

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VIVINT, INC.,
Petitioner,

v.

SB IP HOLDINGS LLC,
Patent Owner.

IPR2022-00813
Patent 8,164,614 B2

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

JURGOVAN, *Administrative Patent Judge.*

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

I. INTRODUCTION

A. *Background*

Vivint, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–13 and 16–20 (“challenged claims”) of U.S. Patent No. 8,164,614 B2 (Ex. 1001, “the ’614 patent”). Paper 1 (“Pet.”). SB IP Holdings LLC (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). We instituted *inter partes* review under 35 U.S.C. § 314(a). Paper 8 (“Inst. Dec.”).

During the trial, Patent Owner filed a Response (Paper 12, “Resp.”), and Petitioner filed a Reply (Paper 14). Petitioner and Patent Owner did not request oral argument, and we entered an Order confirming that no oral argument would be held. Paper 15.

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a). Having reviewed the complete trial record, we determine that Petitioner has shown, by a preponderance of the evidence, that the challenged claims are unpatentable.

B. *Real Parties in Interest*

Petitioner and Patent Owner identify themselves as real parties in interest. Pet. 1; Paper 3, 1.

C. *Related Proceedings*

Petitioner and Patent Owner each identify the following related litigations involving the ’614 patent:

- *SB IP Holdings LLC v. Vivint Smart Homes, Inc.*, No. 4:21-cv-00912 (E.D. Tex.)
- *Vivint, Inc. v. SBIP Holdings, LLC*, No. 8:22-cv-00034 (C.D. Cal.)

The following *inter partes* review proceedings involve the '614 patent or related patents:

- IPR2022-00810 (U.S. Patent No. 8,139,098 B2)
- IPR2022-00811 (U.S. Patent No. 8,144,184 B2)
- IPR2022-00812 (U.S. Patent No. 8,154,581 B2)
- IPR2022-00814 (U.S. Patent No. 8,144,183 B2)
- IPR2022-01352 (U.S. Patent No. 8,154,581 B2)
- IPR2022-01364 (U.S. Patent No. 8,144,184 B2)
- IPR2022-01365 (U.S. Patent No. 8,164,614 B2)
- IPR2022-01449 (U.S. Patent No. 7,193,644 B2)

Pet. 1–2; Paper 3, 1; Paper 7, 1–2.

Patent Owner identifies the following related patent applications:

- U.S. Patent Application 17/113,189, filed December 7, 2020
- U.S. Patent Application 14/338,525, filed July 23, 2014

Paper 3, 3.

Patent Owner identifies other indirectly related judicial matters before the federal district courts and the U.S. Court of Appeals for the Federal Circuit. Paper 3, 2.

D. The '614 Patent (Ex. 1001)

The '614 patent is titled “Communication and Monitoring System.” Ex. 1001, code (54). The '614 patent discloses an “audio-video communication system comprises a wireless exterior module located proximate an entrance, a computerized controller running a software application, and a remote peripheral device.” *Id.* at code (57). “The wireless exterior module includes a proximity sensor for detecting a person at the entrance, a video camera for recording an image of the person at the

entrance, a microphone for recording the person at the entrance, a speaker for playing audio to the person at the entrance, a transmitter for communicating sounds and images of the person at the entrance, and a receiver for receiving communications at the wireless exterior module.” *Id.* “The computerized controller is disposed in wireless electronic communication with the wireless exterior module via the transmitter and the receiver of the wireless exterior module.” *Id.* “The remote peripheral device is configured to electronically communicate with the computerized controller for viewing an image from the video camera communicated from the wireless exterior module.” *Id.*

Additional details of the system are shown in Figure 1 below.

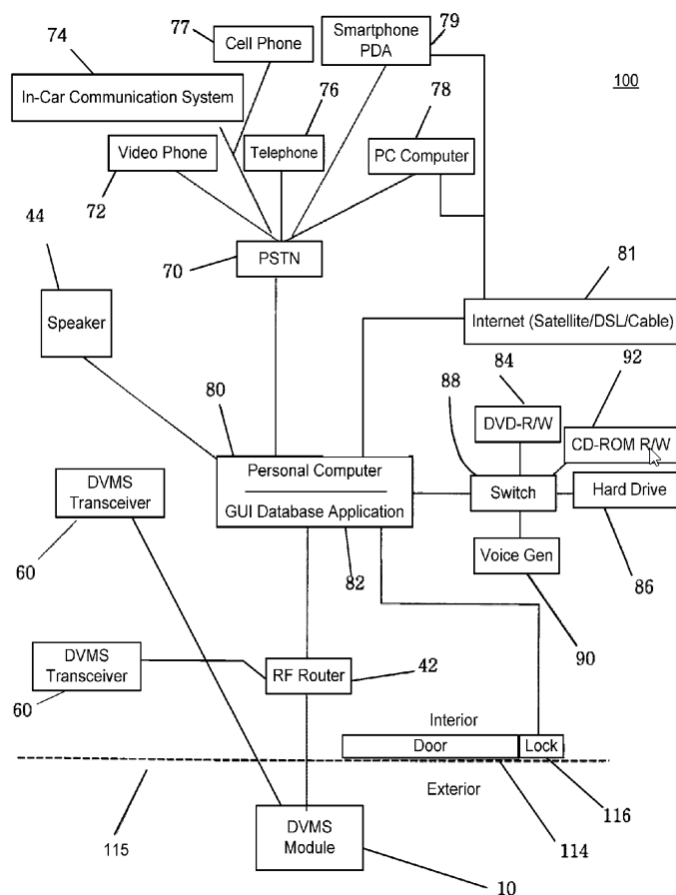


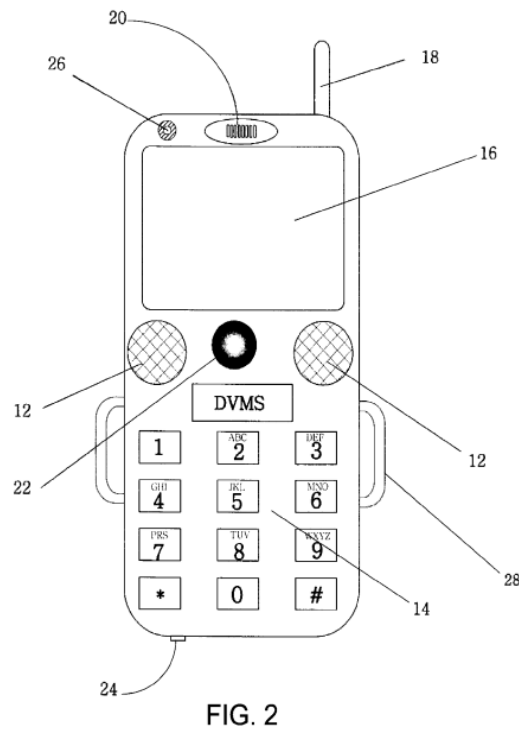
FIG. 1

Specifically, Figure 1 shows system 100 having DVMS module 10 located on the exterior of the home or office proximate door 114.¹ *Id.* at 7:50–51. Personal computer 80 runs a software application that includes DVMS Database Application 82 and graphic user interfaces (GUIs). *Id.* at 7:35–37. Personal computer 80, in accordance with the software application, controls communication in system 100, coordinates multiple communication devices in system 100, and is used to define responses to prompts and events in system 100. *Id.* at 7:37–41.

System 100 further includes one or more remote peripheral devices. *Id.* at 8:61–62. Such devices generally include video phones 72, in-car communication systems such as the well-known ONSTAR system 74 currently found in GM cars, telephones 76, cell phones 77, personal computers 78, smartphones/personal digital assistants (PDAs) 79, and other similar communication devices. *Id.* at 8:61–67. Each remote peripheral device is configured for electronic communication with personal computer 80 via at least public switching telephone network (“PSTN”) connection 70 or broadband connection 81. *Id.* at 8:67–9:3.

¹ The ’614 patent does not expressly define the acronym “DVMS.”

Figure 2 of the '614 patent is reproduced below:



10

Figure 2 shows DVMS module 10 having video camera 22, speakers 12, proximity sensor 26, microphone 20, LCD display 16, quick connect electrical receptacle 24, and radio frequency receiver/transmitter represented by antenna 18. *Id.* at 7:58–62. Upon detection of movement, proximity sensor 26 activates camera 22, which in turn relays an image or streaming video to personal computer 80 where it is saved in a database in association with a timestamp. *Id.* at 7:62–66.

E. Illustrative Claim

Claims 1, 19, and 20 are independent, and claims 2, 3, and 16–18 are dependent, directly or indirectly, from claim 1, which is reproduced below:

1. A communications and monitoring system, comprising:
 - (a) a wireless device associated with a door and configured to communicate audio and video data;

- (b) a plurality of peripheral devices, each peripheral device associated with a respective user; and
- (c) a computer configured for communication with the wireless device and configured for communication with each of the peripheral devices;
- (d) 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) audio and video data from the wireless device is received by the computer, and
 - (iii) a graphical user interface is provided through which audio and video data from the wireless device is accessible by each respective user using one of the peripheral devices.

Ex. 1001, 19:44–61.

F. Evidence Relied on by Petitioner

Petitioner relies on the following evidence:²

References		Date	Exhibit
Vaios ³	U.S. Patent No. 6,271,752 B1	Issued Aug. 7, 2001	1003
Menard ⁴	International Pat. Appl. Pub. No. WO 01/093220 A1	Published Dec. 6, 2001	1004
Naidoo-091 ⁵	U.S. Patent No. 6,658,091 B1	Issued Dec. 2, 2003; filed Feb. 1, 2002	1005

² The '614 patent issued from Application 11/929,464, filed October 30, 2007. Ex. 1001, codes (21), (22). The '614 patent is a continuation of Application 11/618,615 filed Dec. 29, 2006, which is a continuation-in-part of Application 10/682,185, filed Oct. 9, 2003, now Patent 7,193,644, and also claims priority to Provisional Application 60/418,384, filed October 15, 2002. *Id.* at codes (60), (63).

³ Petitioner contends Vaios is prior art under § 102(a), (b). Pet. 2.

⁴ Petitioner contends Menard is prior art under at least § 102(a), (b). Pet. 2.

⁵ Petitioner contends Naidoo-091 is prior art under at least § 102(e). Pet. 2.

References		Date	Exhibit
Naidoo-068 ⁶	U.S. Patent No. 8,520,068 B2	Published Oct. 10, 2002; filed Sept. 18, 2001	1007
Saylor ⁷	U.S. Patent No. 6,661,340 B1	Issued Dec. 9, 2003; filed April 24, 2001	1008
MacCormack ⁸	U.S. Patent No. 5,828,848	Issued Oct. 27, 1998	1012
Nykerk ⁹	U.S. Patent No. 4,897,630	Issued Jan. 30, 1990	1013
Krzyzanowski ¹⁰	U.S. Patent No. 7,933,945 B2	Issued Apr. 26, 2011	1016

Pet. 2–3.

Petitioner relies on a Declaration of Dr. Bertrand M. Hochwald.

Ex. 1002. Petitioner also relies on a Reply Declaration of Dr. Hochwald.

Ex. 1051.¹¹ Patent Owner does not rely on the testimony of any expert witness.

⁶ Petitioner contends Naidoo-068 is prior art under 35 U.S.C. § 102(a), (e). Pet. 3.

⁷ Petitioner contends Saylor is prior art under 35 U.S.C. § 102(e). Pet. 3.

⁸ Petitioner contends MacCormack is prior art under 35 U.S.C. § 102(b). Pet. 3.

⁹ Petitioner contends Nykerk is prior art under 35 U.S.C. § 102(b). Pet. 3.

¹⁰ Petitioner contends Krzyzanowski is prior art under 35 U.S.C. § 102(e). Pet. 3.

¹¹ Exhibit 1051 has a cover page that identifies it as “Exhibit 1047.” We will refer to this Reply Declaration of Dr. Hochwald as “Exhibit 1051” as it was electronically filed in the record.

G. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1–13 and 16–20 of the ’614 patent on the following grounds:

Claim(s) Challenged	35 U.S.C. § ¹²	Reference(s)/Basis
1, 3–4, 7, 9–10, 12, 13, 20	102(a) or (b)	Vaios
1–4, 7–10, 12, 13, 20	103(a)	Vaios, Menard, Saylor
6, 16, 17, 19	103(a)	Vaios, Menard, Saylor, Naidoo-091
5	103(a)	Vaios, Menard, Saylor, MacCormack
11	103(a)	Vaios, Menard, Saylor, Krzyzanowski
18	103(a)	Vaios, Menard, Saylor, Nykerk
1, 4–7, 9	102(e)	Naidoo-068
1, 4–7, 9	103(a)	Naidoo-068, Vaios, Saylor
2, 3, 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

¹² The Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. §§ 102, 103. Based on the record before us, the ’614 patent has an effective filing date prior to the effective date of the applicable AIA amendments (March 16, 2013). Therefore, we apply the pre-AIA versions of 35 U.S.C. §§ 102, 103.

Claim(s) Challenged	35 U.S.C. § ¹²	Reference(s)/Basis
18	103(a)	Naidoo-068, Vaios, Saylor, Nykerk

Pet. 3, 7, 40, 46, 47, 51, 53, 72, 79, 84, 85; *see also* Paper 11.

II. ANALYSIS

In this section, we address Petitioner’s contentions that the challenged claims are unpatentable and Patent Owner’s arguments for patentability.

A. *Legal Principles of Anticipation*

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 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).

B. *Legal Principles of Obviousness*

A claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious to a person having ordinary skill in the art to which said subject matter pertains. *See KSR Int’l Co. v.*

Teleflex Inc., 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) where in evidence, so-called secondary considerations, including commercial success, long-felt but unsolved needs, failure of others, and unexpected results.¹³ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

When evaluating a combination of teachings, we must also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *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.” *Kahn*, 441 F.3d at 988.

C. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art at the time of the alleged invention “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 contends that Petitioner’s declarant, Dr. Hochwald, provided “a wholly conclusory opinion that is devoid of any analysis or even explanation for how the expert’s opinion was reached.” Resp. 2–3. Patent Owner contends that Dr. Hochwald “lists a handful of factors” and “fails to

¹³ The parties do not introduce any evidence of secondary considerations of nonobviousness.

provide any analysis of those factors” such that the Board could 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 2–3 (citing Ex. 1002 ¶¶ 21–23; Fed. R. Evid. 702).

