Trials@uspto.gov
571-272-7822

Paper 9
Entered: May 8, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ECOBEE TECHNOLOGIES ULC,
Petitioner,

v.

OLLNOVA TECHNOLOGIES LTD.,
Patent Owner.

IPR2023-00082
Patent 7,860,495 B2

Before BRIAN J. MCNAMARA, FRANCES L. IPPOLITO, and ROBERT J. SILVERMAN, *Administrative Patent Judges*.

SILVERMAN, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner ecobee Technologies ULC ("Petitioner") filed a Petition (Paper 2, "Pet.") requesting an *inter partes* review of claims 1–6 and 10–12 ("the challenged claims") of U.S. Patent No. 7,860,495 B2 (Ex. 1001, "the '495 Patent"). Petitioner filed a Declaration of David M. Auslander (Ex. 1002) with its Petition.

Patent Owner Ollnova Technologies Ltd. ("Patent Owner") filed a Preliminary Response (Paper 6, "Prelim. Resp.").

The Petitioner and Patent Owner (collectively, "the parties") sought and received permission to submit supplemental briefing. Petitioner filed a Reply to Patent Owner's Response (Paper 7) and Patent Owner filed a Sur-Reply to Petitioner's Reply to Patent Owner's Response (Paper 8, "Sur-Reply").

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2022). Under 35 U.S.C. § 314(a), we may not authorize an *inter partes* review unless the information in the petition and the preliminary response "shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." For the reasons that follow, we do not institute an *inter partes* review.

II. BACKGROUND

A. Real Parties-in-Interest

Petitioner identifies ecobee Technologies ULC, ecobee Ltd., and Generac Holdings Inc. as the real parties-in-interest. Pet. 83.

Patent Owner identifies Ollnova Technologies Ltd. as the real party-in-interest. Paper 4, 2.

B. Related Matters

As required by 37 C.F.R. § 42.8(b)(2), the parties identify the following related matters (Pet. 2; Paper 4, 2): *Ollnova Technologies Ltd. v. Resideo Technologies*, *Inc.*, Case No. 6-22-cv-00390 (W.D. Tex.); *Ollnova Technologies Ltd. v. ecobee, Inc.*, Case No. 2-22-cv-00072 (E.D. Tex.); and *Ollnova Technologies Ltd. v. Google LLC*, Case No. 6-22-cv-00246 (W.D. Tex.).

C. The '495 Patent

The '495 Patent, which is entitled "Wireless Building Control Architecture," relates to a two-level wireless architecture for automated control of building systems (e.g., "heating, ventilation and air conditioning (HVAC) systems, security systems, [and] fire systems") that "maximizes control capabilities and optional or available communications paths." Ex. 1001, 1:9–11, 2:16–18.

Figure 1, reproduced below, illustrates the two-level control system 10. *See id.* at 4:12–13, 4:60–61.

FIG. 1

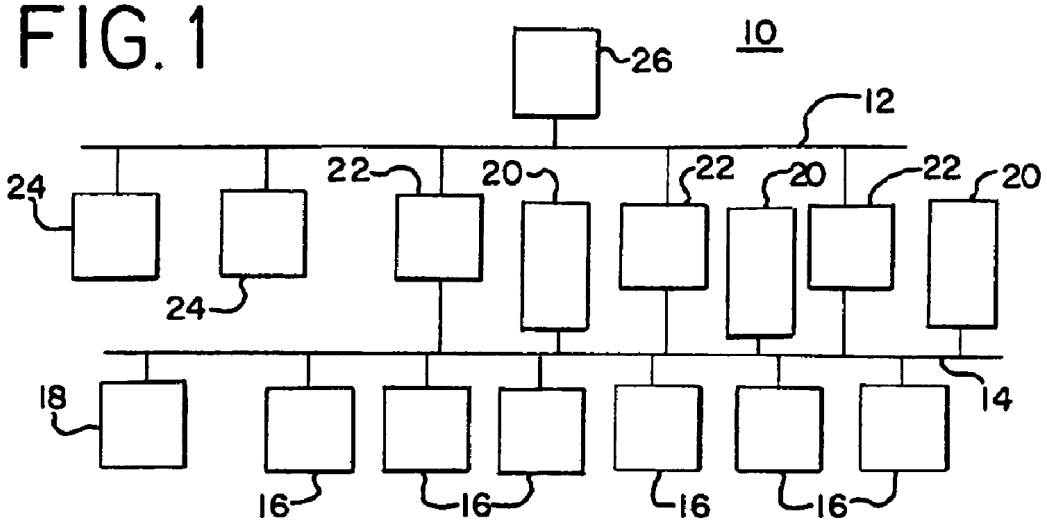


Figure 1 is a block diagram showing control system 10, which includes higher-level wireless network 12 and lower-level network 14. *See id.* at 4:61–65.[1] Higher-level network 12, which the Specification also calls a "control network," includes management processor or computer 26, controllers 22, and other devices (designated by reference numeral 24). *Id.* at 4:63–64; 10:46–48. Lower-level network 12, which the Specification calls an "operations network," includes sensor arrangements 16, actuator arrangements 20, and other devices (represented by reference numeral 18). *Id.* at 4:64–65, 5:66–6:9.

