

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COPELAND COMFORT CONTROL LP,

Petitioner,

v.

OLLNOVA TECHNOLOGIES LTD.,

Patent Owner.

Case IPR2023-00624

Patent 8,224,282

PATENT OWNER'S SUR-REPLY

Mail Stop "PATENT BOARD"
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

TABLE OF CONTENTS

	Page
CHALLENGED CLAIMS.....	iv
I. INTRODUCTION.....	1
II. CLAIM CONSTRUCTION	3
A. A “multi-sensor package” is properly construed as “a single packaged sensor device with multiple operational sensors.”	4
B. “A second automation component in communication with the building automation system” is properly construed as an automation component that communicates with, but is not within, the building automation system.	10
III. MCFARLAND AND AHMED-629 DO <u>NOT</u> DISCLOSE A “MULTI-SENSOR PACKAGE.”	13
A. McFarland’s “sensor 209” does not disclose a “multi-sensor package” because “sensor 209” does not have multiple operational sensors.	13
B. Ahmed-629’s “MEMS sensors incorporated into a single substrate” does not disclose a “multi-sensor package” because “MEMS sensors incorporated into a single substrate” do not have multiple operational sensors.	16
IV. NEITHER MCFARLAND, STONER NOR KATES-089 DISCLOSES A “SECOND AUTOMATION COMPONENT IN COMMUNICATION <u>WITH</u> THE BUILDING AUTOMATION SYSTEM.”.....	17
V. CONCLUSION	19

TABLE OF AUTHORITIES

Cases

<i>Callaway Golf Co. v. Acushnet Co.</i> , 576 F.3d 1331 (Fed. Cir. 2009)	1
<i>Edwards Lifesciences LLC v. Cook Inc.</i> , 582 F.3d 1322 (Fed. Cir. 2009)	4
<i>Harmonic Inc. v. Avid Tech., Inc.</i> , 815 F.3d 1356 (Fed. Cir. 2016)	2
<i>Ormco Corp. v. Align Tech., Inc.</i> , 498 F.3d 1307 (Fed. Cir. 2007)	1
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) (en banc)	4
<i>Synqor, Inc. v. Artesyn Techs., Inc.</i> , 709 F.3d 1365 (Fed. Cir. 2013)	3

Statutes

35 U.S.C. § 312.....	2
35 U.S.C. § 316.....	2

PATENT OWNER'S EXHIBIT LIST

Exhibit No.	Description
2001	Fourth Amended Docket Control Order, <i>Ollnova Technologies Limited v. ecobee Technologies ULC</i> , No. 2:22-cv-00072-JRG, Dkt. No. 119 (E.D. Tex. May 22, 2023)
2002	Claim Construction Memorandum Opinion and Order, <i>Ollnova Technologies Limited v. ecobee Technologies ULC</i> , No. 2:22-cv-00072-JRG, Dkt. No. 105 (E.D. Tex. Apr. 10, 2023)
2003	Docket Sheet, <i>Ollnova Technologies Limited v. ecobee Technologies ULC</i> , No. 2:22-cv-00072-JRG, (E.D. Tex. Jul. 5, 2023)
2004	Ollnova Technologies Ltd.'s Notice Regarding Claim Reduction, <i>Ollnova Technologies Limited v. ecobee Technologies ULC</i> , No. 2:22-cv-00072-JRG, Dkt. No. 103 (E.D. Tex. Mar. 27, 2023)
2005	Expert Report of Dr. John Martens Regarding Invalidity of US Patents 8,224,282, 7,746,887, 7,860,495, and 8,264,371, dated April 24, 2023
2006	Webster's II New College Dictionary 1267-8 (2001)
2007	U.S. Patent No. 6,437,692 to Petite et al.
2008	Declaration of Erik de la Iglesia in Support of Patent Owner's Response
2009	Curriculum Vitae of Erik de la Iglesia

CHALLENGED CLAIMS

Claim	Text
[1.pre]	An automation component configured for wireless communication within a building automation system, the automation component comprising:
[1.a]	a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable;
[1.b]	a wireless communications component;
[1.c]	a processor in communication with the wireless communications component and the sensor package;
[1.d]	a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor;
[1.e]	wherein the computer readable instructions are programmed to: receive sensor control information related to sensor data in control at a second automation component in communication with the building automation system; and
[1.f]	communicate a portion of the stored sensor data corresponding to the received sensor control information to the second automation component.
[2]	The automation component of claim 1, wherein the sensor package includes one or more sensors selected from the group consisting of a temperature sensor, a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.
[3]	The automation component of claim 1, wherein the computer readable instructions are further programmed to: identify sensor values within the sensor data that exceed a corresponding change- of-value threshold.