Patent Owner contends that Dr. Hochwald’s conclusory opinion should be given no weight. Resp. 3. In addition, Patent Owner contends that Dr. Hochwald’s opinion is a “black box” such that “each of Petitioner’s grounds lack a reliable prerequisite determination of the level of skill of a [person of ordinary skill in the art] and are flawed as a result.” *Id.*

In Reply, Petitioner contends that its expert, Dr. Hochwald, explained the factors he considered in establishing the proposed level of skill in the art. Reply 2–3 (citing Ex. 1002 ¶¶ 21–24). Specifically, Dr. Hochwald stated that he considered: (1) the types of problems encountered in the art, (2) prior solutions to those problems, (3) rapidity with which innovations are made, (4) sophistication of technology at the time of the invention, and (5) educational levels and experience of persons working in the field and capable of understanding the applicable scientific and engineering principles. Ex. 1002 ¶ 22. The factors considered by Dr. Hochwald align with precedent. *Custom Accessories, Inc. v. Jeffrey-Allan Industries, Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986) (citing *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 697 (Fed. Cir. 1983)). Dr. Hochwald acknowledges that he understands that not all such factors may be present in every case, and one or more of them may predominate. *Id.* at 962–963; Ex. 1002 ¶ 22.

In addition, Petitioner contends that “the prior art itself establishes the level of skill in the art, which the Board routinely relies on for this purpose.”

Reply 2. Petitioner contends that the level of skill in the art proposed by Petitioner and adopted by the Board is directly supported by the prior art teachings. *Id.* (citing Pet. 4; Inst. Dec. 11).

Petitioner further argues that Patent Owner’s “criticisms are undercut by its failure to explain why the adopted level of skill is incorrect, what the adopted level of skill should allegedly be, or how it affects the merits of the Petition.” Reply 2.

We agree with Petitioner that its proposal for the level of ordinary skill should be applied in this Petition, particularly in the absence of any counterproposal from Patent Owner. Petitioner’s expert used the correct factors to arrive at its proposed level of skill in the art, and we agree with Petitioner that its proposal is also consistent with the prior art cited in the Petition. Reply 2; *accord Okajima v. Bourdeau*, 261 F.3d 1350, 1354–55 (Fed. Cir. 2001) (the applied prior art may reflect an appropriate level of skill). We also find the proposed level of skill in the art consistent with the amount of detail and explanation of the technology that is given in the ’614 patent itself.

Accordingly, we apply Petitioner’s proposal for the level of ordinary skill in the art in this decision.

D. Claim Construction

In this section, we address legal principles of claim construction followed by Petitioner’s and Patent Owner’s contentions and determine to apply the ordinary and customary meaning of the claim language.

1. *Legal Principles of Claim Construction*

We use the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b). The claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc) is applicable.

Claim terms are generally given their ordinary and customary meaning as would be understood by one with ordinary skill in the art in the context of the specification, the prosecution history, other claims, and even extrinsic evidence including expert and inventor testimony, dictionaries, and learned treatises, although extrinsic evidence is less significant than the intrinsic record. *Phillips*, 415 F.3d at 1312–17. Usually, the specification is dispositive, and it is the single best guide to the meaning of a disputed term. *Id.* at 1315.

The specification may reveal a special definition given to a claim term by the patentee, or the specification or prosecution history may reveal an intentional disclaimer or disavowal of claim scope by the inventor. *Id.* at 1316. If an inventor acts as his or her own lexicographer, the definition must be set forth in the specification with reasonable clarity, deliberateness, and precision. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998). The disavowal, if any, can be effectuated by language in the specification or the prosecution history. *Poly-America, L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016).

Only those claim terms “that are in controversy need to be construed, and only to the extent necessary to resolve the controversy.” *Nidec Motor*

Corp. v. Zhongshan Broad Ocean Motor Co., 868 F.3d 1013, 1017 (Fed. Cir. 2017); *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011); *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

2. *Claim Construction Contentions*

“Petitioner does not believe particular constructions differing from the ordinary and customary meaning are required for any claim terms.” Pet. 6.

In Response, Patent Owner states

Patent Owner does not take a position as to the necessity for claim construction at this time. Petitioner argues that no claim constructions are required for any term. Petition at 8. However, Petitioner then goes on to improperly construe certain claim terms in order to argue anticipation and obviousness. The Board should disregard any such improper construction, particularly without the required showing of necessity. *See 02 Micro Intern. Ltd v. Beyond Innovation Technology Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008).

Resp. 2.

In Reply, Petitioner states

[Patent Owner] complains that the Petitioner “improperly construe[s] certain claim terms in order to argue anticipation and obviousness,” but fails to identify any such instances. [Resp. 2]. Petitioner believes all grounds and corresponding arguments presented in the Petition are consistent with the plain and ordinary meaning of the relevant claim terms, and is unaware of any terms needing construction.

Reply 1.

In sum, Petitioner contends that no claim construction is necessary. Patent Owner argues that it disputes Petitioner’s claim constructions that it allegedly made for its anticipation and obviousness arguments. However,

Patent Owner does not identify what those allegedly disputed claim terms are nor what meanings should be ascribed to them.

As no specific controversy over claim language has been identified to us, we decline to construe any claim term explicitly and instead will apply the ordinary and customary meaning as understood by a person of ordinary skill in the art in this decision. *See supra Nidec; Wellman; Vivid Techs.*

E. Petitioner's Expert Testimony

Patent Owner contends that Petitioner violates 37 C.F.R. § 42.6(a)(3) which provides that “[a]rguments must not be incorporated by reference from one document into another.” Resp. 20. Patent Owner argues that, by citing Dr. Hochwald’s declaration, Petitioner includes pages of arguments and evidence that are not in the Petition. *Id.* Patent Owner argues that Dr. Hochwald’s declaration should be disregarded as a consequence. *Id.* Patent Owner alleges that Petitioner relies almost exclusively on Dr. Hochwald’s declaration for why Vaio would be obvious, without analysis in the Petition, in order to avoid the word count limit. *Id.* at 20–21.

Patent Owner points to only one instance in the Petition on page 15 where this violation allegedly occurred. *Id.* at 20–21. Patent Owner does not indicate, however, what about page 15 of the Petition constitutes the violation that Patent Owner alleges. Petitioner contends that the discussion on page 15 of the Petition is irrelevant to Patent Owner’s allegations. Reply 3.

Patent Owner fails to give any examples of these alleged violations. Accordingly, we agree with Petitioner that these allegations are conclusory and unsupported. Attorney argument alone is not evidence that could support such an assertion, let alone warrant imposing the severe consequence of disregarding Petitioner’s expert testimony. *Icon Health &*

Fitness, Inc. v. Strava, Inc., 849 F.3d 1034, 1043 (Fed. Cir. 2017) (attorney argument is not evidence unless it is an admission).

F. Anticipation of Claims 1–4, 7–10, 12–13, and 20 by Vaios

Petitioner contends that claims 1–4, 7–10, 12–13, and 20 of the '614 patent are anticipated by Vaios under 35 U.S.C. § 102(a) or (b). Pet. 7.

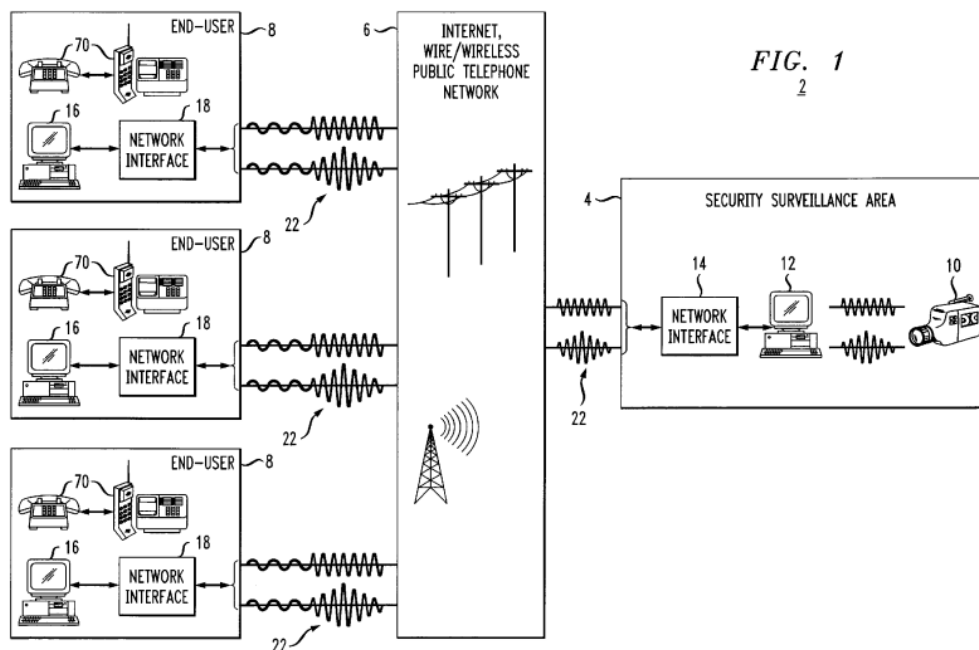
We do not reach this ground in our decision.

G. Obviousness of Claims 1–4, 7–10, 12–13, and 20 over Vaios, Menard, and Saylor

Petitioner asserts that claims 1–4, 7–10, 12–13, and 20 are unpatentable as obvious over Vaios, optionally with Menard and/or Saylor. Pet. 7–39. We review the asserted prior art and analyze the parties' contentions below.

1. Overview of Vaios (Ex. 1003)

Vaios's multi-access remote system is shown in Figure 1, which is reproduced below.



Vaios's Figure 1 shows multi-access remote system 2 with security surveillance area 4, end user locations 8, and communications network 6 for establishing connection 22 with security surveillance area 4 and end user locations 8. Ex. 1003, 3:14–23.

Security surveillance area 4 comprises local computer system 12 coupled to network interface 14 and to video camera 10 having a motion sensor. *Id.* at 3:24–27.

Local computer system 12 is coupled to camera adapter 116 (Fig. 2) 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.* at 3:27–32. Local computer system 12 is also coupled to network interface 14 to use communication network 6 to establish connection 22 and communicate with one or more end user locations 8. *Id.* at 3:32–36. Local computer system 12 includes fixed storage means 109, modem 110, operating system software 111, network adapter 112, audio/video coder/decoder 114, application programming interface module 131, and application software 136. *Id.* at 3:37–4:4.

End user locations 8 comprise remote computer systems 16, network interface 18, and one or more optional communicative devices 20 such as a telephone or wireless device. *Id.* at 4:5–14. Remote computer systems 16 may comprise the same software and hardware computer components as local computer system 12. *Id.* at 4:15–17.

2. *Overview of Menard*¹⁴ (Ex. 1004)

Menard teaches a wireless communication and control system for a variety of applications, including building maintenance and control, premises security, and personal safety. Ex. 1004, 1:7–10. In one embodiment, the system comprises a security sensor and a wireless transceiver communicating using a network protocol. *Id.* at 4:11–13. The sensor may include a motion sensor, a passive infrared motion detector, pressure sensor, position sensor, proximity sensor, glass breakage sensor, or a video camera. *Id.* at 4:16–18.

Figure 1 of Menard is reproduced below:

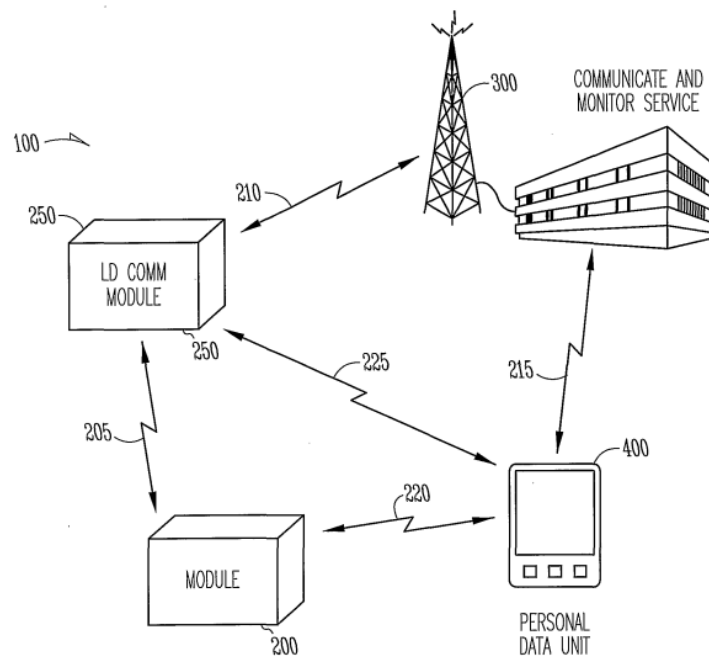


Fig. 1

¹⁴ Citation to the pages of Menard are made with reference to the actual page numbers of the patent publication, not to the six-digit BATES numbering added by Petitioner to Exhibit 1004.

Figure 1 shows a system 100 that includes “module 200, long distance communication (‘LD comm’) module 250, communication and monitor service facility (‘facility’) 300, and personal data unit (‘PDU’) 400.”¹⁵ *Id.* at 12:20–23. Module 200, in response to a sensed or detected condition, generates and wirelessly transmits digital data to LD comm module 250. *Id.* at 12:29–13:4. Module 200 is in wireless communication with PDU 400 via link 220. *Id.* at 12:27–28.

LD comm module 250 transmits the received signal to facility 300. *Id.* at 13:8–9. LD comm module 250 is also in communication with PDU 400 via link 225. *Id.* at 13:12–13. After receiving the digital data transmitted by module 200, PDU 400 displays or renders the information in a manner useful to a person carrying PDU 400, and provides an audible signal to the user. *Id.* at 13:17–19.

Figure 7 of Menard is reproduced below:

¹⁵ PDU 400 can be a two-way pager (“400A”), a cellular phone (“400B”), or a personal digital assistant (“PDA 400C”). Ex. 1004, 19:9–15.

