

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

U.S. Patent No. 8,224,282

**DECLARATION OF DEAN P. NEIKIRK
IN SUPPORT OF
PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE**

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I. INTRODUCTION

1. I am the same Dean P. Neikirk who provided a declaration for this matter executed on March 6, 2023 (“Declaration”) (Ex. 1002, (“Neikirk Decl.”)). I understand that, during the course of this matter, the identity of the Petitioner has been updated and that the Petitioner is now Copeland Comfort Control, LP (“Copeland or “Petitioner”). The identity of the Petitioner has no bearing on the ultimate opinions that I have reached in this and my prior declaration.¹

2. As part of my work in this proceeding, I have been asked by Petitioner to respond to certain assertions offered by Ollnova Technologies Ltd. (“Ollnova” or “Patent Owner”) in IPR2023-00624 regarding U.S. Patent No. 8,224,282 (“the ’282 patent”).

3. My experience, qualifications, and compensation are provided in my March 6, 2023 Declaration and Appendix A thereto. Neikirk Decl., ¶¶6, 8-17, **Appendix A**. In this Reply Declaration, I have been asked to respond to certain assertions raised by Ollnova in its Patent Owner’s Response (“POR”) (Paper 16) and by Mr. Erik de la Iglesia in his supporting declaration (Ex. 2008 (“de la Iglesia Decl.”)).

¹ Throughout this Reply Declaration, all emphasis and annotations are added unless noted.

4. I understand that, in this proceeding, the Board has instituted *Inter Partes* Review proceedings of claims 1-5, 7-11, 13-16, and 20-21 of the '282 patent ("Challenged Claims") as anticipated and/or obvious based on all grounds (Grounds 1-9) set forth in my prior Neikirk Decl., ¶¶ 57-61.

5. In reaching the conclusions described in this Reply Declaration, I have relied on the documents and materials cited herein as well as those cited within and identified in my prior Declaration (*see* Neikirk Decl. ¶¶5, 7, Appendix B). A complete listing of all materials upon which I have relied upon in formulating my opinion are included in **Appendix A** attached hereto. The materials that I have relied upon in this Reply Declaration and in my prior Declaration are the types of materials upon which experts in the relevant field of art would reasonably rely upon in forming an opinion on the subject.

6. In formulating the opinions set forth in this Reply Declaration, I have also relied upon the legal understandings set forth in my prior Declaration. *See* Neikirk Decl., ¶¶18-36. My opinions are also based upon my education, training, research, knowledge, and personal and professional experience.

II. LEVEL OF ORDINARY SKILL IN THE ART

7. In my March 6, 2023 Declaration, I opined that on or before March 18, 2009, a person of ordinary skill in the art ("POSITA") relating to the technology of the '282 patent "would have had a minimum of a bachelor's degree in electrical

engineering, or a related field, along with at least two years of professional experience in sensors, controls, and/or wireless communications. Additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education.” Neikirk Decl. ¶47. Mr. de la Iglesia and I agree that this is the appropriate level of skill in the art. de la Iglesia Decl., ¶23; *see also* Ex. 1043, 5. Thus I will continue to apply my definition of a person having ordinary skill in the art.

III. CLAIM CONSTRUCTION

8. In my March 6, 2023 Declaration, I was instructed to assume certain constructions. Neikirk Decl. ¶¶50-56. I understand that, after I submitted my March 6, 2023 Declaration, the Court in *Ollnova Technologies, Ltd. v. ecobee Techs.*, No. 2:22-cv-00072 (E.D. Tex.) rendered its opinions regarding certain claim terms. Ex. 2002. I have reviewed each of these constructions, and applying those constructions has no impact on my opinions set forth in my Neikirk Declaration or in this Reply Declaration, except as otherwise set forth in this Reply Declaration.

9. In this IPR proceeding, Ollnova and Mr. de la Iglesia contend that “multi-sensor package” should be construed as “a single packaged sensor device with multiple operational sensors.” POR, 6-9; de la Iglesia Decl., ¶¶31-32. Ollnova and Mr. de la Iglesia also contend that “receive sensor control information related to sensor data in control” should be construed as “receive information that identifies

which sensor or sensor value is driving or controlling a receiving device in communication with the building automation system.” POR, 9-11; de la Iglesia Decl., ¶¶33-34. Ollnova and Mr. de la Iglesia further contend that “a second automation component in communication with the building automation system” should be construed as “an automation component that communicates with, but is not within, the building automation system.” POR, 11-15; de la Iglesia Decl., ¶35.

10. Applying the same standards for claim construction that I relied upon in formulating the opinions set forth in my prior Declaration (Neikirk Decl., ¶¶20-23), I disagree with each of Ollnova’s and Mr. de la Iglesia’s proposed constructions as explained below. Nonetheless, my opinions remain the same that the cited prior art anticipates or renders obvious the Challenged Claims under the plain meaning of the terms, consistent with the ’282 patent specification and file history, and even under Ollnova’s and Mr. de la Iglesia’s proposed constructions, for the reasons set forth in my Declaration and below.

A. “Multi-Sensor Package” ([1.a], [7.a], [20.a])

11. In the district court case against Petitioner, I understand that Ollnova agreed that a “multi-sensor package” is a “single packaged sensor device, not a group of individual sensors.” Ex. 1013, 1. I agree with this construction, which is consistent with the plain meaning of the term as would have been understood by a person of ordinary skill in the art.