In one embodiment, the higher-level wireless network (control network) 12 and the lower-level wireless network (operations network 14) "operate[ ] pursuant to different wireless communications protocols." *Id.* at 5:8–9.

In operation, sensor arrangements 16 (e.g., for temperature sensing) are associated with actuator arrangements 20 (e.g., for controlling airflow or heating/cooling devices), in order to control a particular parameter (such as the ambient air temperature) in a room. *See id.* at 6:12–18. The disposition of sensor arrangements 16 and actuator arrangements 20 — as elements grouped or "bound" together in the lower-level operations network 14 —

[1] The claims of the '495 Patent equate a recited "first wireless network" with the lower-level wireless network discussed in the Specification, and equate a recited "second wireless network" with the higher-level network discussed in the Specification. *See, e.g.*, Ex. 1001, 2:53–63, 6:18–20, 8:11–21, 10:30–57, 19:21–35. Because the Petitioner's prior art references, discussed herein, employ the labels "first" and "second" in the opposite sense of the '495 Patent, we include, throughout this Decision, bracketed identifiers (specifying "higher-level" and "lower-level" networks), where helpful for clarity. *See* Pet. 12.

may also perform "distributed control processes," such as security, hazard, or HVAC functions:

> Information from a given sensor arrangement 16 may be used by different systems, such as a temperature sensor arrangement 16 being used for both HVAC as well as hazard or fire systems. The temperature sensor arrangement 16 is operable to output a same type of data for each of the different systems or different types of data. The same actuator arrangement 20 may be operable in response to different sensor arrangements 16 or different systems, such as a door release or damper actuator being responsive to an HVAC temperature sensor as well as a fire system smoke detector.

Id. at 9:42–51. *See also id.* at 9:34–42, 9:51–10:29.

The Specification further describes some of the ways that sensor arrangements 16 may interact with other elements, through communications using the lower-level wireless network 14. *See id.* at 6:21–7:22. Figure 2, reproduced below, illustrates an embodiment of a sensor arrangement 16. *See id.* at 4:14–15.

FIG. 2

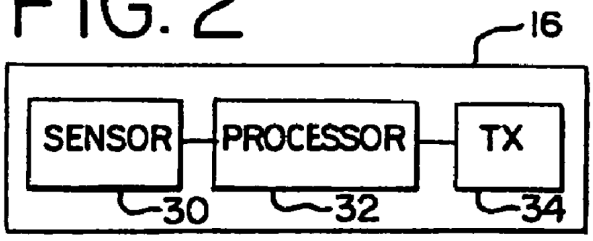


Figure 2 is a block diagram showing features of sensor arrangement 16, including sensor 30, processor 32, and transmitter 34. *See id.* at 4:14–15, 6:43–7:22. The transmitter 34, a wireless transmitter, may also be "part of a transceiver such that control information from other components may be received by the sensor arrangement 16 to alter the implemented control process or the transmission of data." *Id.* at 7:12–15.

The Specification addresses interactions between the higher-level wireless network and the lower-level wireless network — a relationship featured in independent claim 1 of the '495 Patent. *See id.* at 19:29–35.

The Specification explains that "[t]he management computer 26 [of the higher-level wireless network] coordinates activities of the various controllers 22." *Id.* at 11:50–54.

Controllers 22 (of the higher-level wireless network) assign or reassign groupings or "bindings" that associate the operations of particular elements of the lower-level wireless network (such as sensor arrangements 16 and actuator arrangements 20). *See id.* at 13:46–14:8. In addition, the controllers 22 "may output instructions or information for the actuator or sensor arrangements 20, 16 [of the lower-level network 14] to control the processes for building components." *Id.* at 12:42–44.

The Specification indicates that controllers 22 are explicitly equipped for communicating with the other elements of the higher-level wireless network, as well as with elements of the lower-level wireless network. *Id.* at 10:58–11:14. Figure 4, illustrating an embodiment of the controller 22, is reproduced below. *See id.* at 4:18–19.

FIG. 4

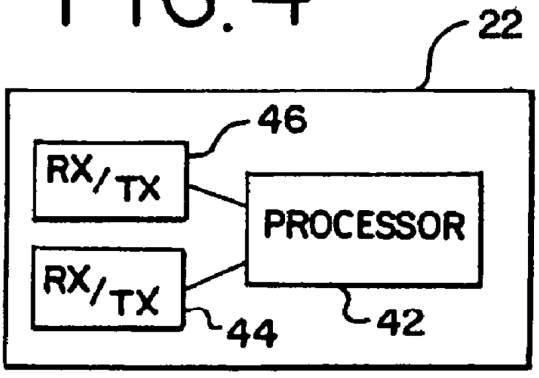


Figure 4 is a block diagram showing controller 22, which includes one or more processors 42 and two transceivers (elements 44 and 46). *Id.* at 10:58–60. Controller 22 employs two transceivers (44, 46), in order to communicate using the two distinct wireless communication protocols of the respective higher-level and lower level wireless networks. *See id.* at 10:58–11:14 ("One transceiver 44 is operable for connecting with the lower level network 14. The transceiver 44 is operable to send and/or receive information to and/or from any of the sensor arrangements 18, actuator arrangements 20, or other devices 18." "Similarly, the transceiver 46 is operable to transmit and receive information to and from other controllers 22, or other devices 24 and 26 of the high level wireless network 12.") (Alternatively, controller 22 may employ a single transceiver operable to communicate using both wireless communication protocols. *See id.* at 10:60–63.)