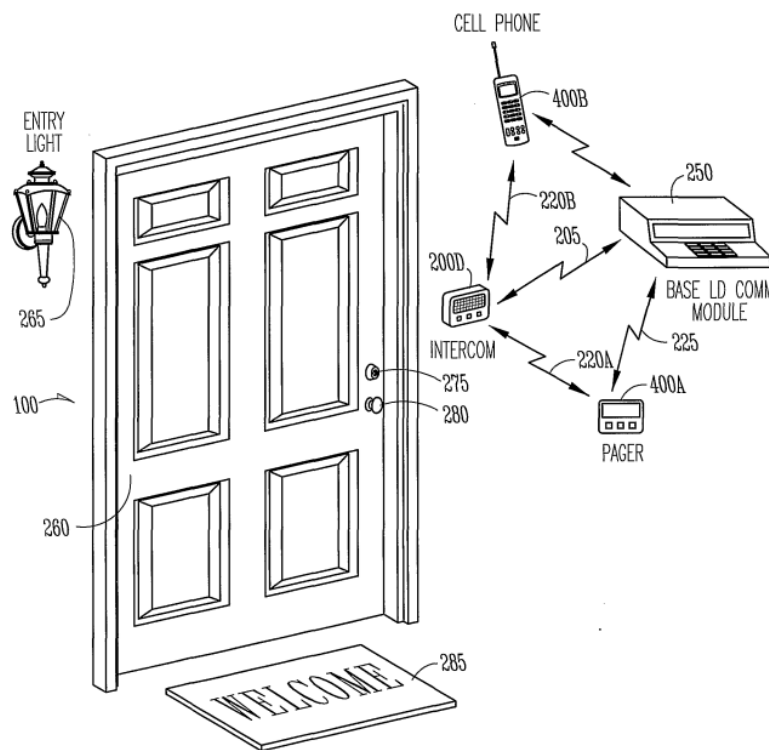


Fig. 7

Figure 7 illustrates an entry door with Menard's system. *Id.* at 10:31–32. Module 200D is mounted on the exterior of the residence and is proximate to entry door 260. *Id.* at 19:32–20:1. Module 200D is in wireless communication with PDU 400B (cellular telephone), PDU 400A (two-way pager), and base 250A that includes LD comm module as well as user operable controls and display to enable programming and operation of system 100. *Id.* at 20:3–8. Menard describes the following:

In operation, a caller at entry door 260 can initiate communication with a user via a PDU. For example, in one embodiment, a caller arriving at locked door 260 can operate module 200D in much the same way as a doorbell, that is, by activating a prominent and conspicuous button. Module 200D then encodes and communicates a digital message for transmission to PDU 400. The digital message may be

communicated directly from module 200 to PDU 400B, for example, either directly (via link 220B), or indirectly, via LD comm module 250A. In one embodiment, the communication to, and from, module 200D involves a BLUETOOTH® channel. In this example, the user receives notification of the presence of the caller by means of PDU 400B. The user, and PDU 400B, may be located inside the residence, in which case a direct connection using link 220B may be possible. Alternatively, the user, and PDU 400B, may be located outside of the residence, in which case, an indirect link, including link 205 coupling the LD comm module 250A may be employed. In either case, the caller is unlikely to perceive the actual location of the user. Furthermore, by way of operating the controls or a numeric keypad on PDU 400B, the user may control the operation of entry light 265 or lock 275 and thereby grant access to the premises for the caller.

Id. at 20:13–31.

Figure 9 of Menard is reproduced below:

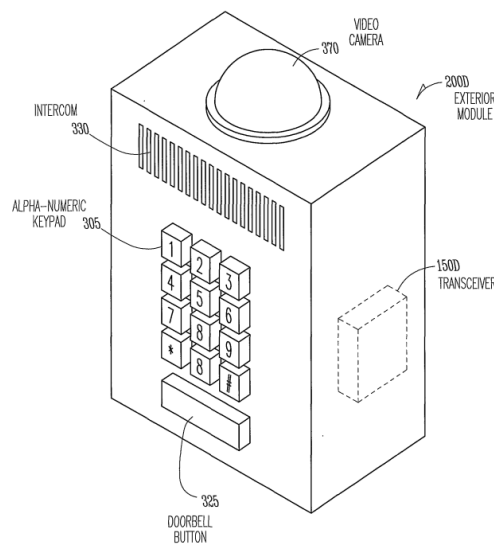


Fig. 9

Figure 9 depicts exterior module 300D having video camera 370 and transceiver 150D. *Id.* at 23:15–17. The arrival of the caller is detected by video camera 370. *Id.* at 21:13–14. In response to actuation of the button,

or detection by camera 370, exterior module 200D transmits a wireless signal. *Id.* at 21:14–15.

Figure 10 of Menard is reproduced below:

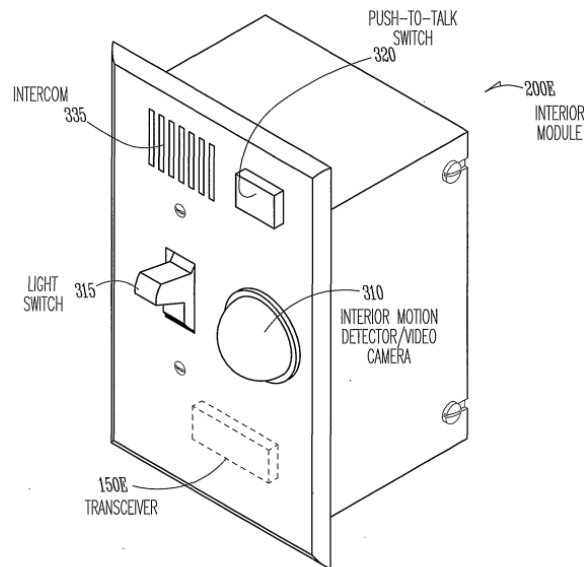


Fig. 10

Figure 10 depicts interior module 200E having intercom 335, push-to-talk (“PTT”) switch 320, interior motion detector/video camera 310, transceiver 150E and light switch 315. *Id.* at 22:29–31.

3. *Overview of Saylor (Ex. 1008)*

Saylor relates to a personal security network connected to a wireless communication system to automatically inform an owner or other authorized entities in a manner prescribed by the user when alarm situations occur. Ex. 1008, 1:6–12. 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.* at code (57).

4. *Motivation to Combine*

We now consider Petitioner's asserted motivations to combine Vaios, Menard, and Saylor and Patent Owner's arguments against the asserted motivations to combine. Pet. 11, 14, 25–26, 30–32, 34, 36, 41–42, 47, 50–53; Resp. 30–42, 52.

a) *Petitioner's Assertions on Motivation to Combine*

Regarding Vaios's and Menard's wireless capabilities, Petitioner contends that

[t]o the extent Vaios' cameras are not considered wireless devices, it was 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." [Ex. 1002] ¶¶ 117–120. Such a 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. *Id.* There was a reasonable expectation of success in utilizing such wireless communications given the widespread knowledge and adoption of wireless communication protocols in security systems and other networks. *Id.* Further, the proposed combination offered advantages that would have motivated a [person of ordinary skill in the art] to make the combination, such as easier camera installation and maintenance. [*Id.* ¶ 120].

Pet. 11 (citing Ex. 1002 ¶¶ 106–121).

Regarding associating devices with individuals, the Petition states:

[i]t was obvious to associate Vaios' peripheral devices (including remote computer system 16 or communicative devices 20) with respective individuals as taught in Saylor so that Vaios' system could similarly provide notifications and video to specific desired individuals (e.g., multiple individuals living in a home) via their associated devices. [Ex. 1002 ¶¶ 132–136].

Such a combination merely incorporates known elements (e.g., associating respective individuals with specific devices via a database/address book as taught in Saylor) into Vaios' system (e.g., local computer system 12) in a known manner to yield predictable results, and had a reasonable expectation of success. *Id.* Further, the proposed combination offered advantages that would have motivated a [person of ordinary skill in the art] to make the combination, such as providing notifications and data to specific, desired individuals per user preferences and assigning a notification priority that conserves system resources and speeds alarm response by contacting specific, designated users via associated devices in a predetermined order. [Ex. 1002 ¶¶ 135–136].

Pet. 14 (citing Ex. 1002 ¶¶ 122–137).

*b) How and Why to Combine Vaios and Menard—
Alleged Ipse Dixit*

Patent Owner argues that “Petitioner proposes modifying Vaios with Menard but does not explain how or why a [person of ordinary skill in the art] would do so other than *ipse dixit* testimony from its expert.” Resp. 30.

In Reply, Petitioner contends

the Petition and Dr. Hochwald's testimony sufficiently explain the proposed combination (e.g., incorporating wireless communications capabilities as taught in Menard into Vaios' camera to create a “wireless device”), establish a reasonable expectation of success (e.g., discussing how the combination merely incorporates known elements such as RF transmitters/receivers and other wireless components in a known manner to incorporate known wireless communication protocols as were widely used at the time), and provides a motivation to do so (e.g., to facilitate easier camera installation and maintenance).

Reply 9 (citing Pet. 11; Ex. 1002 ¶¶ 117–120).

Patent Owner is correct to the extent it argues that “[e]xpert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.” 37 C.F.R. § 42.65(a). However,

Patent Owner does not address, let alone explain, why the prior art references that Dr. Hochwald cited do not provide support for Dr. Hochwald's statements. Ex. 1003, code (57), 3:28–30, 4:30–5:14, 9:50–55, Fig. 1; Ex. 1004, 4:16–18, 12:29–13:20, 14:25–18:20, 21:20–26, Fig. 4. Accordingly, this argument fails to undercut Petitioner's proposed combination.

c) Alleged Destruction of Local Computer System by Proposed Modification

Patent Owner argues that the combination of Vaios and Menard “is based upon improper hindsight bias and destroys many key features and indeed the very operation of Vaios.” Resp. 30–32. Specifically, Patent Owner argues that Petitioner's proposed modification would require several components of the local computer system to be moved into the video camera for it to function properly. Resp. 32–33. According to Patent Owner, this includes “camera adapter 116,” “audio/video codec 114,” “network adaptor 112,” “fixed storage 109,” “network interface 14,” a processor, software, firmware, and APIs.¹⁶ *Id.* at 32–33. Patent Owner contends that extracting these components from the local computer system would destroy it. *Id.* at 32. Relatedly, Patent Owner argues that the benefit of the local computer system having the same hardware and software as the remote computer systems would be destroyed if components were extracted from the local computer system. *Id.* at 38–39.

Review of Petitioner's reasons to combine above shows that Petitioner did not propose to move components from Vaios's local computer system to the video camera. Pet. 11 (citing Ex. 1002 ¶¶ 106–121). Patent Owner

¹⁶ Acronym for “Application Programming Interface.”

identifies no persuasive evidence to support why moving components from the local computer system to the video camera would be necessary in Petitioner's proposed combination.

Patent Owner's argument does not undermine Petitioner's proposed combination.

d) Alleged Improper Graham Analysis

Patent Owner argues that

Petitioner makes two arguments: 1) it proposes removing "video camera 10" in Vaios completely and using the "module 200D" from Menard; or 2) alternatively, adding the components needed from Menard to the "video camera 10" in Vaios to meet the limitations of Claim 1 of the '614 Patent. Petitioner's expert broadly asserts that to the extent something is missing in Vaios from Ground 1 of the Petition that Menard covers it without providing a reason for doing so. EX1002 at ¶117. This is an improper *Graham* analysis as Petitioner does not identify the "differences between the prior art and the claims at issue." *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

Resp. 35; *see also id.* at 37–38. We do not agree that Petitioner failed to conduct a proper *Graham* analysis. Petitioner contended that to "the extent Vaios's cameras are not considered wireless devices, it was 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 identified what Patent Owner argues to be a difference between Vaios and the claims (wireless communications capabilities), and further contended that Menard discloses that alleged difference.

Accordingly, Patent Owner has not shown that Petitioner engaged in improper *Graham* analysis.

*e) Alleged Mixing and Matching of Menard's
Exterior Module 200D and Interior Module 200E*

Patent Owner next argues that Menard's "motion sensor" is associated with an interior module 200E, and alleges that Petitioner "has not provided any basis as to why the exterior module 200D of Menard should be mixed and matched with its separate and different interior module 200E let alone why it would be added to Vaios." Resp. 35.

Petitioner contends that Patent Owner's argument is incorrect because Menard's "exterior module" includes a "proximity detector" such as a "video camera." Reply 13 (citing Ex. 1004, 21:5–7, 6:1–15, Pet. 74; Ex. 1002 ¶ 447). Petitioner also contends that Vaios discloses a video camera 10 having a motion sensor. Reply 13 (citing Pet. 26; Ex. 1003, 3:24–30). We agree with Petitioner that Menard teaches that the proximity detector is implemented by the video camera 370 in the exterior module 200D. Ex. 1004, 6:14–15, 21:5. We also agree with Petitioner that Vaios discloses that the video camera 10 has a motion sensor. Ex. 1003, 3:26–27.

Patent Owner's arguments do not demonstrate that the Petition improperly "mixes and matches" interior and exterior module components, as Patent Owner alleges.

f) Alleged Numerosity of Communications Protocols

Patent Owner argues that Menard discloses numerous wireless protocols and that "with so many technical choices disclosed by Menard, neither Petitioner nor its expert explain how Vaios would be modified or which communication protocol Vaios would use." Resp. 35–36. Menard

discloses IEEE¹⁷ 802.15 (Bluetooth, WPAN¹⁸), cellular (CDMA¹⁹, TDMA²⁰, GSM²¹, PCS²², etc.) and other protocols. Ex. 1004, 15:24–16:12.

Dr. Hochwald explained that the choice of network (and thus the protocol used) depends upon factors such as installation convenience, cost, and the physical size of the area to be monitored. Ex. 1002 ¶ 196. With these guiding considerations, we agree with Petitioner that one of ordinary skill in the art would have been able to select a wireless network and protocol to use in Petitioner’s proposed combination. As Dr. Hochwald states, the installation convenience and cost, and the effective distances of operation of these wireless networks, were well-known to a person of ordinary skill in the art. *Id.*

g) Single Device Motivation

Patent Owner contends that Petitioner’s expert, Dr. Hochwald, stated that “a [person of ordinary skill in the art] would have recognized and been motivated by the advantages of packaging the various components/functionalities afforded by Menard’s exterior module device and/or Vaios’ cameras into a single device that communicates wirelessly with other devices of the monitoring system.” Resp. 36 (citing Ex. 1002 ¶ 120). Patent Owner 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

¹⁷ Institute of Electrical and Electronics Engineers.

¹⁸ Acronym for “Wireless Personal Area Network.”

¹⁹ Acronym for “Code-Division Multiple Access.” Ex. 1004, 16:8.

²⁰ Acronym for “Time-Division Multiple Access.” Ex. 1004, 16:9.

²¹ Acronym for “Global Systems for Mobile.” Ex. 1004, 16:9–10.

²² Acronym for “Personal Communication Systems.” Ex. 1004, 16:5.

“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. This lack of specificity dooms the challenge.

Resp. 36–37.

However,

[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference, nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.

In re Keller, 642 F.2d 413, 425 (CCPA 1981). Patent Owner’s arguments amount to requiring a bodily incorporation of Menard’s wireless module 200D into Vaios without considering “the inferences and creative steps a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418.

Menard discloses that the module 200 wirelessly transmits digital data to LD comm module 250 by wireless link 250. Ex. 1004, 12:29–13:4. To the extent that Vaios’s local computer system did not have a wireless transceiver to communicate with the modified video camera, one of ordinary skill would have realized through Menard’s teaching that it must have one for two-way wireless communication with the video camera’s wireless transceiver. Dr. Hochwald testifies that such interface changes were neither significant nor unpredictable to achieve. Ex. 1002 ¶ 117 (“A [person of ordinary skill in the art] 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.”).

Patent Owner also argues that the parent patent to the ’614 patent states as a goal having a self-contained unit, and that neither Vaios nor Menard mention this goal or problem in the art. Resp. 39.

There is no requirement that prior art references must mention the same problem or goal as the challenged patent or its priority chain to support the combination of references. *See DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1365 (Fed. Cir. 2006).