Claim	Text
[4]	The automation component of claim 1, wherein the computer readable instructions are further programmed to: set an identification flag for each identified sensor value.
[5]	The automation component of claim 1, wherein the computer readable instructions are further programmed to: communicate all of the stored sensor data corresponding to the received sensor control information to the second automation component.
[7.pre]	An automation component configured for wireless communication within a building automation system, the automation component comprising:
[7.a]	a multi-sensor package configured to generate a plurality of sensor data for each sensor within the multi-sensor package;
[7.b]	a wireless communications component;
[7.c]	a processor in communication with the wireless communications component and the sensor package;
[7.d]	a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor;
[7.e]	wherein the computer readable instructions are programmed to: receive status data related to sensor data in control at a second automation component in communication with the building automation system;
[7.f]	determine the sensor data in control at the second automation component based on the received status data; and
[7.g]	communicate the stored sensor data corresponding the sensor data in control to the second automation component.
[8]	The automation component of claim 7, wherein the sensor package includes one or more sensors selected from the group consisting of a temperature sensor, a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic

Claim	Text
	compound sensor.
[9]	The automation component of claim 7, wherein the computer readable instructions are further programmed to: identify sensor values within the sensor data that exceed a corresponding change- of-value threshold.
[10]	The automation component of claim 7, wherein the computer readable instructions are further programmed to: set an identification flag for each identified sensor value.
[11]	The automation component of claim 7, wherein the computer readable instructions are further programmed to: communicate all of the stored sensor data corresponding to the received status information to the second automation component.
[13.pre]	An automation component configured for wireless communication within a building automation system, the automation component comprising:
[13.a]	a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable;
[13.b]	a wireless communications component;
[13.c]	a processor in communication with the wireless communications component and the sensor package;
[13.d]	a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor;
[13.e]	wherein the computer readable instructions are programmed to: receive a wake-up command from a second automation component;
[13.f]	communicate stored sensor data related to the sensor data in control at a second automation component; and
[13.g]	receive a power-down command from the second automation component.

Claim	Text
[14]	The automation component of claim 13, wherein the sensor package includes one or more sensors selected from the group consisting of a temperature sensor, a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.
[15]	The automation component of claim 13, wherein the computer readable instructions are further programmed to: identify sensor values within the sensor data that exceed a corresponding change- of-value threshold.
[16]	The automation component of claim 13, wherein the computer readable instructions are further programmed to: set an identification flag for each identified sensor value.
[20.pre]	A method for providing power saving wireless communication within a building automation system, the method comprising:
[20.a]	scanning sensor data associated with each of a plurality of sensors contained within a multi-sensor package of a first automation component;
[20.b]	identifying changed sensor values within the sensor data;
[20.c]	receiving a first communication from a second automation component in communication with the first automation component and the building automation system; and
[20.d]	communicating a portion of the identified changed sensor values associated with the first communication received from the second automation component.
[21]	The method of claim 20, wherein identifying changed sensor values includes identifying changed sensor values as a function of a change-of-value threshold.

I. INTRODUCTION

Patent Owner Ollnova Technologies Ltd. (“Patent Owner”) submits this sur-reply to Paper 17, Petitioner’s Reply to Patent Owner Response (“Reply”) by Copeland Comfort Control LP (“Petitioner”) in the *inter partes* review of U.S. Patent No. 8,224,282 (“the ’282 Patent”). In view of the Final Judgment in *Ollnova Technologies Limited v. ecobee Technologies ULC d/b/a ecobee*, Case No. 2:22-CV-00072, Patent Owner is not addressing the patentability of challenged claims 1, 3 and 21 in this sur-reply. *See* Ex. 1053, Final Judgment, 1 (“Claims 1, 3, 6 and 21 of U.S. Patent No. 8,224,282 are invalid;”). Because Patent Owner did not present separate arguments for the dependent claims depending from independent claim 1 (claims 2, 3, 4 and 5) in Paper 16, Patent Owner’s Response to Petition (“POR”), Patent Owner is not addressing the patentability of claims 2, 4, and 5 in this sur-reply. And as claim 21 depends from claim 20, Patent Owner is not addressing the patentability of claim 20 in this sur-reply.¹