In view of communication between and among elements of the lower-level wireless network, as well at the capacity for controllers 22 to employ both the higher-level and the lower-level wireless networks, "[d]istributed control processing on the local level as well as between the local and regional areas may allow for more immediate response to problems and/or provide for different responses in different locations." *Id.* at 18:27–30. "Controllers or other devices of the upper level wireless network 12 instruct control of building components in different areas in different ways." Based upon a sensor detecting, for example, smoke or fire, or a security problem, the controllers may direct actuators associated with fire doors, airflow dampers, security cameras, or other building features, in order to provide a

coordinated response to the situation. *See id.* at 18:30–19:10. *See also id.* at 2:53–3:35, 4:48–59, 5:66–6:20, 8:11–61, 9:14–10:45, 12:6–16:49.

D. Illustrative Claim

Of the challenged claims, only claim 1 is independent; claims 2–6 and 10–12 depend (either directly or indirectly) from claim 1. Ex. 1001, 19:21–64, 20:17–30. Claim 1 is illustrative of the challenged claims and recites:

> 1. A control system for wireless building automation control, the control system comprising:
>
> a first wireless network in a building having first wireless communications protocol; and
>
> a second wireless network in the building having a second wireless communications protocol, the first wireless communications protocol different than the second wireless communications protocol;
>
> wherein the first wireless network is operable to control, free of communications with the second wireless network, building components in response to sensors operable within the first wireless network, and wherein the first wireless network is also operable to control the building components in response to data from the second wireless network.

Id. at 19:21–35.

E. Prior Art and Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–6 and 10–12 are unpatentable based on the following grounds (Pet. 8–9):

Ground	Claim(s) Challenged	35 U.S.C. §	Basis/Reference(s)
1	1, 4, 6, 10, 11	103[2]	Pasternak[3]
2	2, 3, 5, 12	103	Pasternak, Hermann[4]
3	1, 4, 6, 10	103	Ahmed[5]
4	2, 3, 5, 12	103	Ahmed, Hermann
5	11	103	Ahmed, Pasternak
6	12	103	Ahmed, Mesarina[6]

III. ANALYSIS

We now consider whether Petitioner has met the "reasonable likelihood" standard for institution under 35 U.S.C. § 314(a).

A. Legal Standards

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made 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).

---

[2] Because the '495 Patent issued from a patent application that was filed before March 16, 2013, patentability is governed by the version of 35 U.S.C. § 103 preceding the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284 (2011).

[3] US 2004/0122930 A1, pub. June 24, 2004 (Ex. 1003).

[4] US 2003/0151513 A1, pub. Aug. 14, 2003 (Ex. 1004).

[5] US 2004/0008651 A1, pub. Jan. 15, 2004 (Ex. 1005).

[6] US 8,984,500 B2, iss. March 17, 2015 (Ex. 1006).

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) when in evidence, so-called secondary considerations.[7] *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We also recognize that prior art references must be "considered together with the knowledge of one of ordinary skill in the pertinent art." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (citing *In re Samour*, 571 F.2d 559, 562 (CCPA 1978)).

B. Level of Ordinary Skill

For the purposes of the present Decision, we adopt the Petitioner's characterization of level of ordinary skill applicable to the construction of the '495 Patent:

> A person of ordinary skill in the art ("POSITA") for the '495 Patent would have had a bachelor's degree in engineering, computer science, or a comparable field of study, and at least three years of experience in network management systems. Additional relevant industry experience may compensate for lack of formal education or vice versa. Ex. 1002[, Auslander Declaration], ¶¶ 21–23.

Pet. 9–10. The Patent Owner does not contest this characterization. On the present record, we are satisfied that this characterization comports with the level of skill necessary to understand the claim language and teachings of the '495 Patent, per the present analysis.

[7] The present record does not include any evidence of secondary considerations of nonobviousness.

C. Claim Interpretation

In an *inter partes* review, we construe claims using the same standard applied in a district court. *See* 37 C.F.R. § 42.100(b). Under this standard, claim terms are generally given their plain and ordinary meaning, as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

"The Board is required to construe 'only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.'" *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

The Petition identities a potential dispute, regarding the proper interpretation of the phrase "free of communications with the second wireless network," which appears in independent claim 1 of the '495 Patent. *See* Pet. 9. The Petition purports to "appl[y] the ordinary and customary meaning" of this claim language and indicates that the analysis in the Petition "addresse[s] th[e] likely alternative understanding" of the Patent Owner. *Id.*

Insofar as we understand the Petitioner's characterizations of various constructions of this identified expression (*see id.* at 7–9), the potential claim construction dispute does not affect our analysis herein.