12. Ollnova (POR, 6-9) and Mr. de la Iglesia (de la Iglesia Decl. ¶¶31-32) now contend that the term should instead be construed as a “single packaged sensor device with multiple operational sensors.” POR, 9; de la Iglesia Decl. ¶¶31-32. And, using this construction, Ollnova and Mr. de la Iglesia also appear to argue that the ’282 claims require all contained sensors to be simultaneously “operational.” POR, 38 (arguing that McFarland² does not disclose “how multiple operational sensors would be distinguished and processed”), 40 (arguing Ahmed-629³ discloses “only one sensor functionality is enabled in a particular sensor module.”); de la Iglesia Decl., ¶¶37-39, 46 (arguing the same). I disagree with both Ollnova’s and Mr. de la Iglesia’s construction and application of that construction, for the reasons set forth below.

13. First, it is unclear what it means for each of the sensors in the package to be “operational,” as Ollnova and Mr. de la Iglesia contend is required. For example, a POSITA could understand “operational” in Ollnova’s and Mr. de la Iglesia’s construction as requiring all sensors to operate simultaneously, such that each sensor has to generate sensor data at all times. A POSITA could also understand the term to mean that each and every sensor within a package must be

² “McFarland” refers to U.S. Patent Application Publication No. 2007/024688.

³ “Ahmed-629” refers to U.S. Patent Application Publication No. 2005/0268629.

used as part of a system, as opposed to using some, but not all sensors within the package.

14. Nothing in in the phrase “multi-sensor package” imposes this requirement. To the contrary, the claims separately recite additional limitations setting forth how the package must operate. Namely, the multi-sensor package must be “configured to detect a plurality of variables and generate sensor data for each detected variable”; this language reciting how the package operates does not include operating all sensors simultaneously or using all sensors as part of a system. ’282, Cls. 1, 13; *see also id.*, Cls. 7, 20 (reciting similar language).

15. Further, Ollnova’s and Mr. de la Iglesia’s proposed “operational” requirement is not found in the ’282 specification. The specification provides 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.” ’282, 6:25-29. I understand the specification to provide an optional configuration “to sense or detect variety of variables,” rather than requiring all sensors to be “operational” as Ollnova and Mr. de la Iglesia contend.

16. It is also my opinion that the portions of the specification upon which Ollnova and Mr. de la Iglesia rely likewise do not support their “operational”

requirement. For example, Ollnova's (POR, 7-8) and Mr. de la Iglesia's (de la Iglesia Decl. ¶32) excerpts state that "the exemplary multi-sensor automation component 200 scans *each* of the *sensors operating within* the sensor package," but this states only that certain sensors may be operating in the package and that the multi-sensor automation component 200 scans those operating sensors, rather than requiring all of the sensors within the package to be simultaneously operational. POR, 7-8 (quoting '282, 8:65-67); de la Iglesia Decl., ¶32 (same). Importantly, both Ollnova and Mr. de la Iglesia omit the rest of the disclosure that contradict their construction: "[T]he exemplary multi-sensor automatoon component 200 scans each of the sensors operating within the sensor package 220 *and/or the sensor data stored in the memory 204*"—this omitted portion of the specification indicates that the certain sensors could be operational at different times, and that the memory 204 stores sensor data from those sensors. It further confirms my opinion that multiple sensors operating at once is not required by the '282 patent. '282, 8:65-67, 9:43-46.

17. The prosecution history also does not support Ollnova's and Mr. de la Iglesia's "operational" requirement. As detailed in my Declaration (Neikirk Decl., ¶44), the Applicant distinguished Petite (Ex. 1003) by arguing that it discloses "utilizing one or more individual sensors," rather than a single, combination multi-sensor package. Ex. 1003, 109-113. The Applicant further stated that "a multi-

sensor package *is configured to detect values and variables related to multiple sensed properties*,” in contrast to Petite. *Id.*, 90; POR, 8. The Applicant’s arguments distinguishing Petite thus did not suggest that the term “multi-sensor package” imposes an “operational” requirement or a requirement that all sensors in the package are operational at the same time. Ex. 1003 109-113.

18. In fact, to distinguish Petite, Applicant made claim amendments corresponding to its arguments made during prosecution, and separately recited that the multi-sensor package is “*configured to detect a plurality of variables* and generate sensor data for each detected variable.” Ex. 1003, 83, 86; POR, 8. Again, this amended, and currently recited, configuration does not include Ollnova’s and Mr. de la Iglesia’s “operational” requirement.

19. To the extent Ollnova and Mr. de la Iglesia argue that “operational” requires all sensors to be accessed at once, portions of the ’282 patent specification upon which Ollnova and Mr. de la Iglesia rely also are inconsistent with this argument. *See* POR, 7; de la Iglesia Decl., ¶32. For example, the ’282 discloses 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*.” ’282, 6:47-51. In other words, certain sensors

may not operate at all times and, instead, only “operate periodically or on a set schedule” to save power. *Id.*

20. The ’282 also discloses that, at a given time only a “certain sensor and sensor data is currently being analyzed and/or is primary or controlling...”—again, in this embodiment, sensors other than those certain sensors currently being analyzed are not used. ’282, 9:9-13; POR, 7. In my opinion, Ollnova’s and Mr. de la Iglesia’s contention that all sensors must be accessed at once, therefore, finds no support, and is in fact contradicted.

21. Accordingly, consistent with the plain meaning of the term and the parties’ prior agreement, “multi-sensor package” should be construed as a “single packaged sensor device, not a group of individual sensors.” Regardless, it is my opinion that the claims are unpatentable even if Ollnova’s and Mr. de la Iglesia’s construction of “multi-sensor package” were to be adopted, as further discussed below. *See* §IV.