¹ “A broader independent claim cannot be nonobvious where a dependent claim stemming from that independent claim is invalid for obviousness.” *Callaway Golf Co. v. Acushnet Co.*, 576 F.3d 1331, 1344 (Fed. Cir. 2009) (citing *Ormco Corp. v. Align Tech., Inc.*, 498 F.3d 1307, 1319 (Fed. Cir. 2007)).

Nevertheless, Petitioner still must meet its burden of proving by a preponderance of the evidence that the challenged claims are unpatentable. “In an *inter partes* review . . . , the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence” and “the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” 35 U.S.C. § 316(e); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (2012) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)).

As stated in the POR, Petitioner fails to establish that challenged claims 7-11 of the '282 Patent (grounds 1, 3, 5, and 7) are unpatentable because the prior art does not teach or disclose the claimed **multi-sensor** packages. As further set forth in the POR, Petitioner fails to establish that challenged claims 13-16 of the '282 Patent (grounds 2, 4, 6, and 8) are unpatentable because the prior art does not teach or disclose the claimed second automation component in communication **with** the building automation system.

The prior art does not teach or disclose “a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable” (claims 7 and 13) because the prior art, even when it discloses multiple sensors, does not disclose or teach detecting a **plurality** of variables or values and generating

sensor data for each detected variable or changed sensor value. The prior art does not disclose or teach “a second automation component in communication with the building automation system” because there is no disclosure or teaching of a second automation component that is not **within** a building automation system but is nevertheless in communication **with** “the building automation system” (claim 7).

Because the prior art does not teach or disclose limitations of independent claims 7 and 13, it does not anticipate or render obvious dependent claims 8-11 and 14-16. *Synqor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1375 (Fed. Cir. 2013) (“Th[e] court need not consider Defendants’ arguments that certain dependent claim limitations would have been obvious where the base claim has not been proven invalid.”).

II. CLAIM CONSTRUCTION

As stated in the POR, Patent Owner contends that the Board should construe the terms of the ’282 consistent with the claim construction from the District Court in *Ollnova Technologies Limited v. ecobee Technologies ULC*, No. 2:22-cv-00072-JRG (E.D. Tex.) as set forth in Ex. 2002, Claim Construction Memorandum Opinion and Order, *Ollnova Technologies Limited v. ecobee Technologies ULC*, No. 2:22-cv-00072-JRG, Dkt. No. 105 (E.D. Tex. Apr. 10, 2023).

The Board should construe “a multi-sensor package” (claims 7 and 13) as “a single packaged sensor device with multiple operational sensors.” The Board should

also construe “second automation system in communication with the building automation system” (claim 7) as an automation component that communicates with, but is not within, the building automation system.

A. A “multi-sensor package” is properly construed as “a single packaged sensor device with multiple operational sensors.”

Patent Owner and Petitioner agree that “a multi-sensor package” is not a group of individual sensors. Paper 2, Petition (“Pet.”), 12; Paper 17, Reply, 3. However, “a multi-sensor package” is plainly more than “a single packaged sensor device” when the claim term is considered in the context of the patent specification, as it must.

While the claims themselves “provide substantial guidance as to the meaning of particular claim terms,” they do not stand alone; rather, “they are part of a fully integrated written instrument.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314-15 (Fed. Cir. 2005) (en banc). Thus, the claims should be read in light of the specification. *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1327 (Fed. Cir. 2009) (citing *Phillips*, 415 F.3d at 1315). The specification “is always highly relevant to the claim construction analysis” and can be dispositive, as “it is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315.