Although no express construction of any claim language is needed, for the present analysis, our understanding of the claim language of the '495 Patent is guided by the principles addressed above.

D. Obviousness Grounds Based on Pasternak

Petitioner contends that the subject matter of claims 1, 4, 6, 10, and 11 of the '495 Patent would have been obvious over Pasternak alone (Ground 1) and the subject matter of claims 2, 3, 5, and 12 would have been obvious over Pasternak and Hermann (Ground 2). *See, e.g.*, Pet. 8.

1. Pasternak Overview

Pasternak, a published U.S. patent application entitled "Lighting Control System and Method," addresses problems relating to the control of building lighting devices — something that "has generally been a manual and non-remote task" that "requires a significant amount of human intervention." Ex. 1003 (Pasternak) ¶ 3. More broadly, Pasternak "relates to remote controls and, in particular, to a method and system for remotely controlling devices and/or remotely monitoring devices and processes and/or remotely collecting data." *Id.* ¶ 2.

The following discussion addresses the Petitioner's reliance on specific disclosures of the Pasternak reference, in regard to the Petitioner's arguments concerning particular limitations of claim 1 of the '495 Patent.

2. Pasternak Does Not Teach or Suggest Every Limitation of Claim 1

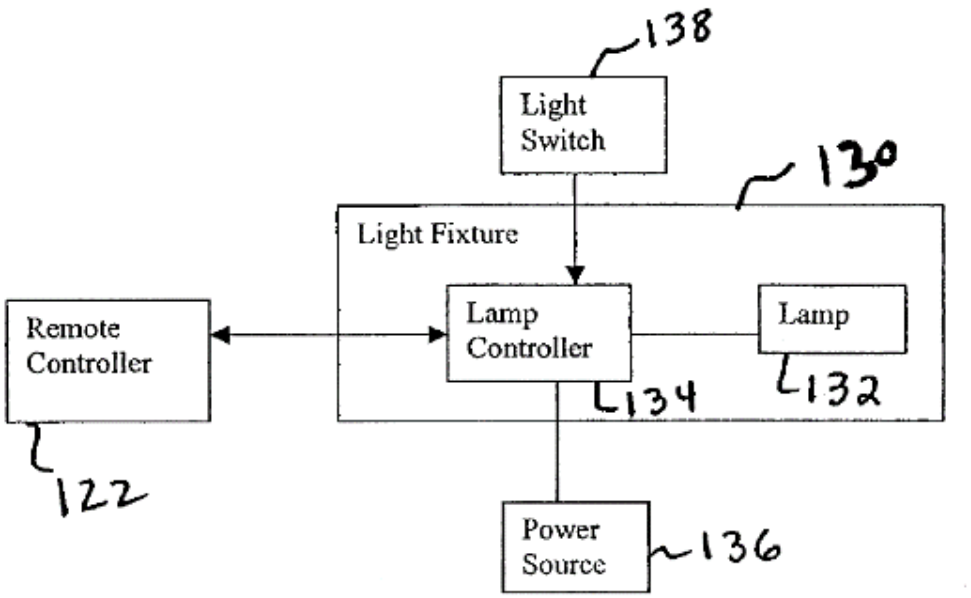
With regard to the Petitioner's mapping of claim 1 of the '495 Patent to Pasternak, we are not persuaded that the Petitioner adequately establishes that Pasternak teaches or suggests claim 1's limitation: "the first [lower-level] wireless network is operable to control, free of communications with the second [higher-level] wireless network, building components in response to sensors operable within the first [lower-level] wireless network."

As a predicate, Petitioner contends that Pasternak's disclosures in ¶¶ 16, 31, 32, 36, 38–40, and 45, and Figures 2, 3, and 6 teach or suggest claim 1's limitation of "a first [lower-level] wireless network." *See* Pet. 13–17. Specifically, the Petitioner maps claim 1's "first [lower-level] wireless network" to what Pasternak calls the "short range . . . wireless communication network[ ]" (Ex. 1003 ¶ 31) or, alternatively, the "second wireless network" (*id.* ¶¶ 32, 38, 39). The Petition notes that Pasternak's short range wireless network contains load controller 606 that controls load 608 (Pet. 14), but none of the paragraphs cited in the Petition refers to Pasternak's sensors and none of the cited Figures 2, 3, and 6 identify any sensors.