B. “Receive Sensor Control Information Related to Sensor Data in Control” ([1.e])

22. Ollnova (POR, 9-11) and Mr. de la Iglesia (de la Iglesia Decl., ¶¶33-34) argue that the term should be construed as “receive information that identifies which sensor or sensor value is driving or controlling a receiving device in

communication with the building automation system.” I disagree. The plain meaning should be given to this term.

23. I note that Ollnova’s and Mr. de la Iglesia’s construction appears to adopt a court’s construction of the term, but then modifies this construction. Specifically, in Ollnova’s district court litigation against *ecobee*, I understand that the district court (“*ecobee* court”) construed “receive sensor control information related to sensor data in control at a second automation component in communication with the building automation system” as “receive information that identifies which sensor or sensor value is driving or controlling a second automation component in communication with the building automation system.” Ex. 2002, 13-14. Ollnova’s and Mr. de la Iglesia’s construction modifies that construction by replacing “a second automation component” with “a receiving device”: “receive information that identifies which sensor or sensor value is driving or controlling *a receiving device* in communication with the building automation system.” POR, 9-11; de la Iglesia Decl., ¶¶33-34.

24. It is my opinion that both the *ecobee* court’s construction and the modification proposed by Ollnova and Mr. de la Iglesia are inconsistent with the patent. The *ecobee* Court’s construction rewrites “related to” in the claim language to require that the sensor control information “*identifies* which sensor or sensor

value is driving or controlling” Ex. 2002, 13-14. But the plain meaning of the terms “related to” and “identify” have different meanings. In fact, the specification provides that “[t]he sensor usage or control information *relates to or identifies* the sensor values and routines that are controlling and driving the receiving device”; the disjunctive “or” indicates that two “related to” and “identifies” are separate alternatives—i.e., the information as disclosed in the specification can either “relate to” *or* “identify” sensor values. The claim language itself recites the former and not the latter. ’282, 9:13-21.

25. Additionally, I disagree with the *ecobee* court’s construction because it removes the language “at” to change the claim language “in control *at* a second automation component” to “controlling or driving a second automation component.” However, this issue is not material to my opinions in this or my prior Declaration that the prior art discloses the claim element.

26. Further to the *ecobee* Court’s construction, I also disagree with Ollnova’s and Mr. de la Iglesia’s modification of that construction to replace “second automation component” with “receiving device.” POR, 11; de la Iglesia Decl., ¶¶33, 34. This substitution comes without any explanation as to what a “receiving device” should be and whether it is different from a “second automation

device” as the claim language recites. ’282, Cl. 1 (“receive sensor control information related to sensor data in control at a *second automation component*....”).

27. Ollnova’s and Mr. de la Iglesia’s application of their proposed construction is also inconsistent with the intrinsic record. For example, Ollnova argues that McFarland does not disclose the claim element because data in McFarland allegedly comes from a device that does not include “multiple operable sensors” and, therefore, is “self-identifying as the driving or controlling information.” POR, 32; de la Iglesia Decl. ¶41. Ollnova’s and Mr. de la Iglesia’s arguments require the sensor control information to expressly call out a single type of sensor data as the data in control, and that this interpretation imposes a negative limitation that this claim element is not met by information that “self-identif[ies] as the driving or controlling” information. I understand that any such negative limitation requires explicit disclaimer or independent lexicography in the written description that would justify adding that negative limitation. Neither Ollnova nor Mr. de la Iglesia provides any such intrinsic support to exclude “self-identifying” control information from the “sensor control information.” I also do not see any disclosure in the ’282 specification supporting such exclusion and, therefore, disagree with Ollnova and Mr. de la Iglesia.

28. Regardless, it is my opinion that the claims are unpatentable regardless of whether the *eocbee* court's, Ollnova's and Mr. de la Iglesia's, or the plain meaning is applied to the term "receive sensor control information related to sensor data in control," as further discussed below. *See* §V.

C. "Second Automation Component in Communication with the Building Automation System" [1.e]

29. Ollnova and Mr. de la Iglesia contend that the term should be construed as "an automation component that communicates with, but is not within, the building automation system." POR, 11-15; de la Iglesia Decl., ¶35. I disagree. The plain meaning should be given to this term.

30. The claim merely recites that the second automation component is "in communication with" the system, and does not specify whether the component is within or outside the system. '282, Cl. 1. Indeed, nothing recites that the second automation component cannot be "within" the system, or requires that component to be "outside" the system. Ollnova's argument (Mr. de la Iglesia provides no opinion in this regard) that the claim does not recite "in communication *within*" and instead recites "in communication with"—and therefore that communication cannot be "within" the system (POR 11-12)—lacks merit because a POSITA would not have considered "in communication with" and "in communication within" to be mutually exclusive. For example, as a POSITA would have recognized, a person *within* a

group can communicate *with* that group as a whole. Similarly, a computer *within* a network system can, and commonly does, communicate *with* other system devices: a computer *within* a network system can and often needs to communicate *with* other computers, printers, or smart devices that are also within that same system, for example. In other words, consistent with how the terms “with” and “within” are commonly used, a POSITA would have understood that the term “with” in the claim is used when identifying another party to the communication, while the term “within” is used in order to identify the location at which communication occurs.