The '282 Patent is directed to a system with automation components that may “include[] a multi-sensor package, a wireless communications component, a

processor in communication with the wireless communications component and the sensor package, and a memory in communication with the processor.” Ex. 1001, ’282 Patent, 2:31-35. “The automation component 200 may be a multi-sensor wireless device that includes a sensor package 220 in communication with the sub-components 202, 204 and 210 via the communication bus 218. The sensor package 220 may be configured to sense or detect a variety of variables such as, for example, temperature, humidity, carbon dioxide, carbon monoxide, volatile organic compounds, etc.” *Id.*, ’282 Patent, 6:22-28. Notably, “the exemplary multi-sensor automation component 200 scans **each of the sensors operating** within the sensor package 220,” *id.*, ’282 Patent, 8:65-67 (emphasis added), and “a receiving device such as, for example, the field panel 120 may communicate sensor usage or control information to the automation component that identifies which sensor and sensor data is currently being analyzed and/or is primary or controlling the field panel 120.” *Id.*, ’282 Patent, 9:9-13.

As disclosed and claimed in the ’282 Patent, the multi-sensor package must be configurable such that a plurality of variables can be detected and sensor data generated for each detected variable. The ’282 Patent specification teaches that “[t]he sensor package 220 may be configured to sense or detect a variety of variables such as, for example, temperature, humidity, carbon dioxide, carbon monoxide, volatile organic compounds, etc.” Ex. 1001, ’282 Patent, 6:25-28. Ex. 2008, Decl.,

¶ 32. Accordingly, a Person of Ordinary Skill In The Art (“POSITA”) would understand that the multi-sensor package must have multiple operational sensors. Ex. 2008, Decl., ¶ 32.

This is shown throughout the ’282 Patent specification. For example, the specification contemplates that “some of the sensors within the sensor package 220 may require a great deal of power to operate. In order to increase the life of the battery 222, the high power requirement sensors within the sensor package 220 may be configured to operate periodically or on a set schedule.” Ex. 1001, ’282 Patent, 6:47-51. While describing a power saving communication algorithm for the automation component, the specification teaches that “the exemplary multi-sensor automation component 200 scans **each of the sensors operating** within the sensor package 220,” *id.*, ’282 Patent, 8:65-67 (emphasis added), and “a receiving device such as, for example, the field panel 120 may communicate sensor usage or control information to the automation component that identifies **which** sensor and sensor data is currently being analyzed and/or is primary or controlling the field panel 120.” *Id.*, ’282 Patent, 9:9-13 (emphasis added).

The ’282 Patent specification further demonstrates that there are multiple operating sensors in the context of an alternate power saving communication algorithm, wherein “the exemplary multi-sensor automation component 200 scans **each of the sensors operating** within the sensor package 220...” *Id.*, ’282 Patent,

9:43-46 (emphasis added). That there are multiple operating sensors is further shown by the disclosure in the '282 Patent of indicating which of the available sensors in a multi-sensor package is in control, *i.e.*, sensor data in control. Ex. 2008, Declaration of Erik de la Iglesia in Support of Patent Owner's Response, ("Decl."), ¶ 30. "In other words, during any given scan cycle, one of the sensor values and/or a corresponding sensor control routine is executed by the receiving device (e.g., the field panel 120). The communicated sensor control information provided by the receiving device identifies for the automation component 200 **which** sensor and/or sensor value is driving or controlling the receiving device during the scan cycle." Ex. 1001, '282 Patent, 9:16-22 (emphasis added).

As set forth in the POR, the prosecution history of the '282 Patent further establishes that the claimed multi-sensor package includes multiple operating sensors. Paper 16, POR, 8-9.

Petitioner's arguments in the Reply do not mandate a different construction. Petitioner's first argument, that "operational" is ambiguous is premised upon a failure to consider the patent specification. *See*, Paper 17, Reply, 3. "Operational" does not require that all sensors must operate simultaneously because the '282 Patent teaches selective powering of sensors and selectively reading one sensor – *i.e.*, the sensor which is currently being analyzed, is primary, or is controlling. Ex. 1001,

'282 Patent, 9:9-13. The '282 Patent does not suggest that all sensors must be used as part of a system for the same reason.