Accordingly, Patent Owner’s argument does not undermine Petitioner’s proposed combination.

h) Predictable Changes in Complexity, Cost or Methodology

Patent Owner argues that adding Menard’s components to Vaios is based on impermissible hindsight, and asserts that the local computer system 12 would not work because the audio/video codec 114, camera adapter 116, fixed storage means 109, streaming source filter socket 124, at the very least, would not be able to operate with the modified video camera 10. Resp. 39–41.

However, Dr. Hochwald stated that the “combination would have been relatively easily implemented using standard engineering techniques at the time including the optional incorporation of hardware and/or software components and standard communication protocols at the time.” Ex. 1002 ¶ 117. He further states that a person of ordinary skill in the art “would . . . 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.” *Id.*

Patent Owner argues that Petitioner’s expert provided no support for these statements. Resp. 41. Petitioner disagrees, contending that Dr. Hochwald adequately supports these statements with evidence. Reply 15 (citing Ex. 1002 ¶¶ 117–120; Ex. 1051 ¶¶ 34–37, 41–42).

As support, Dr. Hochwald states that implementing wireless transmission and reception into cameras was well known, and such cameras were commercially available. Ex. 1051 ¶¶ 34–35; Ex. 1004, 20:2–22, 21:1–22:15; Ex. 1038 (embedded Bluetooth CCD camera); Ex. 1045 (press release for AXCESS wireless security camera with streaming video). Dr. Hochwald further states that the basic architecture of the combined system would not change merely because the communication protocol between the camera and the local computer system is wireless instead of wired. Ex. 1051 ¶ 36. We agree with Dr. Hochwald and find Dr. Hochwald’s statements are not merely *ipse dixit*, but are adequately supported with underlying facts and data. *See* 37 C.F.R. § 42.65(a).

Patent Owner further argues that Petitioner’s expert never did an analysis identifying the “changes in interface, complexity, cost, or methodology” for modifying the architecture and system in Vaios, and that this dooms the challenge ground because Vaios requires the solution to be “inexpensive.” Resp. 41 (citing Ex. 1003, 1:60–63).

Dr. Hochwald’s statement, however, indicates that changing the interface from wired to wireless was “simple” and not prohibitively costly, and thus did not require the detailed analysis that Patent Owner seeks.

We agree with Dr. Hochwald that that changing the interface from wired to wireless was within the level of ordinary skill in the art and not unduly expensive.

i) Reasons for Combining Menard with Vaios are Based on Alleged Impermissible Hindsight

Patent Owner argues that Dr. Hochwald states that a person of ordinary skill in the art would have recognized the advantage of having the functionality required by claim 1 of the '614 patent “a single device that communicates wirelessly with other devices of the monitoring system.” Resp. 42 (citing Ex. 1002 ¶ 120). Patent Owner contends this is unsupported argument because neither Vaios nor Menard suggests a single exterior device. *Id.*

However, as Petitioner recognizes, the motivation to combine references may be found in market forces, design incentives, interrelated teachings of multiple patents, any need or problem known in the field at the time of the invention, and the background knowledge, creativity, and common sense of the person of ordinary skill in the art. Reply 15 (citing *ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1371 (Fed. Cir. 2018)).

Dr. Hochwald stated that “having a single wireless monitoring device that incorporates all of these functionalities reduces installations costs while increasing convenience and ease of maintenance.” Reply 15–16 (citing Pet. 11, 25–26; Ex. 1002 ¶¶ 120, 187–196). Dr. Hochwald’s statement stands to reason and is evidence why one of ordinary skill in the art would have sought to combine the functionalities of Vaios and Menard in a single wireless monitoring device to achieve the advantages that Dr. Hochwald identifies. A reason to combine prior art references may be found when the combination produces advantages. *Unwired Planet, LLC v. Google Inc.*, 841

F.3d 995, 1003–04 (Fed. Cir. 2016) (references teaching the advantages of a technique shows there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue). Here, the proposed combination provides the advantages of less expense and easier installation and maintenance of the video camera by eliminating cabling.

In addition, a reason to combine may be found in the prior art references themselves. *Dystar*, 464 F.3d at 1365. *Vaios* describes “a need for an inexpensive multi-access remote system that enables individuals to access remotely a security surveillance or other video system area and appropriately monitor and operate this area as desired.” Ex. 1003, 1:60–63. In addition, *Vaios* states “there is a need to contact the system users at specific times, such as when an alarm triggers, to provide surveillance access when needed, rather than monitoring the area full time.” *Id.* at 1:63–67. *Vaios* also describes a need to eliminate “expensive cables” and a similar “desire [for] a surveillance system that is accessible from any location, not only those that have cabling.” *Id.* at 1:57–59. *Menard* describes as its objectives, and thus the related problems that it solves, to enable portable, modular, bidirectional communication between a wide variety of devices and that satisfies the demand for security systems and automated building controls. Ex. 1004, 1:26–27. *Menard* also states that “what is needed in the art is a system enabling both safety and convenience features in an affordable, modular, arrangement that is easy to install and manage.” *Id.* at 1:29–31. Thus, *Vaios* and *Menard* are directed to improvements in security systems, which further supports the Petition’s combination resulting in employing *Menard*’s wireless modular teachings (which includes a video camera) for a security system, in *Vaios*’s similar security system, which

employs a video camera, generally teaches wireless communications, and describes a desire for eliminating cabling.

Accordingly, “there [were] apparent reason[s] to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418.

j) Reasons for Combining Vaios and Saylor

Patent Owner alleges that Petitioner has not explained how or why Saylor and Vaios would be combined. Resp. 52. Patent Owner argues that Saylor teaches “[h]ome security systems offer limited services . . . The industry itself has remained stagnant and inflexible.” *Id.* (citing Ex. 1008, 1:54–57) (second alteration in original). Patent Owner asserts

[n]othing in the Petition or expert declaration explains how or why one would combine the apparently incompatible 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).

Id.

Patent Owner’s arguments do not address Petitioner’s reasons to combine Vaios and Saylor. Pet. 14. Petitioner stated that the combination incorporates known elements (e.g., associating respective individuals with specific devices via a database/address book as taught in Saylor) into Vaios’ system (e.g., local computer system 12) in a known manner to yield predictable results, and had a reasonable expectation of success. *Id.* Petitioner further stated that the proposed combination offered advantages that would have motivated a person of ordinary skill in the art to make the combination, such as providing notifications and data to specific, desired individuals per user preferences and assigning a notification priority that conserves system resources and speeds alarm response by contacting

specific, designated users via associated devices in a predetermined order.
Ex. 1002 ¶¶ 135–136.

Patent Owner does not explain what is allegedly deficient in Petitioner’s reasons to combine Vaios and Saylor. Nor does Patent Owner explain why stagnation or inflexibility in the industry would prohibit the combination, or why Vaios and Saylor are allegedly incompatible.

In sum, Patent Owner’s arguments do not undercut Petitioner’s proposed combination.

k) Conclusion on Motivation to Combine

Petitioner has shown by a preponderance of the evidence that a person ordinary skill in the art would have combined Vaios and Menard with a reasonable expectation of success in arriving at the claims of the ’614 patent notwithstanding Patent Owner’s arguments to the contrary.

5. Independent Claim 1

We now address Petitioner’s contentions that claim 1 of the ’614 patent is unpatentable, and Patent Owner’s arguments for patentability.

a) Preamble

Claim 1 begins with this preamble: “A communications and monitoring system, comprising.” Ex. 1001, 19:44. Petitioner asserts that Vaios discloses such a system. Pet. 7–8 (citing Ex. 1003, code (57); Ex. 1002 ¶¶ 102–105). Specifically, Petitioner notes that Vaios discloses “a ‘multi-access remote system having a security surveillance area [and] a plurality of end user locations.’” *Id.* at 7 (citing Ex. 1003, code (57)) (alteration in original). Petitioner states that Vaios further explains that the security surveillance area comprises local computer system 12, camera 10 with a motion sensor, and network interface 6, and that when the motion

sensor detects an obstruction the camera starts recording and the local computer system notifies a remote individual. *Id.* at 8 (citing Ex. 1003, code (57)). Petitioner further notes that a remote individual can view video images at an end user location. *Id.*

We agree with Petitioner that Vaios discloses the preamble of claim 1. Consequently, it is unnecessary to reach the question of whether the preamble is limiting. *See, e.g., Catalina Marketing Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801 (Fed. Cir. 2002) (whether a preamble is limiting depends on various factors).

b) Wireless Device

Claim 1 of the '614 patent recites limitation (a) as follows:

(a) a wireless device associated with a door and configured to communicate audio and video data.

Ex. 1001, 19:45–46.

(1) “Wireless”

(a) Petitioner’s Contentions

Petitioner contends that Vaios teaches this limitation. Pet. 8–11. Specifically, Petitioner contends that Vaios’ 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.” *Id.* at 8 (citing Ex. 1003, 3:24–30, Fig. 1) (emphasis omitted).

Petitioner contends that Vaios’s video camera 10 is a “wireless” device because Vaios teaches that the video camera 10 communicates with local computer system 12 via a wireless connection. *Id.* (citing Ex. 1002 ¶¶ 110–111). Petitioner contends that the squiggly line graphic in Vaios’s Figure 1 denotes a connection between the video camera 10 and the local

computer system 12, which is identical to the graphic depicting connection 22 which is described to be various communication types that were commonly wireless (e.g., LAN, WAN, Internet, satellite). *Id.* at 9 (citing Ex. 1003, 3:19–23, 4:30–65). Petitioner contends that a person of ordinary skill in the art would have understood that the connections between video camera 10 and local computer system 12 included similar wireless connections as for connection 22, confirming that video camera 10 is a “wireless device” as claimed. *Id.* (citing Ex. 1002 ¶¶ 110–111).

Alternatively, Petitioner alleges that it would have been obvious for Vaios’s camera 10 to be a “wireless device” as claimed since wired and wireless communications were well-known, interchangeable alternatives prior to the ’614 patent. *Id.* (citing Ex. 1002 ¶¶ 112–120). Petitioner contends that Menard’s module 200D is in wireless communication with a plurality of devices including PDUs 400A and 400B and base 250A. *Id.* at 10–11 (citing Ex. 1004, 20:3–6). Module 200D provides audio and video data to PDUs 400. *Id.* at 11 (citing Ex. 1002 ¶ 115; Ex. 1004, 21:19–26, 22:14–23).

To the extent Vaios’s cameras are not considered wireless devices, Petitioner contends it would have been obvious to apply the wireless communications capabilities of Menard’s exterior module 200D/video camera 370 to Vaios’s video camera 10, thereby making Vaios’s video camera 10 a “wireless device.” *Id.* (citing Ex. 1002 ¶¶ 117–120). Petitioner contends that such a 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. *Id.*

(b) *Patent Owner Contentions*

Patent Owner argues that Vaios does not disclose a “wireless” device, which must be self-contained and “configured to communicate audio and video data.” Resp. 24–30. Patent Owner argues that Petitioner cannot rely on Vaios’s local computer system 12 or other components working in tandem with the external video camera 10 as the device, and asserts that Petitioner ignores Vaios’s teaching that the camera having a motion sensor is connected to the local computer system 12 via a camera adapter. *Id.* at 24 (citing Ex. 1003, 3:24–30). Patent Owner contends this leaves only Vaios’s video camera 10 as a candidate for the “device” and, according to Patent Owner, Vaios’s video camera does not transmit or receive wirelessly. *Id.*

Patent Owner contends that Petitioner’s entire argument is premised on conflation of Vaios’s “communications network 6” and “connection 22.” *Id.* Patent Owner argues that Vaios’s communications network 6 includes linking means which are not the same as the connections 22 that connect the local and remote computer systems to the network 6. *Id.* at 24–26 (citing Ex. 1003, 4:30–47, Fig. 1). Patent Owner argues that “Petitioner and its expert repeatedly cite descriptions of the linking means and attribute it to ‘connection 22,’ which is entirely incorrect.” *Id.* at 26 (citing Ex. 1002 ¶¶ 110–111). Patent Owner argues that Petitioner states that Vaios’s connection 22 includes a variety of communication types that were commonly wireless (e.g., LAN, WAN, Internet, satellite) but that connection 22 is not a physical linking means like “communications network 6” but is instead a logical connection established over a physical linking means. *Id.* at

26. Patent Owner argues that the “squiggly lines” repeatedly references by Petitioner and its expert represent connections 22, not the linking means of communications network 6. *Id.* at 26–27. Thus, Patent Owner argues that the “squiggly lines” do not offer any insight into what “linking means” exists between the video camera 10 and local computer system 12. *Id.* at 27.

Patent Owner argues that Vaios discloses that “[l]ocal computer system 12 is coupled via a camera adapter 116 (Fig. 2) 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.* at 27 (citing Ex. 1003, 3:27–32). Patent Owner argues that Vaios points to the camera adapter as the means by which the local computer system 12 and the video camera 10 exchange data, and this, according to Patent Owner, has nothing to do with the communications network 6 or the connection 22. *Id.* at 28. Patent Owner further asserts that nothing in Vaios discusses the possibility of a wireless camera adapter. *Id.* Patent Owner argues that “[o]ne of ordinary skill in the art in 1998 would understand the camera adapter to connect to a camcorder like the one depicted by video camera 10 as being connected via and RCA connector or coaxial cable.” *Id.*

Patent Owner argues that even if one interpreted the “squiggly lines” between video camera 10 and local computer system 12 as part of “connection 22,” nothing in Vaios describes “connection 22” as being “wireless” and, according to Patent Owner, it makes no sense to talk about the physical medium of transfer when describing the logical connection that “connection 22” represents. *Id.* at 29. Patent Owner argues that Petitioner’s argument that “squiggly lines” not marked as “connection 22” look like

“squiggly lines” that are marked “connection 22” that happen to be in the same paragraph that discusses “communications network 6” somehow discloses a wireless connection between video camera 10 and local computer system 12 that is entirely disjointed and wholly fails to present any rational basis for the conclusion that Vaios alone or in combination discloses or renders obvious a “wireless exterior module.” *Id.*

Patent Owner further argues that the combination of Vaios and Menard fails to disclose a “wireless device.” Resp. 29–30. Patent Owner asserts that the Petition fails to identify with particularity “which elements are met by Menard versus Vaios and relies entirely on arguments in the expert’s declaration.” *Id.* at 29. Patent Owner contends that this is improper because “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 requires the Board and Patent Owner to sift through the expert declaration for arguments that are not in the Petition itself. *Id.* at 29–30. Patent Owner further argues that Petitioner has failed to perform a proper obviousness analysis because Petitioner has not explained how or why Menard and Vaios would be combined. *Id.* at 30.

(c) *Analysis of “Wireless” Contentions*

We have already considered and rejected Patent Owner’s arguments against the combination of Vaios, Menard, and Saylor. *See supra* Sect. II.G.4.