31. For the same reasons, I disagree that the claim language cited by Ollnova supports its construction that a second automation component cannot be within the building automation system. POR, 14-15. Specifically, Ollnova quotes the claim elements [1.c], [1.d], [1.e], [7.c], [7.d], and [20.c] as supporting its construction of “communication with” in comparison with the “communication within” language recited in the preamble of claims 1 and 7 and claim elements [7.a] and [20.a], as copied below:

Communication With

- [1.c]: “processor *in communication with* the wireless communications component”;
- [1.d]: “memory *in communication with* the processor”;
- [1.e]: “a second automation component *in communication with* the building automation system”;
- [7.c]: “processor *in communication with* the wireless communications component”;

- [7.d]: “memory *in communication with* the processor”;
- [7.e]: “a second automation component *in communication with* the building automation system”;
- [20.c]: “a second automation component *in communication with* the first automation component and the building automation system.”

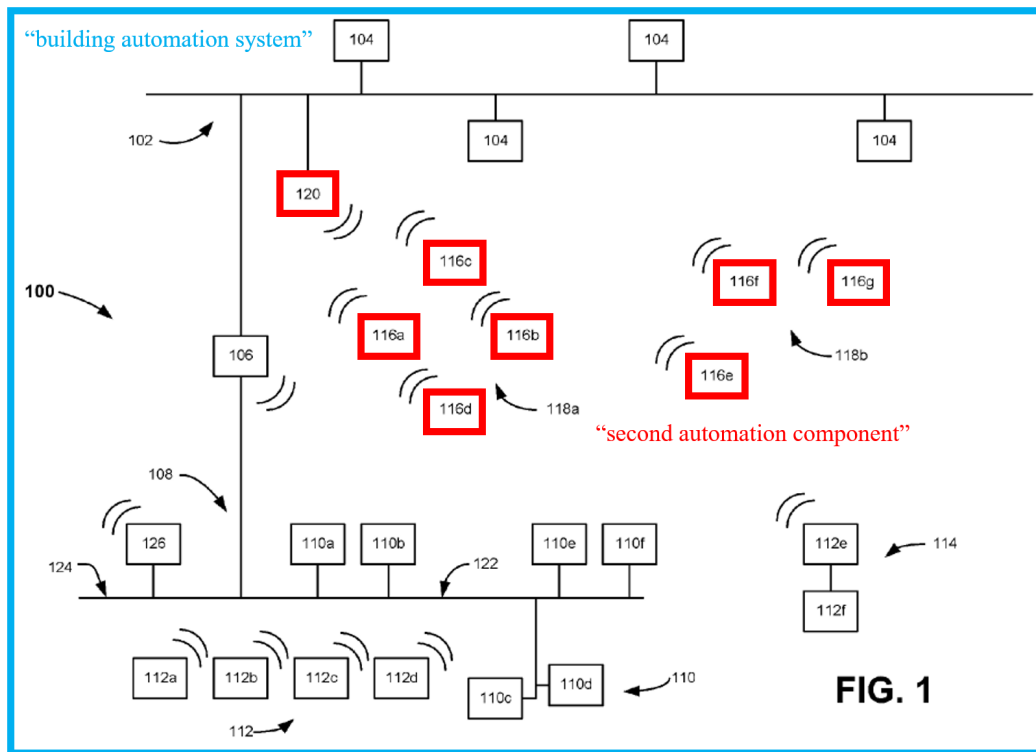
Communication Within

- [1.pre]: “automation component configured for wireless communication *within a building automation system*”;
- [7.pre]: “automation component configured for wireless communication *within a building automation system*”;
- [7.a]: “each sensor within the multi-sensor package”;
- [20.a]: “each sensor contained *within a multi-sensor package*”;

POR, 14-15. But the preambles of claims 1 and 7 each recite that the component is configured “for wireless communication *within* a building operating system,” specifying the location, but not the other party(s) to the communication. Likewise, claim elements [7.a] and [20.a] recite that each sensor is “*within*” a multi-sensor package, again specifying the location, but not the other parties involved in any communication. In contrast, a processor “in communication *with* the wireless communications component,” memory “in communication *with* the processor,” and a second automation component “in communication *with* the building automation system” each identifies the other party(s) involved in, not the location of, the communication. *See* POR 14-15. In sum, nothing in the claim language excludes the second automation component in communication with the building automation system from the building automation system. Mr. de la Iglesia provides no opinion in this regard.

32. The specification also contradicts Ollnova’s and Mr. de la Iglesia’s construction—it discloses first and second automation components that are both within the building automation system while also in communication with the system.

For example, Figure 1 of the '282 patent (annotated below) shows building automation system 100 that includes both automation components 116a-116g and a field panel 120:



'282, Fig. 1, 4:47-49. Ollnova acknowledges that a “field panel or ‘a reduced function device (RF)’” are each “second automation components.” POR, 3 n.1; *see also* '282, Fig. 1, 5:17-29. Accordingly, automation components 116a-116g are first and second automation components such as “reduced function device(s),” while a field panel 120 is a second automation component as a “receiving device,” and all such first and second automation components are within building automation system 100. '282, 4:47-49, 5:13-51, 9:9-35.