Turning to the claim limitations "the first [lower-level] wireless network is operable to control, free of communications with the second wireless network, building components in response to sensors operable within the first [lower-level] wireless network," Petitioner cites Pasternak's ¶¶ 19, and 21–29, and Figures 3 and 4. Pet. 19–21. Some of the cited paragraphs of Pasternak (specifically, Ex. 1003 ¶¶ 21–25, 28, and 29) disclose control of building (e.g., lighting) components involving the use of sensors. However, these cited portions of Pasternak do not disclose that any of the sensors employs what Pasternak elsewhere calls the "short range . . . wireless communication network[ ]" (e.g., *id.* ¶ 31) or the "second wireless network" (e.g., *id.* ¶¶ 32, 38, 39) — i.e., the elements of the Pasternak reference that the Petitioner maps (as noted, above) to claim 1's "first [lower-level] wireless network." *See* Pet. 19–21. Accordingly, the Petitioner does not adequately show that Pasternak teaches or suggests that Pasternak's sensors are "operable within the first [lower-level] wireless

network," or that Pasternak teaches or suggests "the first [lower-level] wireless network . . . operable to control . . . building components in response to sensors operable within the first [lower-level] wireless network," per claim 1 of the '495 Patent.

Petitioner's argument, concerning the limitations addressed here, focuses on what Pasternak calls an "independent mode" of operation. *See* Pet. 19–20. Pasternak (Ex. 1003 ¶ 19) describes the "independent mode," in relation to the elements of Figure 3 of Pasternak reproduced below.

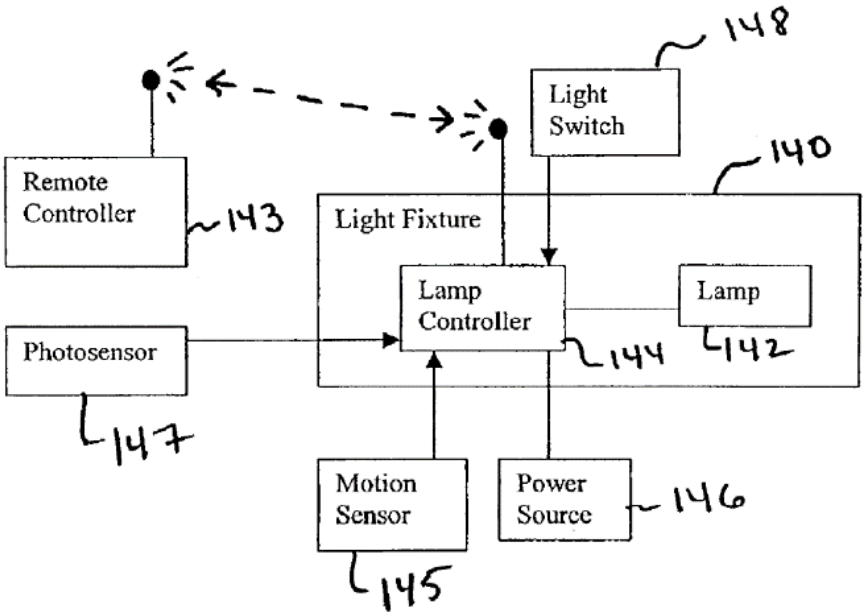


Pasternak's Figure 3 is a block diagram of an exemplary light fixture 130. *Id.* ¶ 17. According to Pasternak, lamp controller 134 controls operation of lamp 132 by selectively coupling power source 136 to lamp 134 in response to signals received from light switch 138 and/or remote controller 122. *Id.* Remote controller 122 may, in turn, be connected to a command controller (not shown in Figure 3), which communicates with remote lighting systems that include light fixtures. *See id.* ¶¶ 11–17. In Pasternak's "independent mode," "the lamp controller 134 is configured by the remote controller 122

to control operation of the lamp 132 independent of the remote controller," such that "operation of the lamp 132 is not affected by a loss of communication between the remote controller 122 and the lamp controller 134 or between the remote controller 122 and the command controller 102." *Id.* ¶ 19.

Petitioner argues that Pasternak's "Figure 3 . . . highlights the wireless components that are capable of operating free of communications with a second wireless network." *Id.* at 20. (We understand the Petitioner's identification of "a second wireless network" (*id.*) as a reference to the "second [higher-level] wireless network" of claim 1 of the '495 Patent.) Regardless of Petitioner's assertion, Pasternak's Figure 3 embodiment does not disclose any sensors — and Petitioner does not contend otherwise.

Pasternak discloses sensors, in regard to "[a]nother exemplary light fixture 140," which is shown in Figure 4, below. Ex. 1003 ¶ 21.



Pasternak's Figure 4 is a block diagram of exemplary light fixture 140, which — "[s]imilar to the light fixture 130 of FIG. 3" — "includes a lamp

controller 144 which controls the operation of a lamp 142 by selectively coupling the power source 146 to the lamp 142." *Id.* Lamp controller 144[8] "operates . . . the lamp 142 in response to signals received not only from the remote controller 143 and the light switch 148, but also from a motion sensor 145 and a photo sensor 147." *Id.*

The Petitioner points out that Pasternak's Figure 4 embodiment may operate in the "independent mode" described, above, in regard to Figure 3. Pet. 20–21 (citing Ex. 1003 ¶¶ 21–28). Petitioner further points out Pasternak's disclosure that sensors 145 and 147 "may wirelessly communicate with the lamp controller 144." *Id*. at 20 (citing Ex. 1003 ¶ 29).