Petitioner's second argument, that the '282 patent specification statement that "sensor package 220 may be configured to sense or detect a variety of variables" demonstrates there do not need to be multiple operational sensors lacks context, specifically the immediately preceding sentence. *See* Paper 17, Reply, 3. The preceding sentence states that "[t]he automation component 200 **may** be a multi-sensor wireless device that includes a sensor package 220 in communication with the sub-components 202, 204 and 210 via the communication bus 218." Ex. 1001, '282 Patent, 6:22-25. In other words, that particular automation component may or may not be a multi-sensor device. In fact, the entire discussion of the exemplary automation component 200 in Figure 2 is couched in what components "may" be in the automation component and what "may" occur. *See*, Ex. 1001, '282 Patent, 5:52-6:51.

Petitioner's third argument, that the availability of "sensor data" demonstrates that there are not multiple operating sensors also lacks context, specifically the immediately following discussion of sensor data in the '282 Patent specification. *See*, Paper 17, Reply, 3-4. The '282 Patent teaches identifying **which** sensor data is currently being analyzed or is controlling. "[T]he field panel 120 may communicate sensor usage or control information to the automation component that identifies

which sensor and sensor data is currently being analyzed and/or is primary or controlling the field panel 120.” Ex. 1001, ’282 Patent, 9:9-13. *See also, Id.*, ’282 Patent, 9:19-22 (“The communicated sensor control information provided by the receiving device identifies for the automation component 200 which sensor and/or sensor value is driving or controlling the receiving device during the scan cycle.”). There is no need to identify which sensor data if there is only one operable sensor.

Petitioner’s fourth argument, with respect to the prosecution history, (Paper 17, Reply, 4), ignores the fact that a multi-sensor package cannot be configured to detect values and variables related to **multiple** sensed properties without **multiple** sensors, each of which senses one of the properties.

The plain and ordinary meaning of the term “multi-sensor package” to a person of ordinary skill in the art is a single packaged sensor device with multiple operable sensors. Ex. 2008, Decl., ¶ 31. All of the sensors do not have to operate simultaneously, but all of the sensors do have to be operable. Accordingly, the term “multi-sensor package” in claim limitations [7.a] and [13.a] should be construed as “a single packaged sensor device with multiple operational sensors.”

B. “A second automation component in communication with the building automation system” is properly construed as an automation component that communicates with, but is not within, the building automation system.

A POSITA reading the disclosure of the '282 Patent would understand that an automation component may be **within** a building automation system (BAS), Ex. 1001, '282 Patent, 2:29-31, or it may be in communication **with** the building automation system. *Id.*, 2:40-41, 55-57. Ex. 2008, Decl., ¶ 27.

A POSITA reading the disclosure of the '282 Patent would understand that an automation component can be a device that is not within the building automation system and wirelessly communicates using direct, indirect or routed wireless communications because “wireless communication between individual ... automation components 112, 116 and/or the subnets 118 *a*, 118 *b* may be conducted in a direct or point-to-point manner, or in an indirect or routed manner through the nodes or devices comprising the nodes or networks 102, 108, 114 and 118.” *Id.*, 5:44-49. Ex. 2008, Decl., ¶ 35.

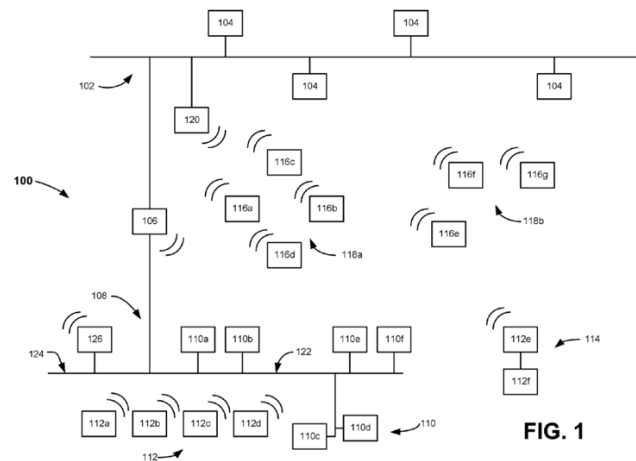


FIG. 1

Ex. 1001, '282 Patent, Figure 1.