33. Consistent with Figure 1 of the '282 patent, all embodiments of the '282 patent show a second automation component within a building automation system,

and each of Ollnova's citations to the '282 discloses an automation component "within" and communicating with the system or components within the system (*see* POR, 11-15):

- '282, 2:29-57: disclosing, e.g., "an automation component" that both is "configured for wireless communication within a building automation system" and includes a processor that is "in communication with the building automation system."
- '282, 3:15-17: disclosing, in the context of "wireless communication within a building automation system" ('282 patent, 3:10-11), "a second automation component in communication with the first automation component and the building automation system."
- '282, 3:54-60: disclosing automation components, including a "field panel" and "reduced function device," "that may be utilized in a building automation system (BAS)."
- '282, 5:18-19: disclosing devices within building automation system 100 (which is also referred to as a control system—*see* '282 patent, 4:47-49), including "automation components 116a to 116g such as, for example, full or reduced function devices." Ollnova agrees that these components are second automation components. *See* POR, 3 n.1.
- '282, 5:44-49: discussing "wireless communications between individual the automation components 112, 116 and/or the subnets 118a, 118b" and "the nodes of networks 102, 18, 114 and 118," all of which are disclosed as within building automation system 100 in Figure 1.
- '282, 6:28-29: disclosing "sensed values from "the sensor package 220" within "the automation component 200" that "may be utilized within the control system 100" of Figure 1. *See* '282, 5:52-53.
- '282, 6:63-65: disclosing that "the automation component 200b may represent a ... reduced function device," which Ollnova agrees is a second automation component. POR, 3 n.1. The automation component 200b is within the building automation system. '282 patent, 5:52-53, 4:47-49.
- '282, 8:65-67: disclosing "exemplary multi-sensor automation component 200." The automation component 200 "may be utilized within the control

system 100,” and the control system is a building automation system. ’282 patent, 4:47-49, 5:52-53.

34. In fact, Ollnova’s citations confirm that the second automation components can both communicate with and be within the system. Ollnova acknowledges that an automation component is “any ... wired or wireless device operable *within the BAS 100*” (POR, 13-14 (quoting ’282, 6:63-54)) and the specification explains that such automation components “communicate with automation components ... within the mesh network,” which is a network within building automation system (’282, 5:23-29). ’282, 4:47-5:51 (discussing communications with and within the building automation system).

35. Without any intrinsic support, Ollnova relies on Mr. de la Iglesia’s Declaration, but that Declaration provides no support either. POR, 14 (citing de la de la Iglesia Declaration, ¶35). Instead, Mr. de la Iglesia’s Declaration discusses only communication between components 112 and 116, subnets 118a and 118b, and networks 102, 108, 114, and 118. de la Iglesia Decl., ¶35. All these components are within building automation system 100, as shown in Figure 1 above, and therefore do not support Ollnova’s and Mr. de la Iglesia’s construction that “in communication with” cannot include “in communication within.” Ex. 2008, ¶35, ’282, fig. 1, 4:57-5:51 (identifying components of BAS 100). I further reviewed the ’282 patent and did not identify any disclosed embodiments in which the ’282 patent discloses that

a device outside (i.e., not “within”) the system is a second automation component that communicates “with” the system.

36. I also disagree that Ollnova’s dictionary definitions for “with” and “within” support Ollnova’s and Mr. de la Iglesia’s construction. POR, 11 (citing Ex. 2006, 1267-68). For example, Ollnova’s cited definitions of “with” (“21. To : onto <Link your arm *with* your partner’s> ... 25. In relationship to <Infatuated *with* a neighbor>”) do not prohibit a device within a system from communicating with that system—instead, they confirm that “with” is used to specify the other party involved in the communication. Accordingly, those definitions at most confirm that “with” and “within” have different meanings as discussed above. Indeed, the examples set forth for each of the dictionary definitions cited by Ollnova identify only the other parties to which / onto which / in relationship to whom the rest of the clause is directed: “[l]ink your arm *with* your partner’s”; “[i]nfatuated *with* a neighbor.” *Id.* Mr. de la Iglesia provides no opinion in this regard.

37. Nevertheless, it is my opinion that the claims are unpatentable regardless of whether Ollnova’s and Mr. de la Iglesia’s construction or the plain meaning of the term is applied to the term “second automation component in communication with the building automation system,” as further discussed below. *See* §VI.

IV. MCFARLAND'S AND AHMED-629'S DISCLOSURE OF A "MULTI-SENSOR PACKAGE"

38. As detailed in my March 6, 2023 Declaration, it is my opinion that both McFarland (with respect to Grounds 1-4) and Ahmed-629 (with respect to Grounds 5-9) disclose and render obvious a "multi-sensor package." *See generally* Neikirk Decl. My conclusion remains the same even under Ollnova's and Mr. de la Iglesia's construction.

A. McFarland's "Sensor 209" Is a "Multi-Sensor Package"

39. As I explained in detail in my Declaration, and as shown in Figure 2 below, McFarland discloses sensor 209 as a component of a device 207 (an "automation component") in a building automation system.