Pasternak's description of its Figure 4 embodiment does not situate the disclosed sensors in any wireless "network." Rather than referring to a wireless "network," Pasternak describes the sensors' connections as follows:

> Communication between the remote controller 143, the lamp controller 144, and the sensors 145, 147 may be via wired connection, wireless connection, or a combination of wired and wireless connection. In an exemplary embodiment, the wired communication is via a building's existing power grid. In the embodiment illustrated in FIG. 4, the bi-directional signaling between the remote controller 143 and the lamp controller 144 is via a wireless communications medium as designated by the dashed bi-directional arrow. Although not shown, the photo sensor 147 and/or the motion sensor 145 may wirelessly communicate with the lamp controller 144 rather than via a wired connection. Although the photo sensor 147 and the motion sensor 1[4]5 are illustrated as communicating with the lamp controller 144, they may instead be coupled to the remote controller 143 (via wired or wireless connection) and the

[8] In certain instances, Pasternak identifies the lamp controller by reference numeral 140, rather than 144 (which is shown in Figure 4). *See* Ex. 1003 ¶ 21.

> remote controller 143 may signal the lamp controller 144 to control the lamp 142 accordingly.

Ex. 1003 ¶ 29.

Critically, the Petitioner does not adequately establish why a person of ordinary skill in the art would regard Pasternak's sensors as a part of the short range wireless network that Petitioner maps to the "first [lower-level] wireless network" of claim 1 of the '495 Patent. *See* Pet. 13–17, 19–21. As noted above, the Petitioner's mapping of Pasternak to the "first [lower-level] wireless network" (claimed in the '495 Patent) does not identify any sensors in the corresponding disclosure of Pasternak. *See id.* at 13–17.

The cited declaration appears to presume that Pasternak's sensors are part of the recited "first [lower-level] wireless network," but provides no reasoning or explanation for this position. *See* Ex. 1002 ¶ 69 ("[T]he Pasternak system originates data in the first network (short range) that is used to control the light fixture (e.g., photosensor 147).")

Petitioner does not adequately explain how the disclosed implementation of Pasternak's sensors would teach or suggest the '495 Patent's claimed disposition of "sensors operable within the first [lower-level] wireless network," whereby "the first [lower-level] wireless network is operable to control, free of communications with the second [higher-level] wireless network, building components in response to sensors operable within the first [lower-level] wireless network."

Thus, we determine that Petitioner has not established a reasonable likelihood that it would prevail in showing that the subject matter of claim 1 would have been obvious over Pasternak.

3. Determination Regarding Petitioner's Grounds Based on Pasternak

Petitioner's obviousness contentions for the other claims in Ground 1 (dependent claims 4, 6, 10, and 11) (based upon Pasternak alone) and the claims in Ground 2 (dependent claims 2, 3, 5, and 12) (based upon Pasternak and Hermann) all rely upon the foregoing deficient argument for independent claim 1. *See* Pet. 24–29, 32–34, 36–45. Thus, we determine that Petitioner has not established a reasonable likelihood that it would prevail in showing that the subject matter of claims 1, 4, 6, 10, and 11 (Ground 1) or claims 2, 3, 5, and 12 (Ground 2) would have been obvious over the cited prior art.

E. Obviousness Grounds Based on Ahmed

Petitioner contends that the subject matter of claims 1, 4, 6, and 10 would have been obvious over Ahmed alone (Ground 3), the subject matter of claims 2, 3, 5, and 12 would have been obvious over Ahmed and Hermann (Ground 4), the subject matter of claim 11 would have been obvious over Ahmed and Pasternak (Ground 5), and the subject matter of claim 12 would have been obvious over Ahmed and Pasternak (Ground 6). *See, e.g.*, Pet. 8–9.

1. Ahmed Overview

Ahmed is a published U.S. patent application, entitled "Building System with Reduced Wiring Requirements and Apparatus for Use Therein," that relates to "[b]uilding control systems" that "regulate and control various environmental and safety aspects of commercial, industrial and residential facilities." Ex. 1005 ¶ 4. Ahmed points out that "in large buildings, building control systems often consist of multiple, integrated

subsystems employing hundreds of elements" that "must be interconnected in some manner so that both local and overall control operations may be carried out." *Id.* ¶¶ 4, 7. Installing the wiring "required to accomplish such interconnection is labor intensive, and requires significant material cost." *Id.* ¶ 7. "By incorporating wireless communications," Ahmed explains, "at least some of the wiring employed for data communication may be eliminated." *Id.* ¶ 9.

The following discussion addresses the Petitioner's reliance on specific disclosures of the Ahmed reference, in regard to claim 1 of the '495 Patent.

2. Ahmed Does Not Teach or Suggest Every Limitation of Claim 1

Petitioner's mapping of independent claim 1 of the '495 Patent, to Ahmed, does not adequately establish that Ahmed teaches or suggests the two "wireless network[s]" that employ "different" "wireless communications protocols," as recited in claim 1 of the '495 Patent.