Vaios discloses that “communications network 6 comprises physical communications linking means, necessary to establish connection 22 so that the security surveillance area can communicate and transfer information with the end user locations, and vice versa.” Ex. 1003, 4:30–34. The

“linking means can include 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.” *Id.* at 4:38–42. Although the connection between video camera 10 and local computer system 12 is not labeled “22,” the same squiggly line graphic is used to represent the connections 22, suggesting that this connection is supported by the same linking means as communications network 6, including wireless media. *Id.* at Fig. 1. We agree with Petitioner and Dr. Hochwald that a person of ordinary skill in the art would recognize that wireless connections and linking means were an option that was “obvious to try” for communications between video camera 10 and local computer system 12. Pet. 8–9; Reply 6–7; Ex. 1002 ¶ 111; Ex. 1051 ¶ 25. *See KSR*, 550 U.S. at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.”). We agree with Petitioner that “remotely controllable cameras . . . positioned at any location or scenic lookout” suggests wireless connection between the local computer system and the video camera may be the only option in some mentioned situations. Reply 7 (citing Ex. 1003, 9:57–61; Ex. 1002 ¶ 108).

We also agree with Petitioner that the camera adapter 116 does not mandate a wired connection. Reply 7–8. Patent Owner presents no persuasive evidence to support its argument that Vaio’s camera adapter 116 requires a wired connection via an RCA connector or coaxial cable.

Resp. 28. To the contrary, Dr. Hochwald states that a person of ordinary skill in the art would not have understood a camera adapter to be limited to a wired connection. Ex. 1051 ¶ 26. Dr. Hochwald further states that the ’384 provisional application, to which the ’614 patent claims priority, mentions RF (radio-frequency) and FM (frequency-modulated) communication through an adapter card. *Id.* ¶ 27 (citing Ex. 1021, 7:12–15, 16:15–19, Fig. 2). We agree with Petitioner that Patent Owner’s description of an “adapter card” that communicates wirelessly belies its argument that a “camera adapter” implies a wired connection.

Petitioner further contends that Vaios discloses that “other embodiments may contain various methods for transmitting video” (Ex. 1003, 9:36–37) and that Vaios notes the desirability of eliminating expensive cabling between the surveillance area and the remote location (1:52–59). Reply 8. One of ordinary skill in the art would draw the inference that removing expensive cabling between the video camera and remote computer using a wireless connection would also be desirable in some situations. *See KSR*, 550 U.S. at 418 (“a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ”).

Accordingly, we agree with Petitioner that one of ordinary skill in the art considering Vaios would have been aware that it was an option to use a wireless connection between the video camera and local computer system.

In any case, as Petitioner contends, Menard’s module 200D is in wireless communication with a plurality of devices including PDUs 400A and 400B and base 250A. Pet. 9–11 (citing Ex. 1004, 20:3–6). Module 200D has a video camera 370 and intercom 330, and provides audio and

video data to PDUs 400. *Id.* at 11 (citing Ex. 1002 ¶ 115; Ex. 1004, 21:19–26, 22:14–23, Figs. 4, 7). Thus, we agree with Petitioner that Menard discloses wireless communication between a video camera and local computer system when combined with Vaios, rendering the limitation obvious where Vaios at least suggests a wireless video camera as summarized above and for the reasons advanced by Petitioner as also summarized above. Pet. 9–11. In other words, the video camera of the combination of Vaios, Menard, and Saylor is a “wireless” device.

(2) *“Associated with a Door”*

Claim 1 recites “as wireless device associated with a door.” Ex. 1001, 19:45. Petitioner contend this limitation is disclosed in the combination of Vaios, Menard, and Saylor. Pet. 8–11. Patent Owner disagrees. Resp. 42–47. We address the parties’ contentions and provide our analysis below.

(a) *Petitioner’s Contentions*

Petitioner contends that the video camera 10 is “associated with a door” because Vaios discloses “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 (Ex. 1003, 7:62–8:4). *Id.* (citing Ex. 1002 ¶ 107). Petitioner thus contends that “Vaios teaches a device associated with a door that is configured to communicate video data and includes a camera for providing the video data.” *Id.*

Petitioner also contends that Menard discloses a wireless device associated with a door, which includes video camera 370. *Id.* at 10 (citing Ex. 1002 ¶¶ 113–116). Petitioner further notes that Menard discloses an exterior module 200D mounted on the exterior of a residence and proximate to entry door 260. *Id.* (citing Ex. 1004, 19:30–20:2, Figs. 7, 8).

Petitioner contends that Patent Owner improperly imports limitations into the claim and argues that nothing in the claim requires the camera to be located exterior to the door. Reply 16–17. Petitioner also contends that Vaios describes how its system can monitor both entrances and exterior locations. *Id.* at 17 (citing Ex. 1003, 9:49–64). Petitioner contends that Vaios’s cameras can be positioned “at any location at the premises for which video monitoring was desired.” *Id.* (citing Pet. 8; Ex. 1002 ¶¶ 107–109). Petitioner further contends that Vaios’s “door view” and “window view” are not separate embodiments, but the same embodiment of Vaios’s single overall system architecture shown in Figure 1.

(b) Patent Owner’s Contentions

Patent Owner argues that Vaios does not disclose a wireless device “associated with a door.” Resp. 42–47. Patent Owner contends that the ’614 patent discloses that the “DVMS module is located on the exterior of the home or office proximate the door 14.” *Id.* at 43. Patent Owner argues that there is no discussion in Vaios of whether the local computer system would work as intended if placed at the entrance or exterior of a structure along with the camera. *Id.* at 45. Patent Owner argues that Vaios’s local computer system has a workstation depicted with a standard monitor and keyboard and having a browser. *Id.* (citing Ex. 1003, 3:24–25, Figs. 1–3). Patent Owner argues that it would not make sense for the user to view video on a browser located at the entrance or the exterior. *Id.* According to Patent Owner, Petitioner relies on Vaios’s “door view” selected by icon 204 to disclose the claimed feature. Patent Owner argues that Vaios’s video camera must be located inside the structure since Vaios’s Figure 3 shows a “window view” from the inside, not the exterior, of a house. *Id.* at 46–47.

Patent Owner further argues that Vaios’s “window view” and “door view” are two separate embodiments that cannot be combined in an anticipation challenge. *Id.* at 47 (citing *NetMoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008)).

(c) Analysis of “Associated with the Door” Contentions

We agree with Petitioner that Vaios’s “door view” selected by icon 204 in Figure 3, the explicit mention of “house entrance” and description of both interior and exterior locations for monitoring (“scenic lookout” being an exterior example), and Vaios’s statement that “remotely controllable cameras can be positioned at any location or scenic lookout” discloses that Vaios video camera would be positioned to view a door, whether from the interior or exterior, and therefore would be “associated with the door” as claimed. Ex. 1003, 9:49–64. We further find that Vaios’s “door view” and “window view” are not separate embodiments, but just different camera views generated by the same security surveillance system obtained by selecting either icon 202 or icon 204 in the graphical user interface of Figure 3. Ex. 1003, 7:39–8:4, Fig. 3.

(3) Conclusion for “Wireless Device”

We agree with Petitioner that Vaios, alone or with Menard, teaches the “wireless device” recited in limitation (a) of claim 1 notwithstanding Patent Owner’s arguments to the contrary. Pet. 8–11 (citing Ex. 1002 ¶¶ 106–121).

c) Peripheral Devices

Claim 1 of the ’614 patent recites limitation (b) as follows:

(b) a plurality of peripheral devices, each peripheral device associated with a respective user.

Ex. 1001, 19:47–48.

(1) Petitioner’s Contentions

Petitioner contends that Vaios discloses a plurality of peripheral devices (“remote computer system” and/or “communicative devices” of “end user locations 8”) each associated with a respective user (“remote individual”). Pet. 12 (citing Ex. 1002 ¶¶ 123–128; Ex. 1003, code (57), 2:26–33, 4:5–20, 8:55–9:9). Petitioner notes that Vaios discloses “end user locations 8” which include “remote computer system 16” and “communicative devices 20” such as “a telephone, beeper, fax, e-mail, or wireless device.” *Id.* (citing Ex. 1003, code (57), 4:5–20).

Specifically, Petitioner notes that Vaios discloses 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.* (citing Ex. 1003, code (57)) (emphasis omitted; alterations in original). Petitioner further notes that Vaios states that “this system . . . can additionally be secured . . . to allow access only to certain individuals” (and thus a plurality of users). *Id.* (citing Ex. 1003, 9:61–64). Petitioner also notes that Vaios’s communicative devices 20 include personal devices associated with a respective individual (such as a “beeper,” “e-mail,” or “wireless device”). *Id.* Petitioner contends that Vaios’s system includes multiple such devices to provide access to multiple individuals, or alternatively teaches that a plurality of peripheral devices are each associated with a respective user. *Id.* at 12–13 (citing Ex. 1002 ¶ 128).

Alternatively, Petitioner contends it was obvious for Vaios’s peripheral devices to each be associated with a respective user in view of Saylor. *Id.* at 13 (citing Ex. 1002 ¶¶ 129–136). Petitioner notes that Saylor

discloses a system that “automatically in form[s] an owner and other authorized entities . . . when alarm situations . . . occur.” *Id.* (citing Ex. 1008, 1:7–12) (alterations in original). Petitioner states that users in Saylor “register security devices . . . with [a] central security network.” *Id.* (citing Ex. 1008, 3:49–50) (alterations in original). Petitioner notes that Saylor’s system accesses “the user’s personal preferences . . . and/or other information . . . to execute notifications in the manner specified by the user” and the user “may identify . . . contact information, contact individuals, methods of communication, order of contact, [and] special instructions.” *Id.* (citing Ex. 1008, 3:51–58) (alterations in original).

Petitioner notes that Saylor discloses that “[b]ased on user information retrieved from . . . databases . . . , central security network 130 may contact one or more users 160 or other identified contacts 162₁–162_N as specified by the user.” *Id.* (citing Ex. 1008, 7:45–51) (second and third alterations in original). Petitioner states that Saylor’s databases include “a user database 140” that 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.* (citing Ex. 1008, 7:3–7) (emphasis omitted). Petitioner further notes that Saylor discloses peripheral devices (phone, pager, mobile device) to which alarm notifications are sent and which are each associated with a respective individual via the address book in the user database 140. *Id.* at 13–14 (citing Ex. 1002 ¶¶ 129–131).

Petitioner further contends it was obvious to associate Vaios’s peripheral devices (including remote computer system 16 or communicative devices 20) with respective individuals as taught in Saylor so that Vaios’s

system could similarly provide notifications and video to specific desired individuals (e.g., multiple individuals living in a home) via their associated devices. *Id.* at 14 (citing Ex. 1002 ¶¶ 132–136). Petitioner asserts that such a combination merely incorporates known elements (e.g., associating respective individuals with specific devices via a database/address book as taught in Saylor) into Vaios’s system (e.g., local computer system 12) in a known manner to yield predictable results, and had a reasonable expectation of success. *Id.* Petitioner further asserts that the proposed combination offered advantages that would have motivated a person of ordinary skill in the art to make the combination, such as providing notifications and data to specific, desired individuals per user preferences and assigning a notification priority that conserves system resources and speeds alarm response by contacting specific, designated users via associated devices in a predetermined order. *Id.* (citing Ex. 1002 ¶¶ 135–136).

Accordingly, Petitioner states that Vaios alone or with Saylor discloses the “peripheral devices” limitation (b) of claim 1 of the ’614 patent. *Id.* (citing Ex. 1002 ¶¶ 122–137).

(2) *Patent Owner’s Contentions*

Patent Owner contends that Vaios does not disclose any peripheral devices that are associated with a respective user. Resp. 48–49. Patent Owner argues that Petitioner relies on Vaios’s remote computer system 16 and communicative devices 20 as two categories of peripheral devices, but argues that neither are disclosed to be associated with a user. *Id.* at 48. Patent Owner also argues that the logon and access is associated with the local computer system, not the remote computer system alleged to be a peripheral device. *Id.* Patent Owner contends that Vaios does not disclose

that the peripheral devices are associated with a respective user, but tries improperly to broaden the definition of user to include “an individual, organization, or other entit[ies]” under the guise of applying the plain and ordinary meaning, which would allegedly eviscerate the claim language. *Id.* at 49. Patent Owner argues that it makes no sense for a “respective user” to mean an “organization” or “other entity,” citing dependent claim 7 of the ’614 patent as an example. *Id.*

Patent Owner further argues that “Petitioner fails to identify with particularity which elements are met by Saylor versus Menard or Vaios and relies entirely on arguments in the expert’s declaration.” Resp. 51. Patent Owner asserts “[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.” Resp. 51.

(3) Analysis of “Peripheral Devices”

We do not agree with Patent Owner’s argument that Vaios’s remote computer system 16 and communicative devices 20 are not associated with respective users. Since Vaios’s end user locations 8 are associated with a user, it follows that the remote computer system 16 and optional communicative devices 20 of that end user location are also associated with the end user. Ex. 1003, 4:5–20, Fig. 1. Hence, Vaios discloses that “each peripheral device associated with a respective user” as claimed.

As for the logon and access arguments, Petitioner contends, and we agree, that Patent Owner is attempting to read limitations into the claim that “associated with a respective user” requires that a “particular device, can

allow access to certain individuals and deny it to others.” Reply 17–18. We find no such limitation present in the claim.

As to particularity, the Petition makes clear that Petitioner is relying on Saylor in the alternative to disclose association of the peripheral devices with respective individuals (Pet. 13–14), and to disclose maintaining the association (Pet. 19–20). Thus, we do not agree with Patent Owner’s argument that Petitioner’s contentions lack particularity.

Accordingly, Patent Owner’s argument does not undermine Petitioner’s showing. Petitioner has shown sufficiently that the “peripheral devices” limitation (b) of claim 1 is disclosed in Vaios alone or with Saylor.

d) Computer

Claim 1 of the ’614 patent recites limitation (c) as follows:

(c) a computer configured for communication with the wireless device and configured for communication with each of the peripheral devices.

Ex. 1001, 19:49–51.

Petitioner contends that Vaios discloses a computer (“local computer system 12”) configured for communication with the wireless device (“video camera 10”) and configured for communication with each peripheral device (“remote computer system”/“communicative devices” of “end user locations 8”). Pet. 15 (citing Ex. 1003, 3:24–36, Fig. 1; Ex. 1002 ¶ 139). Petitioner notes that Vaios discloses “[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.* at 15–16 (citing Ex. 1003, 3:27–32; Ex. 1002 ¶ 144) (second

alteration in original). Petitioner contends that such communications are wireless as taught by Vaios alone or with Menard. *Id.* at 16.

Petitioner notes that Vaios discloses “[l]ocal computer system 12 also communicates with end user locations 8 and associated devices.” *Id.* at 16 (citing Ex. 1002 ¶¶ 145–147). Petitioner further notes that “[l]ocal computer system 12 . . . includes various components for performing communications between the local computer system and the end-user locations.” *Id.* at 3:26–36, 3:44–48) (second alteration in original). Petitioner states that Vaios discloses that communications (e.g., beeper messages, telephone calls, or e-mails) “sent by the local computer system [may be] received by the remote individual.” *Id.* (citing Ex. 1003, 8:59–62) (alteration in original).