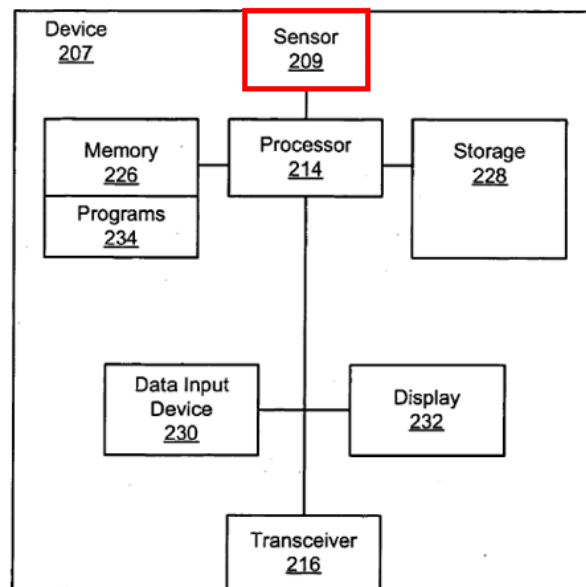


Figure 2

McFarland, Fig. 2. McFarland further discloses implementing sensor 209 as a “combination[]” sensor, “configured as any of a temperature sensor, humidity sensor, fire sensor ... *combinations thereof*, or other now known or later developed sensors.” McFarland, [0043]; Neikirk Decl., ¶¶71-72. McFarland further teaches implementing the sensor as a micro-electromechanical (“MEMS”) sensor, and a POSITA would have understood such a MEMS sensor as a combination sensor on a single substrate, as I detailed in my Declaration. McFarland, [0043], Neikirk Decl. ¶¶72, 199. Such a single-substrate MEMS sensor is an integrated multi-sensor package, since sensors printed onto a single substrate are integrated into a single component. *Id.* McFarland, therefore, discloses a “multi-sensor package” under the parties’ previously agreed construction (“a single packaged sensor device, not a group of individual sensors”).

40. A POSITA would have recognized that each of the sensors within the combination sensor in McFarland generates sensed data because the sensor includes “*a collection of devices that sense conditions*, parameters, and/or events such as an environmental condition in a building,” such as temperature, humidity, or fire. McFarland, [0043]. Even under Ollnova’s and Mr. de la Iglesia’s construction, therefore, McFarland discloses a “multi-sensor package.”

41. In my opinion, these disclosures in McFarland also contradict Ollnova’s and Mr. de la Iglesia’s contention that McFarland “consistently describes the operation of its disclosed devices in the context of a single operational sensor.” *Contra* POR, 27 & de la Iglesia Decl. ¶38. Indeed, Ollnova’s quotation of

McFarland (POR, 28 (quoting McFarland, [0043])) that a sensor “generates information or data related to the sensed or monitored condition” ignores both the prior sentence and the immediately following sentence that belie Ollnova’s assertion and Mr. de la Iglesia’s opinion:

The sensor 209 may include a device or a collection of devices that sense conditions, parameters and/or events such as an environmental condition in a building. *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.

McFarland, [0043]. A POSITA would have understood this teaching from McFarland to disclose that the sensor is a “collection of devices” and that the information output from the device includes, e.g., more than one signal “read by the processor 214,” including separate signals for separate sensors outputting data to the processor. *Id.*

42. I also disagree with Ollnova’s assertion that McFarland is “like Petite” that the Applicant distinguished during prosecution. POR, 28. As detailed in my Declaration (Neikirk Decl., ¶44 (citing Ex. 1003, 119-12)) and above (§III.A), the Applicant distinguished Petite by arguing that “Petite discloses utilizing one or more individual sensors.” To the contrary, McFarland discloses a single integrated combination sensor (McFarland, [0043]), which is not “a group of individual sensors” that the Applicant argued as disclosed by Petite. Neikirk Decl., ¶44; Ex. 1003, 119-123. Indeed, Ollnova does not identify any teaching from Petite that was

relied upon by the Examiner and is similar to McFarland's teaching of a single-substrate multi-sensor device, and I have found none.

43. I further disagree with Ollnova's assertion, and Mr. de la Iglesia's similar opinion, that McFarland does not disclose multiple sensors because it "does not teach or disclose how multiple operational sensors would be distinguished and processed." POR, 28; de la Iglesia Decl., ¶39. At the outset, Ollnova's and Mr. de la Iglesia's contention that this teaching does not appear in McFarland, if true, would still not affect my opinion. McFarland does not have to articulate a specific control scheme for multiple sensors in order to disclose that a device includes multiple sensors. Regardless, Ollnova's and Mr. de la Iglesia's argument does not accurately reflect McFarland's disclosures. Directly contradicting Ollnova and Mr. de la Iglesia, McFarland discloses a processor handling "a plurality of different types of sensors 209." McFarland, [0039]. Indeed, McFarland's processor handles "one *or more* signals" that are the "result of *sensing ... conditions or parameters.*" McFarland, [0043]. Thus, McFarland discloses that the processor itself is responsible for, and actually handles, controlling a device based on multiple sensors in a single packaged sensor device, operating at the same time.

44. McFarland's disclosure of a processor handling multiple "signals" and "conditions or parameters" (McFarland, [0043]) further proves wrong Ollnova's

mischaracterization that McFarland cannot handle multiple sensors because its goal was to “reduc[e] ... communication.” *Contra* POR, 29. Limiting sensor functionalities is not the means through which McFarland achieves the purported goal of “reduc[ing] ... communication”; “dynamic value reporting” protocols are. *E.g.*, McFarland, [0006]. According to McFarland, thanks to such “dynamic value reporting,” the “amount of wireless traffic in the system may be reduced.” *Id.* Indeed, contrary to Ollnova’s and Mr. de la Iglesia’s characterization of McFarland, McFarland actually discloses that, thanks to the use of such dynamic value reporting, the “number of devices communicating over a wireless network” can be “increased” by “minimizing or reducing the amount of information reported by a sensor.” *Id.* McFarland thus discloses increasing—not decreasing—the number of sensors in the system.

45. In sum, my conclusion remains the same that McFarland discloses this element, and it is my opinion that McFarland also discloses this element under Ollnova’s and Mr. de la Iglesia’s construction. And for the same reasons, McFarland discloses the similar elements in claims 7 and 20. Neikirk Decl., ¶¶106-107, 129-131.

