. *See KSR*, 550 U.S. at 416.

Accordingly, Petitioner’s obviousness showing is persuasive as to limitation 1(e)(iii).

Petitioner persuasively maps the remaining limitations of claim 1, and the limitations of claims 3–7 and 9, to the asserted prior art, and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See* Pet. 54–72. We adopt and incorporate Petitioner’s showing as our own. *See id.* Patent Owner relies on its arguments with respect to claim 1 addressed above, and does not address Petitioner’s showing with respect to these remaining claim 1 limitations or dependent claims. *See* PO Resp. 57 (relying on arguments for claim 1).

Based on the foregoing discussion and the record, we determine that Petitioner shows by a preponderance of evidence that the combination of Naidoo-068, Vaios, and Saylor renders claims 1, 3–7, and 9 obvious.

7. *Naidoo-068, Vaios, Saylor, and Menard (Ground 7)*

Petitioner asserts that claims 2, 8, 10, and 20 would have been obvious over the combined teachings of “Naidoo-068 with Menard (and optionally Vaios and/or Saylor).” Pet. 72.

Claim 2 recites “the wireless device [of claim 1] . . . includes a microphone, a speaker, an RF transmitter, and an RF receiver.” Tracking its showing for claim 1, Petitioner contends that Naidoo-068’s smart camera embodiment for video camera 112 is a wireless device, where Naidoo-068 discloses that “wireless systems” employ “radio frequencies.” Pet. 72 (citing Ex. 1007, 1:33 (describing “using radio frequencies (on wireless systems)” as “[c]onventional”). Based on these teachings, Petitioner maintains that Naidoo-068’s wireless communication implies the use of an RF transmitter and receiver. *See id.* (citing Ex. 1002 ¶¶ 442–443). Petitioner contends that “Naidoo-068’s system also includes an ‘[a]udio interface 630 . . . includ[ing] . . . speaker 638, and . . . microphone 634’ to enable a ‘two way . . . audio stream . . . between a remote user . . . and the premises.’” *Id.* at 72–73 (citing Ex. 1007, 17:4–21).

In context, Naidoo-068 describes its smart camera as “hav[ing] much of the [same] functionality of the Video Module built in,” and video module 620 implements an “audio compression standard.” Ex. 1007, 16:40–55. Also, video module 620 and audio interface 630 are listed as “some . . . of the components [that] may be directly connected or otherwise operatively coupled to one another.” *Id.* at 15:21–29. And “[a]udio interface 630 performs a similar function to video module 620 but with respect to the audio components.” *Id.* at 17:4–5.

Petitioner also contends that “Menard discloses a wireless device (‘exterior module 200D’) including a video camera (‘video camera 370’), a

microphone and speaker (“intercom 330”), an RF transmitter, and an RF receiver.” Pet. 73 (citing Pet. 25–26). Petitioner further contends that it would have been “obvious in view of Menard to combine a microphone and speaker with an RF transmitter and RF receiver in Naidoo-068’s smart cameras/video cameras 112 including for the same reasons discussed above for similarly combining Menard with Vaios.” *Id.* (citing Ex. 1002 ¶¶ 446–452; Pet. 26–27). Petitioner describes this modification as “merely a combination of known elements (microphone, speaker, RF transmitter, RF receiver) into Naidoo-068’s wireless device/camera (or alternatively substitute Menard’s module 200D for Naidoo-068’s cameras) in a known manner to yield predictable results.” *Id.* (citing Ex. 1002 ¶¶ 446–452; Pet. 26–27). Petitioner explains that “the proposed combination offered advantages such as a single device that collects and wirelessly communicates audio/video data to other network components, and enables two-way communications with a user proximate the camera, thereby creating a more user-friendly, convenient monitoring system.” *Id.* (citing Ex. 1002 ¶ 452).

Independent claim 20 is similar to independent claim 1, except that, unlike claim 1, but like claim 2, claim 20 additionally requires the capability of transmission of audio data from a wireless device, with the wireless device also including other components not required by claim 1 but required by claim 2, including “a microphone, a speaker, an RF transmitter, and an RF receiver.” Claim 20 also requires the capability to record audio and video data received from the wireless device, unlike claim 1.