Thus, Petitioner contends that Vaios alone or with Menard discloses “computer” limitation (c) of claim 1 of the ’614 patent. *Id.* (citing Ex. 1002 ¶¶ 138–148). Patent Owner presents no arguments to the contrary. We find that Petitioner has shown sufficiently that Vaios alone or with Menard discloses this limitation.

e) Software

Claim 1 of the ’614 patent recites limitation (d) as follows:

(d) wherein the computer executes software, in accordance with which various operations are performed.

Ex. 1001, 19:49–51.

Petitioner contends that local computer system 12 “executes software.” *Id.* at 16 (citing Ex. 1002 ¶¶ 140–143). Petitioner contends, for example, that “local computer system 12 includes . . . operating system software 111 to provide basic resource allocation and computational mechanisms.” *Id.* (citing Ex. 1003, 3:51–4:4, 18:25–26) (alteration in original). “The local computer system . . . comprises 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.* at 16–17 (citing Ex. 1003, 3:65–4:4) (alteration in original).

Accordingly, Petitioner contends that Vaios discloses the “computer” limitation (d) of claim 1 of the ’614 patent. *Id.* at 17 (citing Ex. 1002 ¶¶ 140–143, 148).

Patent Owner does not dispute Petitioner’s contentions regarding this limitation.

We determine that Petitioner shows sufficiently that Vaios discloses the “computer” limitation (d) of claim 1 of the ’614 patent.

f) Maintaining Association of Each Peripheral Device with a Respective User

Claim 1 of the ’614 patent recites limitation (d)(i) as follows:

(i) the association of each of the peripheral devices with a respective user is maintained.

Ex. 1001, 19:54–55.

Petitioner contends that Vaios discloses that, using software, local computer system 12 maintains an association of each peripheral device (devices of “end user location 8”) with a respective user (“remote individual”). Pet. 17 (citing Ex. 1002 ¶¶ 149–150). Petitioner notes that Vaios discloses, upon receipt of video from camera 10, Vaios’ local computer system 12 notifies and provides the video to the remote individual via the remote computer system and/or communicative devices of the end user location. *Id.* (citing Ex. 1002 ¶¶ 151–152; Ex. 1003, 8:53–62, Fig. 4 (step 310)). Petitioner notes that Vaios discloses that the “local computer

. . . notif[ies] a remote individual at a predetermined address.” *Id.* (citing Ex. 1003, Fig. 4) (emphasis omitted; alterations in original).

Petitioner contends that this “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 18 (citing Ex. 1002 ¶¶ 152–154). Petitioner contends that this understanding is informed by subsequent step 312 of Vaios’s Figure 4, in 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 18–19 (citing Ex. 1003, code (57), 2:26–33, 4:5–20, 8:59–9:5, Fig. 4). Petitioner further notes that Vaios’s claim 17 also teaches 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 19 (citing Ex. 1003, claim 17) (alteration in original).

Accordingly, Petitioner contends that Vaios’ local computer system 12 maintains an association of a communicative device (telephone, beeper, email, wireless device, remote computer system) and/or the remote computer system with a remote individual at least through the stored “predetermined address” for the individual’s device. *Id.* at 19 (citing Ex. 1002 ¶ 155). Petitioner contends that local computer system 12 maintains this association to provide the notifications and associated video data to the remote individual at the corresponding communication device using the “predetermined address.” *Id.*

Alternatively, Petitioner contends that it would have been obvious for local computer system 12 to maintain an association of each peripheral

device with a respective user in view of Saylor. *Id.* (citing Ex. 1002 ¶¶ 156–163). Petitioner contends 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. 13–14).

Petitioner contends it would have been obvious to similarly maintain associations between Vaios’s peripheral devices (e.g., remote computer system and/or communicative devices) with respective individuals as taught in Saylor so that Vaios’s system could similarly provide notifications and video to specific desired individuals via their associated peripheral devices. *Id.* at 20 (citing Ex. 1002 ¶¶ 159–163; Pet. 13–14).

Accordingly, Petitioner contends that Vaios alone or with Saylor teaches the “association . . . maintained” limitation (d)(i) of claim 1 of the ’614 patent. *Id.* (citing Ex. 1002 ¶¶ 149–164).

Patent Owner argues that neither Vaios nor Saylor discloses this limitation. Resp. 49–52. Specifically, Patent Owner argues “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.* at 51.

We agree with Petitioner that Vaios alone or with Saylor discloses this limitation. Reply 18–19. Vaios discloses that end user locations comprise a remote computer system and optional communications devices for being contacted by the security surveillance area when an alarm triggers. Ex. 1003, 2:26–30. Vaios also discloses that local computer system 12 can notify a remote individual of an alarm at a predetermined address, and that the remote individual uses the end user location to logon to the local

computer system to obtain additional information. Ex. 1003, Fig. 4 (step 310), code (57). Hence, the predetermined address is associated with both a respective user (remote individual) and peripheral device (communicative devices). Accordingly, we do not agree with Patent Owner's argument.

Patent Owner does not argue that Saylor fails to disclose the "maintaining . . . association" limitation, but only argues against its combination with Vaios. Resp. 51–52. We addressed these arguments previously and determined that they do not undermine the combination. *See supra* Sect. II.G.4.f. We agree with Petitioner 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. Pet. 13–14 (citing Ex. 1008, 1:7–12, 3:49–58, 7:3–7, 7:45–51; Ex. 1002 ¶¶ 122–137).

Accordingly, Petitioner has shown sufficiently that Vaios alone or with Saylor discloses limitation (d)(i) of claim 1 of the '614 patent notwithstanding Patent Owner's arguments to the contrary.

g) Audio and Video Data

Claim 1 of the '614 patent recites limitation (d)(ii) as follows:

(ii) audio and video data from the wireless device is received by the computer.

Ex. 1001, 19:56–57.

Petitioner contends that Vaios alone or with Menard discloses that the device wirelessly communicates with the computer. Pet. 20 (citing Pet. 8–11). Petitioner contends that Vaios discloses that local computer system 12 executes software to enable its functionalities. *Id.* (citing Pet. 16–17). Petitioner contends these functionalities include receiving audio and video data from the wireless device (video camera 10) upon

actuation of the motion sensor. *Id.* (citing Ex. 1002 ¶¶ 166–168). Petitioner notes, for example, that Vaios discloses that “video, sound, and motion sensor data can be transmitted from the camera to the local computer system.” *Id.* (citing Ex. 1003, 2:12–17, 3:24–30, 9:2–6, Fig. 1) (emphasis omitted).

Accordingly, Petitioner contends that Vaios alone or with Menard discloses the “audio and video data” limitation (d)(ii) of claim 1 of the ’614 patent. Pet. 20 (citing Ex. 1002 ¶¶ 165–169). Patent Owner does not dispute Petitioner’s contentions regarding this limitation. We determine that Petitioner has shown sufficiently that Vaios alone or with Menard discloses the “audio and video data” limitation (d)(ii) of claim 1 of the ’614 patent.

h) Graphical User Interface

Claim 1 of the ’614 patent recites limitation (d)(iii) as follows:

(iii) a graphical user interface is provided through which audio and video data from the wireless device is accessible by each respective user using one of the peripheral devices.

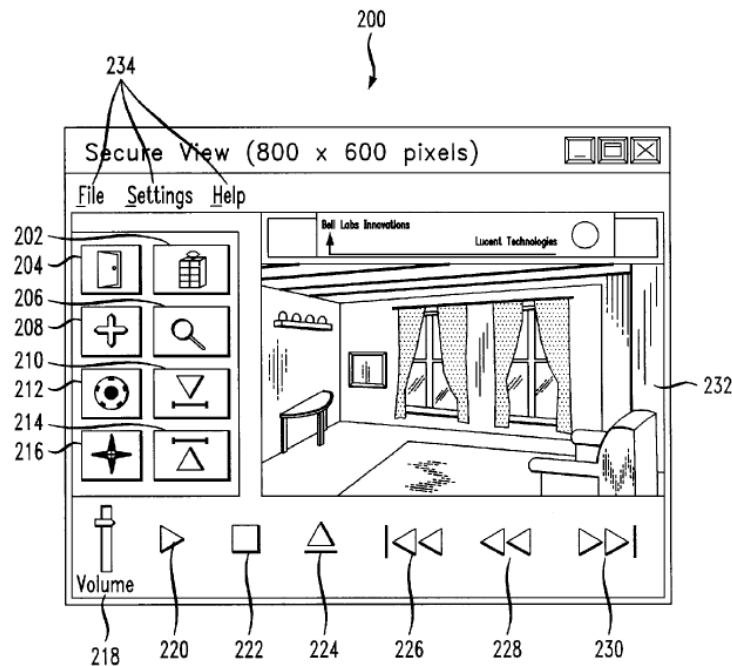
Ex. 1001, 19:58–61.

Petitioner contends that Vaios discloses this limitation. Pet. 21 (Ex. 1002 ¶¶ 170–183). Petitioner contends that, in Vaios, audio and video from video camera 10 is provided from local computer system 12 to peripheral devices (remote computer system and/or communicative devices of end user locations 8). *Id.* (citing Ex. 1002 ¶ 171; Ex. 1003, 8:63–9:5; Pet. 15–16). Petitioner notes that Vaios discloses that, “[e]mploying the browser software . . . , the remote individual can operate the camera and retrieve . . . video [and] sound.” *Id.* (citing Ex. 1003, 8:65–9:5) (second to fourth alterations in original). Petitioner contends that the remote individual accesses such audio and video using the remote computing system and/or

communicative devices of end user locations 8. *Id.* (citing Ex. 1002 ¶ 172). Petitioner contends, for example, 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.* (citing Ex. 1003, code (57)) (first to third alterations in original). Petitioner notes that Vaios’ “local computer system is electronically connected . . . to the video camera so that video [and] sound . . . can be transmitted from the camera to the local computer system” and the “local computer system . . . captures . . . video . . . and transmits it to the remote user who subsequently plays the downloaded image.” *Id.* at 21–22 (citing Ex. 1003, 2:12–15, 2:35–38, 3:24–36) (alterations in original).

Petitioner further contends that Vaios discloses that audio and video data is presented on the peripheral devices via a graphical user interface provided by software of local computer system 12. *Id.* at 22 (citing Ex. 1002 ¶¶ 175–181). Petitioner contends this user interface is presented across the Internet via “browser and application software,” which are components of “interface layer 102” of local computer system 12. *Id.* (citing Ex. 1003, 6:35–40, 7:39–43, Fig. 2). To show these features, Petitioner cites Vaios’s Figure 3, reproduced below. *Id.*

FIG. 3



Specifically, Petitioner contends that Vaios's Figure 3 shows a graphical user interface provided via "application specific Internet browser 200." *Id.* With respect to this graphical user interface, Petitioner contends that Vaios discloses that browser 200 can incorporate application specific functions such as video display, and remote operation of video camera 10. Petitioner notes that Vaios's Figure 3 shows the display screen of browser 200 which comprises a video display area 232. Petitioner further notes that the video display area 232 is a portion of the browser display screen where all video images and recordings are visibly displayed to the end user. *Id.* (citing Ex. 1003, 7:40–59). Petitioner further contends that the graphical user interface includes a "volume control icon 218," further demonstrating that audio is presented on the user interface. *Id.* at 23 (citing Ex. 1003, 8:8–10, Fig. 3; Ex. 1002 ¶ 179).

Petitioner also contends that Vaios’ claims demonstrate that the remote individual accesses audio and video data using a graphical user interface presented by the devices of the end user locations as follows—
“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.” *Id.* (citing Ex. 1003, claim 10).

Patent Owner does not contest Petitioner’s showing with respect to the “graphical user interface” limitation (d)(iii) of claim 1 of the ’614 patent.

i) Conclusion for Claim 1

For the reasons explained, Petitioner has shown by a preponderance of the evidence that each limitation of claim 1 is disclosed by Vaios, Menard, or Saylor and that one of ordinary skill in the art would have been motivated to combine Vaios, Menard, and Saylor with a reasonable expectation of success to arrive at the claimed invention. Thus, Petitioner has shown claim 1 to be unpatentable as obvious over the combination of Vaios, Menard, and Saylor notwithstanding Patent Owner’s arguments to the contrary.

6. Dependent Claims 2–4, 7–10, 12 and 13

Claims 2–4, 7–10, 12, and 13 each depend, directly or indirectly, from claim 1. Petitioner accounts for the additional limitations of these dependent claims. Pet. 23–37. Patent Owner relies on the same arguments it made for claim 1, which we determined insufficient to undermine Petitioner’s showing. Resp. 52. Consequently, Petitioner has shown by a preponderance of the evidence that the combination of Vaios, Menard, and Saylor discloses all of the additional limitations of each of claims 2–4, 7–10, and 12–13.

7. *Independent Claim 20*

Claim 20 is similar to claim 1 but recites that the wireless device comprises a camera, microphone, speaker, RF transmitter, and RF receiver; communication via the Internet, and the following limitation:

(d)(iv) audio and video data received from the wireless device is recorded, and access to the recorded audio and video data is provided through the graphical user interface.

Ex. 1001, 22:20–23.

Petitioner contends that the combination of Vaios, Menard, and Saylor discloses each limitation of claim 20, and that one of ordinary skill in the art would have combined the prior art references with reasonable expectation of success for the reasons stated with respect to claim 1. Pet. 37–39. With respect to limitation (d)(iv) of claim 20, Petitioner relies on Vaios alone or with Menard as teaching this limitation. Pet. 39 (citing Pet. 27–29; Ex. 1002 ¶¶ 267–269).

Patent Owner presents no arguments for claim 20.

Petitioner has shown by a preponderance of the evidence that the combination of Vaios, Menard, and Saylor discloses each limitation of claim 20 and that one of ordinary skill in the art would have had reason to combine the prior art references with a reasonable expectation of success.

Accordingly, Petitioner has demonstrated by a preponderance of the evidence that claims 1–4, 7–10, 12, 13, and 20 are unpatentable as obvious over the combination of Vaios, Menard, and Saylor.

H. Obviousness of Claims 6, 16, 17, 19 over Vaios, Menard, Saylor, and Naidoo-091

Petitioner contends that claims 6, 16, 17, and 19 of the '614 patent are obvious over Vaios with Naidoo-091, optionally with Menard and/or Saylor, under § 103. Pet. 40–45 (citing Ex. 1002 ¶¶ 270–310).