The '282 Patent specification consistently uses the words “within” and “with” to mean different things, which is in accordance with their respective dictionary definitions. The preposition “with,” in its most apposite senses, is defined as “in the performance, use or operation of,” “to : ONTO,” or “in relationship to.” Ex. 2006, Webster’s II New College Dictionary 1267-8 (2001). In contrast, the preposition “within” is defined as “in the inner part or parts of : INSIDE” or “inside the fixed limits of : not beyond.” *Id.*, 1268.²

The Summary of the '282 Patent specification repeatedly describes an automation component configured for wireless communication **within** a building automation system while also disclosing a second automation component in communication **with** the building automation system. *See, e.g.*, Ex. 1001, '282

² Synonymous terms in the dictionary definitions are in Small Caps.

Patent, 2:29-31 and 40-41, 45-47 and 54-57; *see also, Id.*, '282 Patent, 3:15-17 (“a second automation component in communication **with** the first automation component **and the building automation system, ...**”) (emphasis added). The '282 Patent specification consistently uses “within” in the same way in other contexts. For example, “[s]ensed values, signals and other data may be stored **within** the memory 204,” *id.*, '282 Patent, 6:28-29, and “the exemplary multi-sensor automation component 200 scans each of the sensors operating **within** the sensor package 220.” *Id.*, '282 Patent, 8:65-67 (emphasis added).

The '282 Patent specification does not use the terms “with” and “within” interchangeably. Nor, as argued in the POR, do the claims of the '282 Patent. Paper 16, POR, 14-15.

A POSITA would understand that an automation component can be a device that is not within the building automation system and wirelessly communicates using direct, indirect or routed wireless communications in accordance with the teachings of the '282 Patent specification. Ex. 2008, Decl., ¶ 35. The claims of the '282 Patent are directed to so such a component when they recite “a second automation component in communication with the building automation system.” *See, e.g.*, Decl., ¶¶ 42-43.

Petitioner's arguments to the contrary, Paper 17, Reply, 7-9, do not address the fact that the claim preamble [7.pre] is directed to an “automation component

configured for wireless communication **within** a building automation system” and not to [7.e] “a second automation component in communication **with** the building automation system.” The fact that the ’282 Patent specification discloses automation components that are within a building automation system does not preclude automation components that are not within the building automation system, such as the claimed second automation component.

Accordingly, the claim term “second automation component in communication with ... the building automation system” in claim limitation [7.e] should be construed as “an automation component that communicates with, but is not within, the building automation system.”

III. MCFARLAND AND AHMED-629 DO NOT DISCLOSE A “MULTI-SENSOR PACKAGE.”

Neither Ex. 1027, U.S. Patent Application Publication No. 2007/0242688 (“McFarland”) McFarland nor Ex. 1036, U.S. Patent Application Publication No. 2005/0268629 (“Ahmed-629”) Ahmed-629 disclose the multi-sensor package of claims 7 and 13 because neither discloses multiple operational sensors.

A. McFarland’s “sensor 209” does not disclose a “multi-sensor package” because “sensor 209” does not have multiple operational sensors.

Petitioner incorrectly asserts that McFarland’s sensor 209 discloses the “multi-sensor package” in [7.a], “a multi-sensor package configured to generate a

plurality of sensor data for each sensor within the multi-sensor package” and [13.a] “a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable.” *See* Paper 17, Reply, 12. As discussed above, the term “multi-sensor package” in claim limitations [7.a] and [13.a] should be construed as “a single packaged sensor device with multiple operational sensors.”

McFarland does not disclose a multi-sensor package because McFarland’s sensor 209 does not have multiple operational sensors but instead is a sensor that senses a single condition or status of an event. Ex. 2008, Decl. ¶¶ 38-39.

In McFarland, Sensor 209 is disclosed as a sensor that monitors a condition or status of an event. “A sensing device monitors a condition and/or status of an event. The sensing device may report appropriate sensor information, such as a current value or indicator of the condition, timing of a reading, prior measurements, status of the sensor and/or a comparison of a measured value to a desired limit, range or a previous measurement.” Ex. 1027, McFarland, ¶ 23.