Relying partly on its showing with respect to claims 1 and 2, and other dependent claims, Petitioner contends that “Naidoo-068 and Menard render obvious a wireless device associated with a door and configured to

communicate video data, the wireless device including a camera, a microphone, a speaker, an RF transmitter, and an RF receiver.” *See* Pet. 76–80 (citing Pet. 56, 58–63, 65–66, 67, 71–73; Ex. 1002 ¶471). Petitioner relies on its reasons to combine the references in connection with claim 2 as summarized above to address claim 20, providing factual underpinnings and alleging a reasonable expectation of success. *See id.* (citing Pet. 37, 72–73). In addition, with respect to recording audio data, Petitioner contends that it would have “obvious to include audio with the video recording so that a remote individual could hear sounds associated with the monitored premises, particularly given that audio data is transmitted with the video data.” *Id.* at 79–80 (citing Ex. 1002 ¶487).

In response, Patent Owner largely advances reasons similar to those discussed above in connection with Grounds 1 and 2. *See supra* § III.D.1.d. For example, Patent Owner alleges that “Petitioner’s proposed combination of bits and pieces of prior devices is explained only by an improper reliance on hindsight.” PO Resp. 59. Patent Owner also alleges that “Petitioner would destroy key features of Naidoo-068 relied upon in the Petition including the architecture of the entire system, which would render the system in Naidoo-068 inoperable.” *Id.* Patent Owner contends that “Petitioner and its expert fail to acknowledge that moving the video and audio components to a standalone wireless device would require moving the video and audio processing components of security gateway 115 as well.” *Id.* at 60 (arguing that “[t]he security gateway 115’s communications interface with the network would also need to be added to the device since it communicates wirelessly” and listing nine “hardware/software components [that] would need to be added to the ‘video camera 112’”). Patent Owner also argues that “Petitioner fails to identify with particularity in the Petition

which elements are met by Menard versus Naidoo-068 and relies entirely on arguments in the expert's declaration.” *Id.* at 58.

These arguments and similar arguments by Patent Owner fail to undermine Petitioner's showing, which persuasively address each of the claim elements, and generally shows that implementing Naidoo-068's smart camera to include a microphone and a speaker simply involves adding well-known hardware with software functionality that Naidoo-068 implies exists already in its smart camera, as summarized above in connection with claim 2. *See* Pet. 72–80. Moreover, as noted above, Naidoo-068 describes its smart camera as “hav[ing] much of the [same] functionality of the Video Module built in,” and video module 620 implements an “audio compression standard.” Ex. 1007, 16:40–55. This implies or at least suggests audio functionality in the smart video camera. Also, video module 620 and audio interface 630 are listed as “some . . . of the components [that] may be directly connected or otherwise operatively coupled to one another.” *Id.* at 15:21–29. And “[a]udio interface 630 performs a similar function to video module 620 but with respect to the audio components.” *Id.* at 17:4–5. In other words, Naidoo-068 explicitly teaches using a video module (which supports audio) as part of the smart camera, and at least suggests combining the similar audio interface and video interface together with the smart camera, with “[a]udio interface 630 . . . includ[ing] . . . speaker 638, and . . . microphone 634’ to enable a ‘two way . . . audio stream . . . between a remote user . . . and the premises.’” *See* Pet. 72–73 (citing Ex. 1007, 17:4–21).

Notwithstanding Patent Owner's arguments that “Petitioner would destroy key features of Naidoo-068 . . . [and] would render the system in in Naidoo-068 inoperable” and similar arguments (PO Resp. 59–60), an artisan

of ordinary skill is not an automaton, blindly and bodily incorporating features of one teaching into those of another without any consideration of loss of functionality. As also noted above, Vaio indicates that at the time of the invention, rearranging well-known components and their functionality to function with systems at different locations does not destroy any functionality. *See, e.g.*, Ex. 1003, 4:23–29 (noting that “any component . . . can be solely situated at either the local computer system or the remote computer systems without losing functionality” where “[i]t is commonly understood to those skilled in the art that various components, including those listed above, can function properly despite being situated at remote locations”).