B. Ahmed-629’s “Sensor Suite 42” Is a Collection of MEMS Sensors And, Therefore, Is a “Multi-Sensor Package”

46. To the extent additional disclosure is required, I also explained for Grounds 5-9 that Ahmed-629’s sensor suite 42 discloses a “multi-sensor package.” *See, e.g.*, Neikirk Decl., ¶¶199, 212.

47. For example, Ahmed-629 discloses multiple sensors combined on a single-substrate that generate multiple sensor outputs. Ahmed-629, [0048] (“the sensor suite 42 is a collection of MEMS sensors incorporated into a single substrate.”); Neikirk Decl., ¶¶199, 212-213. As Ahmed-629 further discloses, integrating “multiple MEMS sensors,” including “both temperature and humidity sensor functions,” on a “single substrate” was well-known, and was also “known” in “commercially available” products. Ahmed-629, [0047]; Neikirk, ¶¶201-203. And, Ahmed-629 also discloses generating multiple sensor signals using such MEMS sensor modules, and teaches that a microcontroller can configure the sensor module to select signals from a sensor. Ahmed-629, [0056]; *see id.*, Ahmed-629 [0051]. Ahmed-629 therefore discloses a “multi-sensor package” under either the parties’ previously-agreed construction that is consistent with the plain meaning (“a single packaged sensor device, not a group of individual sensors”) or Ollnova’s and Mr. de la Iglesia’s newly proposed construction (“a single packaged sensor device with multiple operational sensors”).

48. Neither Ollnova nor Mr. de la Iglesia disputes that Ahmed-629 discloses this element under the term's plain meaning. POR, 39-42; de la Iglesia Decl. ¶¶44-46. Instead, Ollnova's assertions and Mr. de la Iglesia's opinions rely solely on their construction requiring all sensors to be enabled simultaneously. *Id.* As explained in §III.A, I disagree with their construction. Regardless, Ollnova's assertions and Mr. Igelsia's argument fail in my opinion.

49. Specifically, I disagree with Ollnova and Mr. de la Iglesia that Ahmed-629 discloses "only one sensor functionality is enabled in a particular sensor module." POR, 40; de la Iglesia Decl., ¶¶45-46. In fact, both Ollnova and Mr. de la Iglesia rely on Ahmed-629's disclosures out of context to support their positions, while they ignore the remaining, relevant disclosures. *Id.* For example, both Ollnova and Mr. de la Iglesia quote that, in Ahmed-629, "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." POR, 40 (quoting Ahmed-629, [0052])); de la Iglesia Decl., ¶46 (same). This ignores the very prior sentence stating that "[t]he memory 38 further includes set-up configuration information related to the type of sensor or sensors being used." Ahmed-629, [0052]. This discloses that more than "only one sensor functionality" is operable at a time.

50. The remaining disclosures of Ahmed-629 further belie Ollnova's assertion and Mr. de la Iglesia's opinion. For example, directly contradicting Ollnova and Mr. de la Iglesia, Ahmed-629 discloses "configuration information" to define "which of *multiple possible sensor combinations* is to be provided by the sensor module 28." Ahmed-629, [0054]. This teaching discloses that more than one sensor, in combination—which would have been understood to disclose a combination in which multiple or all sensors are active at once. Ahmed-629 also discloses examples of sensor suits with "one *or more* sensors used to provide the function of protection," including "a fire sensor, a smoke sensor and a biological sensor," as well as security sensor suite including both a "biometric sensor, [and] a complementary metal oxide semiconductor (CMOS) camera," among others. Ahmed-629, [0074]-[0075]. Each of these examples describes a multi-sensor package in which complementary sensors, serving a common purpose, would be concurrently enabled to facilitate the purpose of the device.

51. Ahmed-629 thus discloses multiple operating sensors in a single packaged sensor device, which outputs combinations of multiple sensor values without being limited to single-value outputs.

52. Ollnova's and Mr. de la Iglesia's mischaracterization of Ahmed-629 therefore fails, and my opinion remains the same that Ahmed-629 discloses "multi-

sensor package” under either party’s construction. It is also my understanding that neither Ollnova nor Mr. de la Iglesia disputes my opinion (Neikirk Decl., ¶¶199-204) that a POSITA would have been motivated to modify McFarland’s sensor to apply the teachings of Ahmed-629.

V. MCFARLAND’S AND STONER’S DISCLOSURE OF “RECEIV[ING] SENSOR CONTROL INFORMATION RELATED TO SENSOR DATA IN CONTROL”

53. Ollnova contends that “receiv[ing] sensor control information related to sensor data in control” is not disclosed in McFarland (for Grounds 1 and 3) or Stoner⁴ (for Ground 3) with respect to only claims 1-5 under Grounds 1 and 3, and do not separately address any other Challenged Claims or Grounds. *See, e.g.*, POR, 31. Mr. de la Iglesia challenges McFarland’s disclosure for this element only with respect to claim 1 and does not even address Stoner in his declaration. de la Iglesia Decl., ¶¶40-41. Indeed, aside from when he identifies the references relied upon in the grounds at issue in this proceeding, Mr. de la Iglesia never even mentions Stoner.