Petitioner's argument relating to this limitation emphasizes (with boldface and italics) Ahmed's use of pluralization (i.e., "protocols") in ¶ 24 of the reference. The Petition states:

> Ahmed describes a second wireless network with a "communication scheme" different than the first wireless network. Ex. 1005, ¶¶ [0011], [0024] (explaining that a communications scheme "identifies the [sic[9]] ***protocols*** . . .

[9] The Petition's quotation, from Ahmed, omits the word "specific," which precedes the word "protocols." *See* Ex. 1005 ¶ 24 ("A wireless communication scheme identifies the specific protocols and RF frequency plan employed in wireless communications between sets of wireless devices.")

> employed in wireless communications between sets of wireless devices"); Ex. 1002, ¶ 138.

Pet. 52.

In drawing attention to the *plural* form of the word (i.e., "protocols"), in Ahmed's ¶ 24, the Petition contends that Ahmed thereby indicates that the techniques described in ¶ 24 employ *at least two* "wireless communications protocol[s]," as that expression is used in claim 1 of the '495 Patent. *See* Pet. 52.

To the contrary, Ahmed's ¶ 24 uses the word "protocols" to describe particular features of what Ahmed calls a "communication scheme" (Ex. 1005 ¶ 24) — a more comprehensive expression that also appears to be the precise referent of Petitioner's mapping to the '495 Patent's "wireless communication protocol" to Ahmed. *See* Pet. 50–52. Indeed, Petitioner equates Ahmed's term "communication scheme" with the recited "wireless communications protocol," in the '495 Patent, pointing out that each expression (Ahmed's "communication scheme" and the '495 Patent's "communications protocol") may be used to describe "Bluetooth." *Id.* at50, 51. The Petition states:

> Ahmed describes a first wireless network in a building as having a "*communication scheme* employ[ing] a short-range or local RF *communication scheme* such as Bluetooth."
>
> * * *
>
> A POSITA would have found it obvious that Ahmed's short range network would use a *communications protocol* (e.g., Bluetooth) to communicate.

Id. (citations omitted; alteration in original) (emphases added).

Furthermore, a more complete quotation from Ahmed's ¶ 24 reveals that this paragraph describes a single "network" employing a single "communication scheme" that, in turn, entails multiple "protocols":

> In general, the building control system 100 employs a *first wireless communication scheme* to effect communications between the supervisory computer 102, the chiller controller subsystem 106, the fan controller subsystem 108, and the room controller subsystems 110, 112 and 114. A *wireless communication scheme* identifies the *specific protocols* and RF frequency plan employed in wireless communications between sets of wireless devices. In the embodiment described herein, the first *wireless communication scheme* is implemented as a wireless area network. To this end, a wireless area network server 104 coupled to the supervisory computer 102 employs a packet hopping wireless protocol to effect communication by and among the various subsystems of the building control system 100.

Ex. 1005 ¶ 24 (emphases added).

The flaw in the Petitioner's argument is not a mere semantic incongruity, arising from terminology employed in the '495 Patent, that differs from Ahmed's terminology. Rather, Petitioner does not adequately show that Ahmed teaches or suggests a two-tier wireless control system, with each of the two wireless network tiers employing a "different" "wireless communications protocol," as claim 1 of the '495 Patent requires.

Further, the Petition's other citations to Ahmed (i.e., other than ¶ 24), and to an the Auslander Declaration (Ex. 1002), also fail to sufficiently establish the alleged obviousness of the '495 Patent's recitation of two "different" "wireless communications protocol[s]." *See* Pet. 52–54 & n.8 (citing Ex. 1005 (Ahmed) ¶¶ 11, 23–29, 53–55, Figs. 1, 2; Ex. 1002 (Auslander Decl.) ¶¶ 138–140).

Paragraphs 11 and 23–27 of Ahmed describe only one wireless network. Ex. 1005 ¶¶ 11, 23–27. Other portions of Ahmed — which the Petition cites in support of the "different" "wireless communications protocol[s]" claim limitation — refer to communications between or among "subsystems" (*see id.* ¶¶ 28, 29, 54, 55, Figs. 1, 2) and the use of a "network interface" that "effectuates communication to one or more components of the building control system that are not a part of" a particular "subsystem" (*id.* ¶ 54). *See also id.* ¶ 53. Ahmed states that each "subsystem[ ] has multiple elements that communicate with each other using a second wireless communication scheme," and "[i]n general, it is preferable that the second communication scheme employ a short-range or local RF communication scheme such as Bluetooth." *Id.* ¶ 28. What is lacking, in the cited disclosure of Ahmed, is the use of two *different* wireless communication schemes for different networks — i.e., the "different" "wireless communications protocol[s]" recited in claim 1 of the '495 Patent.

To overcome this deficiency, the Petition relies upon the cited declaration. *See* Pet. 53–54 (citing Ex. 1002 (Auslander Decl.) ¶ 140). Dr. Auslander asserts:

> *Similar to the interface controller in the '495 Patent*, a POSITA would have understood that network interface 270 (along with control processor 272) converts signals from one wireless network to be used in the other in order to enable communication between the first and second networks.