In addition, the record supports Dr. Hochwald’s un rebutted testimony that the combination would have been simple, “without requiring significant or unpredictable changes in interfaces, complexity, cost or methodology and would have had a high expectation that the combination would have succeeded.” *See* PO Resp. 67 (quoting Ex. 1002 ¶475). As noted above, Naidoo-068 itself contemplates combining different modules together including with its smart camera, further supporting this testimony. Regarding reasons to combine, Naidoo-068 specifically notes that two-way audio is advantageous for allowing interaction with the monitored premises. *See* Ex. 1007, 17:21–24 (“Advantageously, the two-way audio stream allows the remote user to interact with the premises.”).

Patent Owner also argues that because one of the stated goals of “the parent patent to the ’184 Patent” is a “self-contained” unit, and “[n]either Naidoo-068 or Menard disclose this goal or problem in the art,” Petitioner’s “reasoning is classic hindsight bias.” PO Resp. 66. Patent Owner does not provide a citation to support this alleged stated goal or problem. Moreover,

contrary to the arguments, known advantages need not come from the applied prior art, and Naidoo-068's smart camera is a "self-contained" unit, because it contains several components.

Based on the foregoing discussion, Petitioner persuasively shows that adding audio hardware to Naidoo-068's smart camera provides simple, predictable, advantages of two-way communication for security monitoring and communication purposes in a single device without requiring wiring.

On this record, Petitioner persuasively maps the limitations of claims 2, 8, 10, and 20 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See* Pet. 72–80. We adopt and incorporate Petitioner's showing as our own. *See id.*

Patent Owner does not address Petitioner's showing with respect to claims 2, 8, and 10, with meaningful particularity. *See* Pet. 68 (relying on arguments for claim 1 to address claims 2, 8, and 10). Rather, in addition to the above-discussed arguments in connection with claim 20, as indicated above, Patent Owner generally asserts that "Petitioner fails to identify with particularity in the Petition which elements are met by Menard versus Naidoo-068 and relies entirely on arguments in the expert's declaration."

PO Resp. 58. Patent Owner contends that

[t]his is improper as it does not provide the Board or Patent Owner with the information necessary in the Petition to respond and instead allows Petitioner to avoid word count limitations and require the Board as well as Patent Owner to sift through an expert declaration that includes arguments that are not in the Petition itself.

*Id.*

These generic arguments do not undermine Petitioner's showing, and Petitioner does not avoid word count limits improperly as determined above. *See supra* § III.D. The arguments also fail to specify how the Petition lacks particularity, and the Petition does not "rel[y] entirely" on Dr. Hochwald's declaration. *See* Pet. 72–80. As indicated above, Petitioner's showing is persuasive and the record supports it.

Accordingly, we determine that Petitioner persuasively shows that claims 2, 8, 10, and 20 would have been obvious over the combined teachings of Naidoo-068 with Menard, and optionally Vaios and/or Saylor.

*8. Naidoo-068, Vaios, Saylor and Naidoo-091*

Petitioner asserts that claims 12, 13, 16, 17, and 19 would have been obvious over the combined teachings of "Naidoo-068 with Naidoo-091 (and optionally Vaios and/or Saylor)." Pet. 80.

On this record, Petitioner persuasively maps the limitations of claims 12, 13, 16, 17, and 19 to the asserted prior art and provides reasons supported by factual underpinnings to combine the references' teachings with a reasonable expectation of success. *See* Pet. 80–84. For claims 12, 13, 16, 17, and 19, Patent Owner relies on alleged deficiencies with respect to Petitioner's showing regarding claim 1, which is unavailing for the reasons noted above. *See* PO Resp. 68.

For claim 19, Petitioner largely refers to its showing in connection with claims 1 and 20. *See* Pet. 82–84. For example, addressing the recited GUI in claim 19, Petitioner refers to its showing for the recited GUI in claims 1 and 20 at pages 66–67 and 79 of the Petition, which in turn relies on the combined teachings of Naidoo-068 and Menard. *See id.* at 84 (citing Pet. 66–67, 71–72, 79; Ex. 1002 ¶ 517). Patent Owner asserts that "Naidoo-068, alone or in any combination, at least does not disclose (i) a wireless

device associated with a door; and (ii) a computer that executes software to provide a graphical user interface on a peripheral device.” PO Resp. 68. This argument is a restatement of arguments Patent Owner presents with respect to claim 1, arguments which do not undermine Petitioner’s showing, for the reasons outlined above.