1. Overview of Naidoo-091 (Ex. 1005)

Naidoo-091 discloses a method for remote monitoring of a premises. Ex. 1005, code (57). Figure 1 of Naidoo-091 is reproduced below:

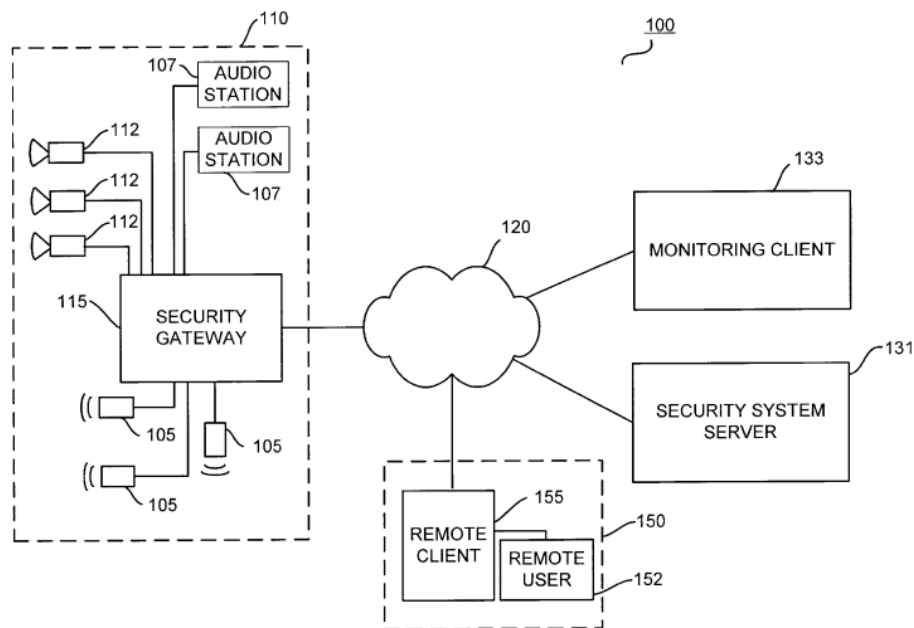


FIG. 1

Figure 1 depicts a block diagram of security system 100 that comprises security gateway 115, which is typically located at premises 110. *Id.* at 6:20–24. Security system 100 further comprises monitoring client 133 operatively coupled to security gateway 115 through network 120. *Id.* at 6:25–27. Security system 100 further comprises security system server 131 operatively coupled to security gateway 115 through network 120. *Id.* at 6:27–30.

Security gateway 115 detects and relays alarm conditions at premises 110 and captures information relating to such alarm conditions. *Id.* at 6:50–52. Upon triggering of an alarm, security gateway 115 sends cached, stored, and live information from pre-event, pre-alarm, and post-alarm segments to security system server 131 for verification and response. *Id.* at 6:52–56. Security gateway 115 is operatively coupled to security sensors 105, audio stations 107, and video cameras 112 which are located at premises 110 (indoors as well as outdoors). *Id.* at 6:59–65. Video cameras 112 and audio stations 107 capture video data and audio data, respectively, from premises 110. *Id.* at 7:32–34. Audio stations 107 may include microphones and speakers and are capable of providing two-way communication as well as emitting a signal for alerting occupants of the premises that communication is occurring. *Id.* at 7:36–40. Naidoo-091 states: “The present invention provides the advantage of using the security system as a platform for two-way audio and video communication.” *Id.* at 4:23–25. Naidoo-091 further states that the system could recognize a remote user’s facial features, signature, voice or fingerprint. *Id.* at 10:10–15.

2. *Dependent Claims 6, 16, and 17*

Claims 6, 16, and 17 depend directly from claim 1. Claim 6 addresses access privileges of each user, and claims 16 and 17 address user authentication with biometrics. Ex. 1001, 20:10–14, 20:62–64, 20:65–67. Petitioner accounts for the additional limitations of these dependent claims and provides reasons why one of ordinary skill in the art would have had reason to combine Vaios, Menard, Saylor, and Naidoo-091 with a reasonable expectation of success. Pet. 40–43. For these claims, Patent Owner relies

on the same arguments it made for claim 1. Resp. 52. We determined those arguments insufficient to undermine Petitioner's showing.

Petitioner has shown by a preponderance of the evidence that the combination of Vaios, Menard, Saylor, and Naidoo-091 discloses all of the additional limitations of each of claims 6, 16, and 17 and that a person of ordinary skill in the art would have combined the prior art references with a reasonable expectation of success in arriving at the claims.

3. *Independent Claim 19*

Claim 19 is similar to claim 1 but recites communication via the Internet, and the additional limitation (d)(iv) of "each user is authenticated based on a biometric of the user" for which Petitioner relies on Vaios and Naidoo-091. Pet. 43–45. Petitioner shows that each limitation of claim 19 is disclosed by the combination of Vaios, Menard, Saylor, and Naidoo-091 and that one of ordinary skill in the art would have had reason to combine the prior art references with reasonable expectation of success. Pet. 43–45. Patent Owner presents the same arguments as for claim 1. Resp. 52. Those arguments do not undermine Petitioner's showing with respect to claim 19. Consequently, Petitioner has demonstrated by a preponderance of the evidence that claim 19 is unpatentable as obvious over the combination of Vaios, Menard, Saylor, and Naidoo-091 notwithstanding Petitioner's arguments to the contrary.

I. Obviousness of Claim 5 over Vaios, Menard, Saylor and MacCormack

Petitioner contends that claim 5 of the '614 patent is unpatentable as obvious over Vaios and MacCormack, optionally with Menard and/or Saylor. Pet. 46–47 (citing Ex. 1002 ¶¶ 270–310).

Claim 5 recites that “the audio and video data is recorded to a storage device selected from the group of a CD-ROM R/W, a DVD R/W, a camera card, a tape drive, and a hard drive.” Ex. 1001, 20:6–10.

Petitioner notes that Vaios discloses that recorded video and sound data are “transmit[ted] . . . to the local computer system for storage.” Pet. 46 (citing Ex. 1003, 3:26–30, 8:51–52, claim 31; Ex. 1002 ¶¶ 313–314; Pet. 27–26) (alterations in original). Petitioner also notes that Vaios’s local storage system includes “fixed storage means 109.” *Id.* (citing Ex. 1003, 3:37–39, 5:42–45).

Petitioner notes that MacCormack discloses storage of audio and video data on a hard drive, DVD, or linear digital tape drive, and that the video data corresponds to streams from cameras. *Id.* at 46–47 (citing Ex. 1012, 19:11–13, 19:27–28, 41:48–52, 95:61–96:32). Petitioner further notes that MacCormack discloses playback of video image streams that have been stored on a hard drive or drives. *Id.* (citing Ex. 1012, 20:9–11).

Petitioner contends that modification of Vaios’s local computer system to include a storage device such as a hard drive, tape drive, or DVD R/W in view of MacCormack would have been merely the combination of known elements (e.g., MacCormack’s particular storage devices with Vaios’ system/manner of recording video) in a known manner (or alternatively substitution of MacCormack’s storage devices for Vaios’ fixed storage means) to yield predictable results, and would have had a reasonable expectation of success. *Id.* at 47 (citing Ex. 1002 ¶ 316). Petitioner contends that a person of ordinary skill in the art would have found it a simple task to store video on a hard drive in Vaios’s system given the ubiquitous use of such devices for such purposes at the time. *Id.* Petitioner

further contends the combination offered motivating advantages, such as utilizing well-known, widely available, and cost-effective devices for data storage. *Id.* (citing Ex. 1002 ¶ 317).

Accordingly, Petitioner contends that claim 5 is obvious over Vaios with MacCormack (and optionally Menard and Saylor). *Id.* (citing Ex. 1002 ¶¶ 312–318).

Patent Owner presents no separate argument for claim 5 but instead relies on the arguments it presented for claim 1. Resp. 52. For reasons explained, Patent Owner's arguments for claim 1 do not undermine Petitioner's showing.

Petitioner has demonstrated that the combination of Vaios, Menard, Saylor, and MacCormack discloses each limitation of claim 5 and that a person of ordinary skill in the art would have combined the prior art references with reasonable expectation of success. Consequently, we determine that Petitioner has shown by a preponderance of the evidence that claim 5 is unpatentable as obvious over the combination.

J. Obviousness of Claim 11 over Vaios, Menard, Saylor and Krzyzanowski

Petitioner contends that claim 11 is obvious over Vaios and Krzyzanowski, optionally with Menard and/or Saylor. Pet. 47–51 (citing Ex. 1002 ¶¶ 319–329).

Claim 11 recites that

the computer is configured for communication, via a local area network, both with the wireless device and with one or more of the plurality of peripheral devices such that audio and video data from the wireless device is accessible via the local area network by a respective user using one of the peripheral devices.

Ex. 1001, 20:38–44.

Petitioner contends that Vaios alone or with Menard teaches a local computer system 12 communicates audio/video data from wireless devices (e.g., camera 10) to devices of end user locations 8 using communications network 6 which includes a local area network (LAN). Pet. 48 (citing Ex. 1003, 3:18–23, 4:30–39, 4:57–61, Fig. 1; Pet. 8–11, 15, 16). Petitioner contends that Vaios’s local computer system 12 communicates with the wireless device and peripheral devices via a LAN such that audio/video data is accessible using the peripheral devices. *Id.* (citing Ex. 1002 ¶¶ 321–322; Pet. 8–11).

Petitioner contends, alternatively, it was obvious to use a LAN in this manner in view of Krzyzanowski. *Id.* (citing Ex. 1002 ¶¶ 323–328). Petitioner notes that Krzyzanowski discloses a system for distributing information, including audio and video, to devices including telephones, intercoms, monitoring systems, etc. *Id.* (citing Ex. 1016, 3:37–54). Petitioner notes that Krzyzanowski’s Figure 1 shows that system 100 includes a communications network 180 that interconnects computer client 106, camera 108, controller client 110, and control server 114. *Id.* at 48–49 (citing Ex. 1016, 4:36–43). Petitioner notes that Krzyzanowski discloses that camera 108 is a video camera that can be part of a home security or monitoring system. *Id.* (citing Ex. 1016, 5:20–23). Petitioner further notes that Krzyzanowski discloses that controller client 110 enables a user to interact and send control message to control server 114 and can be a portable device such as a personal notebook or notepad computer, PDA, enhanced telephone, or other device linked to communications network 180. *Id.* (citing Ex. 1016, 5:27–36). Petitioner notes that Krzyzanowski discloses that a user can view video from a security camera on the portable display

device. *Id.* at 50 (citing Ex. 1016, 4:3–7). Accordingly, Petitioner contends that Krzyzanowski discloses a computer (“control server 114”) configured for communication both with a wireless device (“camera 108”) and peripheral devices (“controller client 110”) such that audio and video data from the wireless device is accessible by a user using a peripheral device. *Id.* (citing Ex. 1002 ¶¶ 325–326). Petitioner further notes that Krzyzanowski discloses such communications are provided across communications network 180 described as a local area network (LAN). *Id.* (citing Ex. 4:46–49, 6:28–29).

Petitioner contends it was obvious to similarly facilitate communications between Vaios’s local computer system 12 and cameras 10 and end user locations 8 using a local area network as taught by Krzyzanowski. *Id.* (citing Ex. 1002 ¶¶ 327–328). Petitioner contends this is merely the substitution of one known network option (e.g., LAN) for another network (or alternatively a combination of the LAN networking option of Krzyzanowski with Vaios’s system) in a known manner to yield predictable results, which had a reasonable expectation of success. Petitioner contends LANs were well-known, widely available, and easily implemented communication networks capable of providing predictable, reliable communications with little added expense or engineering concerns. *Id.* Petitioner further contends that the proposed combination offered motivating advantages, such as enabling a cost-effective and easily installed networking option that was commonly utilized in individual building settings at the time. *Id.* at 50–51 (citing Ex. 1002 ¶ 328).

Accordingly, Petitioner contends that Vaios alone or with Krzyzanowski (and optionally Menard and Saylor) render obvious claim 11. *Id.* at 51 (citing Ex. 1002 ¶¶ 320–329).

Patent Owner does not offer separate arguments for claim 11 but instead relies on its arguments for claim 1, which we determined do not undermine Petitioner’s showing. Resp. 52.

Reviewing the evidence, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 11 would have been unpatentable as obvious over the combination of Vaios, Menard, Saylor, and Krzyzanowski.

K. Obviousness of Claim 18 over Vaios, Menard, Saylor, and Nykerk

Claim 18 recites that “the computer comprises a voice-generation apparatus.” Ex. 1001, 21:1–3.

Petitioner contends that claim 18 is obvious over Vaios with Nykerk, optionally with Menard and/or Saylor, under § 103. Pet. 51–53 (citing Ex. 1002 ¶¶ 330–336).

Petitioner contends that Nykerk discloses a “voice-generation apparatus” (e.g., “voice and alarm generation means 132”/“voice generation circuits 150”). Pet. 51 (citing Ex. 1002 ¶¶ 332–333). Petitioner further contends that, in the context of an alarm system for detecting unauthorized entry, Nykerk teaches a “control module 120” coupled to a “voice and alarm generation means 132” including “voice generation circuits 150.” *Id.* (citing Ex. 1013, code (57), 16:59–17:18, Fig. 6). Petitioner contends that Nykerk’s voice generation circuits convert digital signals to analog voice signals that can be amplified and played back through speakers. *Id.* (citing Ex. 1013, 5:62–66, 12:29–39).

Petitioner contends that it was obvious in view of Nykerk to use such voice generation circuits in Vaios's computer system 12 to provide a synthesized voice through Vaios's speakers. *Id.* at 52 (citing Ex. 1002 ¶¶ 334–335). Petitioner contends this was merely a combination of known elements (i.e., Nykerk's voice generation components with Vaios' system) in a known manner to yield predictable results, having a reasonable expectation of success. *Id.* Petitioner further contends that this would have been easily and successfully implemented using Vaios's existing system infrastructure (including its network components, local computer system, and cameras by simply incorporating the same/similar voice generation circuits and speakers as in Nykerk). *Id.* at 52–53. Petitioner further contends that the proposed combination offered motivating advantages, such as enabling users to communicate with visitors via system-generated voice signals and predetermined vocal messages played through speakers at the premises. *Id.* at 53 (citing Ex. 1002 ¶ 335).

Accordingly, Petitioner contends that Vaios and Nykerk, and optionally Menard and/or Saylor, renders claim 5 obvious. *Id.* (citing Ex. 1002 ¶¶ 331–336).

Patent Owner does not provide any separate arguments for claim 5 of the '614 patent but instead relies upon its arguments for claim 1. Resp. 52. For reasons explained above, we determine that those arguments do not undermine Petitioner's showing for claim 1.

We determine that Petitioner has shown that the limitation of claim 11 is disclosed by Nykerk, and that one of ordinary skill in the art would have combined Vaios, Menard, Saylor, and Nykerk with a reasonable expectation of success. Accordingly, Petitioner has demonstrated by a preponderance of

the evidence that claim 11 is obvious over the combination of Vaios, Menard, Saylor, and Nykerk.

L. Anticipation of Claims 1, 4–7, and 9 by Naidoo-068

Petitioner contends that claims 1, 4–7, and 9 of the '614 patent are anticipated by Naidoo under 35 U.S.C. § 102(e). Pet. 53.