Although McFarland does suggest that different components may be provided for automation device 207, including a plurality of different or the same type of sensors, *id.*, McFarland, ¶ 38, it does not suggest that those would be part of the same sensor (i.e., not a multi-sensor package). McFarland discusses “a plurality of different or of the same type of sensors” in the context of additional, different or fewer components. *Id.*

McFarland describes the operation of the sensor in terms of a **single** sensed or monitored condition. “The sensor 209 generates information or data related to **the** sensed or monitored condition. The information may be provided an output as one or more signals that may be read by the processor 214.” *Id.* (emphasis added). A single sensor will generate one or more signals that may be read by a processor.

Petitioner’s argument that the processor capabilities disclose multiple operational sensors disregards the context of McFarland’s discussion of processor capabilities. Paper 17, Reply, 14. McFarland teaches that “[t]he control process [implemented by processor 214] may be implemented based on a signal that is read from and/or provided by the sensor 209, such as a measured value of a parameter, an indicator of a sensed condition and/or status of an event.” Ex. 1027, McFarland, ¶ 39. McFarland also states that “[t]processor 214 has a processing power or capability and associated memory corresponding to the needs of one or more of a plurality of different types of sensors 209 and transceiver 216.” *Id.* This statement that the processor may be used with different sensors and transceivers does not mean that the processor could be used with different sensors and transceivers simultaneously. Dr. Neikirk’s assertion that the number of sensors can be increased, Ex. 1052, Neikirk Reply, ¶ 44, is not relevant to the multi-sensor package because his conclusion follows from the statement in McFarland that the number of devices

can be increased by “minimizing or reducing the amount of information reported by a sensor.” *Id.*, citing Ex. 1027, McFarland, ¶ 6.

B. Ahmed-629’s “MEMS sensors incorporated into a single substrate” does not disclose a “multi-sensor package” because “MEMS sensors incorporated into a single substrate” do not have multiple operational sensors.

Petitioner’s reliance on Ex. 1036, Ahmed-629 for a disclosure of a multi-sensor package, (Paper 17, Reply, 15), fails because Ahmed-629 teaches that each sensor module is used for a specific purpose which is defined by the configuration information. “The programmable non-volatile memory 38, which may be embodied as a flash programmable EEPROM, stores configuration information for the sensor module 28.” *Id.*, Ahmed-629, ¶ 51. “The memory 38 further includes set-up configuration information related to the type of sensor or sensors being used.” *Id.*, Ahmed-629, ¶ 52.

In Ahmed-629, “[t]he first sensor module 28 represents a temperature sensor module and is preferably embodied as a wireless integrated network sensor that incorporates micro electromechanical system (‘MEMS’) technology.” *Id.*, Ahmed-629, ¶ 47. In Ahmed-629, only one sensor functionality is enabled in a particular sensor module. *Id.*, Ahmed-629, ¶ 52 (“if the sensor suite 42 is implemented as a number of sensor devices, the memory 38 includes the information that identifies which sensor functionality to enable.”). “The sensor module 28 may be programmed

upon shipment from the factory, or upon installation into the building control system. The microcontroller 36, responsive to the configuration information, causes the signal processing circuit 40 to process signals only from the temperature sensor, ignoring output from other sensors of the sensor suite 42.” *Id.*, Ahmed-629, ¶ 56.

Ahmed-629’s disclosure of MEMS modules must be considered along with Ahmed-629’s disclosure of configuration information that is programmed upon shipment from the factory or installation into a building control system, after which only one sensor is operational. Ex. 1036, Ahmed-629, ¶¶ 56-57. Ahmed-629 does not disclose, teach or suggest [7.a], “a multi-sensor package configured to generate a plurality of sensor data for each sensor within the multi-sensor package.” Ex. 2008, Decl., ¶ 44.

IV. NEITHER MCFARLAND, STONER NOR KATES-089 DISCLOSES A “SECOND AUTOMATION COMPONENT IN COMMUNICATION WITH THE BUILDING AUTOMATION SYSTEM.”

McFarland alone does not disclose a “second automation component in communication **with** the building automation system,” as recited in independent claim 7. As discussed above, the claim term “second automation component in communication with ... the building automation system” in claim limitation [7.e] should be construed as “an automation component that communicates **with**, but is not **within**, the building automation system.” As discussed in the POR, McFarland discloses communications over a building automation network by devices that are

within the building automation network. Paper 16, POR, 19-21. But McFarland does not disclose communication with an automation component that is **not within** a building automation system. *Id.*, POR, 34-35.