On this record, Petitioner persuasively maps the limitations of claims 12, 13, 16, 17, and 19 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See Pet. See Pet.* 80–84. We adopt and incorporate Petitioner’s showing as our own. *See id.*

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claims 12, 13, 16, 17, and 19 would have been obvious over the combined teachings of Naidoo-068 with Naidoo-091 (and optionally Vaios and/or Saylor).

*9. Naidoo-068, Vaios, Saylor, and Krzyzanowski (Ground 9)*

Petitioner asserts that claim 11 would have been obvious over the combined teachings of “Naidoo-068 with Krzyzanowski (and optionally Vaios and/or Saylor).” Pet. 85. Petitioner persuasively maps the limitations of claim 11 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* We adopt and incorporate Petitioner’s showing as our own. *See id.* Patent Owner relies on alleged deficiencies with respect to Petitioner’s showing regarding claim 1. PO Resp. 69.

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claim 11 would have been obvious over the combined teachings of Naidoo-068 with Krzyzanowski (and optionally Vaios and/or Saylor).

*10. Naidoo-068, Vaios, Saylor, and Nykerk (Ground 10)*

Petitioner asserts that claim 18 would have been obvious over the combined teachings of “Naidoo-068 with Nykerk (and optionally Vaios and/or Saylor).” Pet. 86. Petitioner persuasively maps the limitations of claim 11 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* We adopt and incorporate Petitioner’s showing as our own. *See id.* Patent Owner relies on alleged deficiencies with respect to Petitioner’s showing regarding claim 1. PO Resp. 69. Those arguments are unavailing as discussed above.

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claim 18 would have been obvious over the combined teachings of Naidoo-068 and Nykerk (and optionally Vaios and/or Saylor).

IV. CONCLUSION

For the reasons discussed above, Petitioner has shown by a preponderance of the evidence that claims 1–13 and 16–21 of the ’184 patent are unpatentable as summarized in the table below.

| Claims                 | A. 35 U.S.C. § | Reference(s)/Basis                | Claims Shown Unpatentable | Claims Not Shown Unpatentable |
|------------------------|----------------|-----------------------------------|---------------------------|-------------------------------|
| 1, 3, 4, 7, 10, 12, 13 | 102(a, b)      | Vaios                             |                           |                               |
| 1–4, 7–10, 12, 13, 20  | 103(a)         | Vaios, Menard, Saylor             | 1–4, 7–10, 12, 13, 20     |                               |
| 6, 16, 17, 19          | 103(a)         | Vaios, Menard, Saylor, Naidoo-091 | 6, 16, 17, 19             |                               |

|                            |        |                                               |                       |  |
|----------------------------|--------|-----------------------------------------------|-----------------------|--|
| 5                          | 103(a) | Vaios, Menard,<br>Saylor,<br>MacCormack       | 5                     |  |
| 11                         | 103(a) | Vaios, Menard,<br>Saylor,<br>Krzyzanowski     | 11                    |  |
| 18                         | 103(a) | Vaios, Menard,<br>Saylor, Nykerk              | 18                    |  |
| 1, 3–7, 9                  | 102(e) | Naidoo-068                                    |                       |  |
| 1, 3–7, 9                  | 103(a) | Naidoo-068, Vaios,<br>Saylor                  | 1, 3–7, 9             |  |
| 2, 8, 10, 20               | 103(a) | Naidoo-68, Vaios,<br>Saylor, Menard           | 2, 8, 10, 20          |  |
| 12, 13, 16,<br>17, 19      | 103(a) | Naidoo-068, Vaios,<br>Saylor, Naidoo-091      | 12, 13, 16, 17,<br>19 |  |
| 11                         | 103(a) | Naidoo-068, Vaios,<br>Saylor,<br>Krzyzanowski | 11                    |  |
| 18                         | 103(a) | Naidoo-068, Vaios,<br>Saylor, Nykerk          | 18                    |  |
| <b>Overall<br/>Outcome</b> |        |                                               | 1–13, 16–21           |  |

## V. ORDER

In consideration of the foregoing, it is hereby

ORDERED that Petitioner establishes by a preponderance of evidence that challenged claims 1–13 and 16–21 are 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.<sup>16</sup>

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<sup>16</sup> 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).