Ex. 1002 (Auslander Decl.) ¶ 140 (emphasis added). This evidence does not persuade us that Ahmed would have suggested this limitation to a person of ordinary skill. Unlike Ahmed, the referenced interface elements of the '495 Patent (i.e., controllers 22) are equipped with two transceivers (elements 44 and 46 in Figure 4), for the precise purpose of communicating with two

different wireless networks, which — according to claim 1 of the '495 Patent — employ two "different" "communications protocols" (or, alternatively, as provided in the Specification, one transceiver that can operate with both "communications protocols"):

> The controllers 22 include one or more processors 42 and two transceivers 44, 46. Additional, different or fewer devices may be provided, such as providing a single transceiver operable to transmit and receive pursuant to one or two different communications protocols.
>
> One transceiver 44 is operable for connecting with the lower level network 14.
>
> * * *
>
> Similarly, the transceiver 46 is operable to transmit and receive information to and from other controllers 22, or other devices 24 and 26 of the high level wireless network 12.

Ex. 1001, 10:58–11:10. *See also id.* at 5:8–9 ("Each network operates pursuant to different wireless communications protocols.") Neither the Petition nor the cited declaration identifies similar structures or operations in Ahmed.

The '495 Patent Specification explicitly discloses two wireless networks employing two "different" "wireless communications protocol[s]" (as recited in claim 2) and an interface element (controller 22) having particular structures configured to use each of the two "different" "wireless communications protocol[s]," in order to communicate with each of the two networks. But this does not mean that every interface element between any two wireless networks must have such particular structures — or that every pair of wireless networks that communicate through an interface must employ two "different" "wireless communications protocol[s]."

As the portion of Dr. Auslander's testimony quoted above (from Ex. 1002 ¶ 140) begins with the interface controller of the '495 Patent, Petitioner also appears to rely upon the teachings of the '495 Patent itself to argue that Ahmed discloses or renders obvious these very teachings. To that extent, Petitioner's analysis amounts to a hindsight analysis that reads limitations of the '495 Patent into the prior art. *Cf. Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 1275 (Fed. Cir. 2004) ("This form of hindsight reasoning, using the invention as a roadmap to find its prior art components, would discount the value of combining various existing features or principles in a new way to achieve a new result — often the very definition of invention.")

Thus, the assertions in the declaration — regarding the alleged obviousness of the '495 Patent's claim 1 limitation of using "different" "wireless communications protocols" — "is conclusory and unsupported," "add[ing] little to the conclusory assertion [in the Petition] for which it is offered to support, and is entitled to little weight." *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) (precedential) (declaration is entitled to little weight when it contains an exact restatement of the petition's arguments without any additional supporting evidence or reasoning). *See also Upjohn Co. v. Mova Pharm. Corp.*, 225 F.3d 1306, 1311 (Fed. Cir. 2000) ("Lack of factual support for expert opinion to factual determinations, however, may render the testimony of little probative value in a validity determination.") (quoting *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985)).

Accordingly, we determine that Petitioner has not established a reasonable likelihood that it would prevail in showing that the subject matter of claim 1 would have been obvious over Ahmed.

3. Determination Regarding Petitioner's Grounds Based on Ahmed

Petitioner's obviousness contentions for the other claims in Ground 3 (dependent claims 4, 6, and 10) (based upon Ahmed alone), the claims in Ground 4 (dependent claims 2, 3, 5, and 12) (based upon Ahmed and Hermann), the claim in Ground 5 (dependent claim 11) (based upon Ahmed and Pasternak), and the claim in Ground 6 (dependent claim 12) (based upon Ahmed and Mesarina) all rely upon the foregoing deficient argument for independent claim 1. *See* Pet. 24–29, 32–34, 36–45. Thus, we determine that Petitioner has not established a reasonable likelihood that it would prevail in showing that the subject matter of claims 1, 4, 6, and 10 (Ground 3), claims 2, 3, 5, and 12 (Ground 4), claim 11 (Ground 5), and claim 12 (Ground 6) would have been obvious over the cited prior art.

F. Discretionary Denial of Petition

Petitioner contends that the circumstances of the Petition, in regard to concurrent district court litigation involving the '495 Patent, warrant the Board's exercise of its discretion to deny institution under 35 U.S.C. § 314(a). Prelim. Resp. 1–14. *See also* Sur-Reply 1–5. In view of our determinations herein, we do not address the matter of whether the Board's exercise of such discretion, under § 314(a), would be warranted.

IV. CONCLUSION

After considering the evidence and arguments presented in the current record, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition. Therefore, we do not institute an *inter partes* review on the asserted grounds as to any of the challenged claims.

V. ORDER

Accordingly, it is

ORDERED that the Petition is denied as to all challenged claims, and no *inter partes* review is instituted.

For PETITIONER:

Justin J. Oliver
Stephen K. Yam
VENABLE LLP
joliver@Venable.com
syam@Venable.com

FOR PATENT OWNER:

Brett Cooper
BC LAW GROUP, P.C.
bcooper@bc-lawgroup.com

Robert Auchter
AUCHTER PLLC
robert@auchterlaw.com