We do not reach this ground in our decision.

M. Obviousness of Claims 1, 4–7, and 9 over Naidoo-068, Vaios, and Saylor

Petitioner contends that claims 1, 4–7, and 9 are anticipated by Naidoo-068 under § 102, or obvious over Naidoo-068 with Vaios and/or Saylor under § 103. Pet. 53–71 (citing Ex. 1002 ¶¶ 337–427).

1. Overview of Naidoo-068 (Ex. 1007)

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:

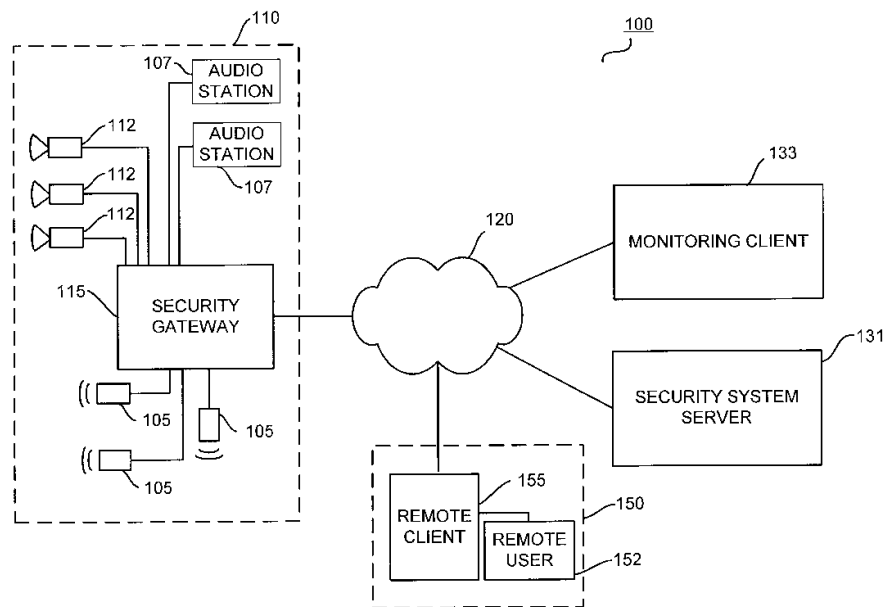


FIG. 1

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 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.

2. *Independent Claim 1*

Petitioner contends that Naidoo-068 anticipates, or renders obvious in combination with Vaios and Saylor, claim 1 of the ’614 patent. Pet. 53.

Petitioner contends that Naidoo-068 discloses a “communications and monitoring system” as recited in claim 1’s preamble. *Id.* at 53–54 (citing Ex. 1007, code (57), 20:14–17; Ex. 1002 ¶¶ 338–339).

Petitioner contends Naidoo-068 discloses the “wireless device” of limitation (a) of claim 1. *Id.* at 54–56 (citing Ex. 1007, 6:51–54, 7:54–64, 8:2–3, 8:19–22, 13:17–39, 14:22–23, 16:25–29, 16:53–17:3, Fig. 1; Ex. 1002 ¶¶ 340–350).

Petitioner contends Naidoo-068 discloses the “peripheral devices” of limitation (b) of claim 1. *Id.* at 56–57 (citing Ex. 1007, 8:60–65, 8:60–9:25, 17:18–20, 20:14–16, 20:35–37, 20:49–21:3, 21:14–18, 21:19–20, 21:44–45, 21:50; Ex. 1002 ¶¶ 351–361).

Petitioner contends that Naidoo-068 alone or with Saylor discloses the “computer” limitation (c) and “software” limitation (d) of claim 1. *Id.* at 57–

61 (citing Ex. 1007, 6:48–54, 7:22–27, 8:60–65, 16:4–11, 18:15–26, 21:14–27, 22:50–55, 23:1–12, Fig. 1; Ex. 1002 ¶¶ 362–379); Ex. 1003, 3:24–46; Pet. 15–17.

Petitioner contends that Naido-068 alone or with Saylor discloses the “association . . . maintained” limitation (i) of claim 1. *Id.* at 62–63 (citing Ex. 1007, 8:60–65, 20:61–65, 21:55–60, 20:14–22, 22:15–37; Ex. 1002 ¶¶ 380–390; Pet. 13–14, 19–20).

Petitioner contends Naido-068 discloses the “audio and video data” limitation (ii) of claim 1. *Id.* at 63–64 (citing Ex. 1002 ¶¶ 391–396; Pet. 54–56; Ex. 1007, 2:51–53, 2:56–59, 6:51–54, 13:32–39, 16:53–58, 16:25–27).

Petitioner contends Naido-068 alone or with Vaio discloses the “graphical user interface” limitation (iii) of claim 1. *Id.* at 64–66 (citing Ex. 1007, 18:30–33, 19:4–8, 20:14–22, 20:49–51, 21:43–51; Ex. 1002 ¶¶ 398–403; Pet. 21–23).

Patent Owner contends that Petitioner is combining alarm and non-alarm embodiments of the surveillance system described in Naido-068. Resp. 53–54. Patent Owner argues that distinct embodiments cannot be relied upon for anticipation. *Id.* at 54 (citing *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008)). However, Petitioner relied on obviousness as well as anticipation in its challenge. Consequently, although Patent Owner’s argument Patent Owner’s argument may be effective against anticipation, it is not against the obviousness which Petitioner asserts. Pet. 53.

Patent Owner argues that Petitioner has not shown that Naido-068 has software that provides a graphical user interface to a peripheral device. Resp. 54–55. Although Patent Owner acknowledges that Petitioner also

relies on Vaios to disclose this feature, Patent Owner contends that Petitioner's stated motivations were conclusory. *Id.* at 55–57; Pet. 66. We do not agree. Combining known elements for their established functions or simple substitution of one known device for another are recognized reasons to combine prior art references (*see KSR*, 550 U.S. at 416–417), and Petitioner's motivating advantages, including improved user experience, convenience, and control, would indeed be desirable features to add to an interface, as Petitioner's declarant testifies. Pet. 66 (citing Ex. 1003, Fig. 3; Ex. 1002 ¶¶ 175, 398–403). Contrary to Patent Owner's contentions that Petitioner's declarant's testimony is conclusory and relies on improper hindsight, Vaios's Figure 3 shows such a graphical user interface. Thus, Petitioner's declarant relied on the disclosures of the prior art references, not conclusory statements or hindsight.

Petitioner shows that each limitation of claim 1 of the '614 patent is disclosed by the combination of Naidoo-068, Vaios, and Saylor, and that a person of ordinary skill in the art would have had reason to combine the prior art references with a reasonable expectation of success. Petitioner has demonstrated by a preponderance of the evidence that claim 1 is unpatentable as obvious over the combination of Naidoo-068, Vaios, and Saylor.

3. *Dependent Claims 4–7 and 9*

Petitioner demonstrates that the combination of Naidoo-068, Vaios, and Saylor discloses each limitation of claims 4–7 and 9. Pet. 66–71. Petitioner also provides reasons why one of ordinary skill in the art would have combined the prior art references with a reasonable expectation of success in arriving at the claims. *See, e.g.*, Pet. 70. For claims 4–7 and 9,

Patent Owner relies on the same arguments presented for claim 1. Resp. 57. As we determine those arguments do not undermine Petitioner's showing, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 4–7 and 9 are unpatentable as obvious over the combination of Naidoo-068, Vaios, and Saylor.

N. Obviousness of Claims 2, 3, 8, 10, and 20 over Naidoo-068, Vaios, Saylor, and Menard

Petitioner contends claims 2, 3, 8, 10, and 20 are obvious over Naidoo-068 with Menard, optionally with Vaios and/or Saylor. Pet. 72–79 (citing Ex. 1002 ¶¶ 428–481). Petitioner shows that each limitation of the claims is disclosed by the prior art references. *Id.* Petitioner also provides reasons why one of ordinary skill in the art would have combined the references with a reasonable expectation of success in arriving at the claims. *Id.* at 73–77, 80.

Patent Owner argues that Petitioner fails to identify with particularity in the Petition which elements are met by Menard versus Naidoo-068. Resp. 57. We do not agree. Petitioner clearly explains the elements taught by Menard (microphone, speaker, RF transmitter, RF receiver) and the elements taught by Naidoo-068 (smart cameras/video cameras) and explained that the same reasons for combining Menard with Vaios applied to combining Menard with Naidoo-068. Pet. 73 (citing Ex. 1002 ¶¶ 432–440).

Patent Owner contends that Petitioner's combination is based on improper hindsight bias and destroys the key features and operation of Naidoo-068. Resp. 57–61. Similar to arguments previously discussed, Patent Owner argues that Petitioner's combination requires moving several components from Menard into Naidoo-068's video camera. *Id.* at 59–60. Patent Owner does not explain why packaging the components into a single

device is necessary or would have been difficult for a person of ordinary skill in the art, who is a person of ordinary creativity, not an automaton. *See KSR*, 550 U.S. at 421.

Patent Owner next presents similar arguments as previously discussed that combining Naidoo-068 and Menard would destroy various functionality. Resp. 59–61. However,

[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference, nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.

In re Keller, 642 F.2d 413, 425 (CCPA 1981).

Patent Owner argues that Petitioner’s declarant’s testimony is mere *ipse dixit* unsupported by evidence outside of Naidoo-068 or Menard. *See, e.g.*, Resp. 58. Patent Owner does not explain why Naidoo-068 and Menard cannot provide the support necessary for the declarant’s testimony.

Patent Owner also argues that the only thing the video camera modified according to Petitioner’s proposal would need to operate is a wireless router, but such a device is not disclosed in Naidoo-068. Resp. 60. The claims, however, do not recite a “wireless router” and Patent Owner does not explain why Petitioner would be required to show that Petitioner’s combination discloses this feature. Also, Patent Owner’s assertion amounts to mere attorney argument without supporting evidence. *See Icon Health*, 849 F.3d at 1043. Moreover, even assuming it is true that a wireless router would be needed to operate the modified video camera, Patent Owner does not assert that one of ordinary skill in the art would not have known how to

include and operate such a wireless router. To the contrary, Dr. Hochwald states that a person of ordinary skill in the art would have known how to implement such a wireless interface. Ex. 1002 ¶ 117 (modifying teachings of Vaios with Menard would not require “significant or unpredictable changes in interfaces”). Thus, the argument is unavailing.

Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that claims 2, 3, 8, 10 and 20 are unpatentable as obvious over the combination of Naido-068, Vaios, Saylor, and Menard notwithstanding Patent Owner’s arguments to the contrary.

O. Obviousness of Claims 12, 13, 16, 17, and 19 over Naido-068, Vaios, Saylor, and Naidoo-091

Petitioner contends that Naido-068 with Naidoo-091, optionally with Vaios and/or Saylor, discloses each limitation of claims 12, 13, 16, 17, and 19. Pet. 79–84 (citing Ex. 1002 ¶¶ 482–506). Petitioner also provides reasons why one of ordinary skill in the art would have combined the references with a reasonable expectation of success in arriving at the claims. *Id.* at 80–84.

Claims 12, 13, 16 and 17 depend from claim 1. Patent Owner presents no arguments for these claims and thus relies on its previous arguments for claim 1. For the reasons explained with respect to claim 1, we determine that Patent Owner’s arguments do not undermine Petitioner’s showing.

Accordingly, Petitioner has shown by a preponderance of the evidence that claims 12, 13, 16, 17, and 19 are unpatentable as obvious over the combination of Naido-068, Vaios, Saylor, and Naidoo-091.

P. Obviousness of Claim 11 over Naidoo-068, Vaio, Saylor, and Krzyzanowski

Petitioner contends that claim 11 is obvious over Naidoo-068 with Krzyzanowski, optionally with Vaio and/or Saylor. Pet. 84–85 (citing Ex. 1002 ¶¶ 507–517; Pet. 48–51, 57–61, 70, 71). Petitioner also presents reasons to combine the references with a reasonable expectation of success. *Id.*

Patent Owner presents no separate argument for claim 11, but relies on its arguments for claim 1 from which claim 11 depends. Resp. 61.

We previously determined that Patent Owner’s arguments do not undermine Petitioner’s showing with respect to claim 1. Accordingly, we determine Petitioner has shown by a preponderance of the evidence that claim 11 is unpatentable as obvious over the combination of Naidoo-068, Vaio, Saylor, and Krzyzanowski notwithstanding Patent Owner’s arguments.

Q. Obviousness of Claim 18 over Naidoo-068, Vaio, Saylor, and Nykerk

Petitioner contends that claim 18 is obvious over Naidoo-068 and Nykerk, and optionally Vaio and/or Saylor. Pet. 85 (citing Ex. 1002 ¶¶ 518–522; Pet. 52–53). Petitioner also provides reasons why a person of ordinary skill in the art would have combined the prior art references with a reasonable expectation of success. *Id.*

Patent Owner argues that Petitioner has failed to show that claim 1, from which claim 18 depends, is invalid. Resp. 61.

As we determined that Patent Owner’s arguments for claim 1 do not undermine Petitioner’s showing, Petitioner has shown by a preponderance of the evidence that claim 18 is unpatentable as obvious over the combination of Naidoo-068, Vaio, Saylor, and Nykerk.

III. CONCLUSION

We determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–13 and 16–20 of the '614 patent are unpatentable notwithstanding Patent Owner's arguments.

IV. ORDER

For the foregoing reasons, it is

ORDERED that Petitioner establishes by a preponderance of the evidence that challenged claims 1–13 and 16–20 of the '614 patent 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. § 90.2.²³

In summary:

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1, 3–4, 7, 9–10, 12– 13, 20	102(a) 102(b)	Vaios		
1–4, 7–10, 12, 13, 20	103(a)	Vaios, Menard, Saylor	1–4, 7–10, 12, 13, 20	

²³ 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).

6, 16, 17, 19	103(a)	Vaios, Menard, Saylor, Naidoo-091	6, 16, 17, 19	
5	103(a)	Vaios, Menard, Saylor, MacCormack	5	
11	103(a)	Vaios, Menard, Saylor, Krzyzanowski	11	
18	103(a)	Vaios, Menard, Saylor, Nykerk	18	
1, 4–7, 9	102(e)	Naidoo-068		
1, 4–7, 9	103(a)	Naidoo-068, Vaios, Saylor	1, 4–7, 9	
2, 3, 8, 10, 20	103(a)	Naidoo-068, Vaios, Saylor, Menard	2, 3, 8, 10, 20	
12, 13, 16, 17, 19	103(a)	Naidoo-068, Vaios, Saylor, Naidoo-091	12, 13, 16, 17, 19	
11	103(a)	Naidoo-068, Vaios, Saylor, Krzyzanowski	11	
18	103(a)	Naidoo-068, Vaios, Saylor, Nykerk	18	
Overall Outcome			1–13, 16–20	

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