In an effort to show that McFarland meets this claim limitation when properly construed, Petitioner misconstrues Patent Owner's argument. *See* Paper 17, Reply, 21-22. Patent Owner did **not** assert that the field panels and reduced function devices 120 and 116a-116g in Fig. 1 of the '282 patent are "second automation devices" as claimed. Patent Owner rather contended that a second automation component does not have to comprise a "multi-sensor package" and could be a field panel or reduced function device. Paper 16, POR, 3 n.1. It is not relevant that a device is in a separate wireless field (or floor) level network if that wireless field (or floor) level network is **within** (part of) the building automation system. The device will still be **within** the building automation system and not in communication **with** the building automation system.

The same is true with respect to Ex. 1030, U.S. Patent No. 8,276,829 ("Stoner"). Petitioner did not assert that McFarland's automation device modified in accordance with Stoner's teachings would not be **within** the building automation system in the Petition, and makes a conclusory assertion that since McFarland's modified device could be at any location it could be outside of the building

automation system. Paper 16, Reply, 23. The Board should reject Petitioner's conclusory assertion.

Petitioner's arguments with respect to Ex. 1029, U.S. Patent Application Publication No. 2006/0071089 ("Kates-089") are based upon Petitioner's misunderstanding of Patent Owner's argument discussed above with respect to McFarland. Paper 16, Reply, 23-24. Kates-089 discloses a single building automation system with separate zones. *See, e.g.*, Ex. 1029, Kates-089, ¶ 2 ("The present invention relates to a system and method for directing heating and cooling air from an air handler to various zones in a home or commercial structure."). The separate zones in Kates-089 are still within the same building and are still part of the same building automation system.

V. CONCLUSION

Neither McFarland nor Ahmed-629 disclose, teach or suggest [7.a], "a multi-sensor package configured to generate a plurality of sensor data for each sensor within the multi-sensor package" or [13.a] "a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable." Neither McFarland, Stoner, or Kates-089, either alone or in combination, disclose, teach or suggest [7.e] ("a second automation component in communication with the building automation system"). Accordingly, Grounds 1-8 fail with respect to claims 7-11 and 13-16.

Date: May 7, 2024

Respectfully submitted,

/Brett Cooper/

Brett Cooper, Reg. No. 55,085
Lead counsel for Patent Owner

CERTIFICATE OF WORD COUNT (37 C.F.R. § 42.24(d))

The undersigned hereby certifies that the word count in this Patent Owner Sur-reply is. 4,101 words, as counted by the word-processing program Microsoft Word that was used to generate this Patent Owner Sur-Reply, where such word count excludes the table of contents, table of authorities, mandatory notices, certificate of service, appendix of exhibits, claim listing, and this certificate of word count. This Patent Owner Sur-Reply is in compliance with the 5,600-word limit set forth in 37 C.F.R. § 42.24(c)(4).

Date: May 7, 2024

/Brett Cooper/

BC Law Group, P.C.
200 Madison Avenue, 24th Floor
New York, NY 10016
(212) 951-0100

Brett Cooper
Reg. No. 55,085
Attorney for Patent Owner

CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e))

The undersigned hereby certifies that the above document was served on May 7, 2024 by filing this document through the Patent Trial and Appeal Case Tracking System as well as delivering a copy via electronic mail upon the following attorneys of record for the Petitioner:

James L. Davis, Jr. (Reg. No. 57,325)
james.l.davis@ropesgray.com
Daniel W. Richards (Reg. No. 69,652)
daniel.richards@ropesgray.com
ROPES & GRAY LLP
Copeland-Ollnova-Ropes-IPR-Service@ropesgray.com
1900 University Avenue, 6th Floor
East Palo Alto, CA 94303-2284
Phone: 650-617-4794
Fax: 617-235-9492

Date: May 7, 2024

/Brett Cooper/

BC Law Group, P.C.
200 Madison Avenue, 24th Floor
New York, NY 10016
(212) 951-0100

Brett Cooper
Reg. No. 55,085
Attorney for Patent Owner