54. Regardless of whether Ollnova’s assertions and Mr. de la Iglesia’s opinion were directed to other Challenged Claims or Grounds, as detailed in my March 6, 2023 Declaration, it is my conclusion that both McFarland and Stoner disclose and at least render obvious a “receiv[ing] sensor control information related

⁴ “Stoner” refers to U.S. Patent No. 8,276,829.

to sensor data in control” in claim 1 and similar elements in other claims. *See generally* Neikirk Decl. My conclusion remains the same even under Ollnova’s and Mr. de la Iglesia’s construction.

A. McFarland’s “Report Instruction” “Specific to the Sensor” For Control Discloses “Sensor Control Information”

55. As detailed in my Declaration, McFarland discloses a “wireless automation device,” which is a first automation component, receiving a “report instruction,” which is sensor control information. Neikirk, ¶¶85-86; McFarland, [0025]-[0026], [0060]-[0062]. This “report instruction” discloses sensor control information at least because it is “specific to the sensor” and is used to “implement[] a control process ... based on” that sensor signal at a controller 508 (a second automation component). Neikirk, ¶¶87-88; McFarland, [0039]-[0040]

56. In response, Mr. de la Iglesia provides a conclusory opinion that McFarland does not disclose this element. de la Iglesia Decl., ¶¶40-41. Ollnova mischaracterizes McFarland stating that it “does not disclose or suggest multiple operable sensors” and, based on that mischaracterization, asserts that the argument that McFarland discloses this element relies on the fact that McFarland’s data is purportedly “self-identifying.” POR, 32. I disagree with Ollnova and, also with Mr. de la Iglesia’s conclusory opinion.

57. First, Ollnova's argument is based on its construction that imposes a negative limitation restricting the claim to exclude "self-identifying" information. For the reasons discussed above in §III.B., in my opinion that construction is incorrect and hence I disagree with and Ollnova's argument relying on that construction.

58. Second, even under Ollnova's construction, Ollnova's mischaracterization of McFarland that it "does not disclose or suggest multiple operable sensors" contradict McFarland's disclosure of using multiple sensors in the multi-sensor package, as discussed above. §IV.A.

59. Lastly, Ollnova's characterization of Copeland's arguments as contending that McFarland's data is "self-identifying" does not accurately reflect McFarland's disclosures. As I explained in my March 6, 2023 Declaration, McFarland's "report instruction" discloses and renders obvious the claimed "sensor control information." Neikirk Decl., ¶¶85-86. That conclusion remains the same even under Ollnova's construction excluding data that is "self-identifying," because the "report instruction" identifies for the wireless automation device (first automation component) which sensor data to report. *Id.*; *see also* McFarland, [0060]-[0062]. That sensor data is then used by the wireless automation device to "process[] the information according to a control algorithm." *Id.* The requested

sensor data is driving or controlling at the controller (second automation component) as the controller uses that data to “provide[] control functionality ... in response to an event reported by” the sensor. Neikirk Decl., ¶¶85-86; McFarland, [0060]-[0062]. As an example, McFarland discloses that the controller uses the sensor data to “provide[] an appropriate control signal to the actuator” based on the reported sensed condition and by controlling HVAC system actuators. McFarland, [0025]-[0026]. A POSITA would have recognized that McFarland’s disclosure of applying an “appropriate control signal” based on this sensor data discloses that the report instruction identifies a specific sensor in order to determine what control signal is appropriate. *See id.*

60. Accordingly, I explained how the information communicated from the controller (second automation component) identifies a specific sensor data to report, and how a wireless automation component (first automation component) then reports the requested sensor data for controller’s use to control a particular control process, contrary to Ollnova’s further mischaracterization of Copeland’s argument as contending that “any information that may be communicated” or mere “sensor data that is used by the second automation device” meets this element.

61. In sum, my conclusion remains the same that McFarland discloses this element, and it is my opinion that McFarland also discloses this element under

Ollnova's and Mr. de la Iglesia's construction. And, for the same reasons, McFarland discloses similar elements in claims 7 and 20. Neikirk Decl., ¶¶108-120, 135-140.

B. Stoner's "Operational Information" Discloses "Sensor Control Information"

62. To the extent additional disclosure is required, I also explained for Grounds 3, 4, 7, and 8 that Stoner's "operational information" that includes "updated system status information, updated operational data, and/or other data" discloses the element. *See, e.g.*, Neikirk Decl., ¶¶166-204.

63. Specifically, in my Declaration, I explained that Stoner's "remote controller" (first automation component) receives and uses "operational information" (sensor control information) from the "HVAC controller" (second automation component). Neikirk Decl., ¶¶179, 196; Stoner, 9:11-42. The "operational information" includes "updated system status information, updated operational data and/or other data," in addition to information identifying "the temperature sensor [that] is now controlling" the "HVAC Controller." Neikirk Decl., ¶¶179, 196; Stoner, 9:11-42. The "remote controller" then uses the information to determine, and display to the user, the sensor and sensor data that is "currently being used to control the comfort level of the building," or controlling the automation system (sensor data in control). Neikirk Decl., ¶¶180-181, 196; Stoner,

9:11-42. For example, the remote controller notifies the user when the system switches to use a different temperature sensor, or to display to the user both “updated sensed temperature readings, updated sensed humidity readings, ... and/or other data, as desired.” Neikirk Decl., ¶¶185-187, 196; Stoner, 9:11-42.

64. I also explained that a POSITA would have been motivated to “make McFarland’s automation device a remote controller as taught by Stoner based on their similar teachings of the functionality of these devices,” especially because a POSITA “would have recognized that this combination advantageously improves the accuracy and convenience of the system as taught by Stoner based on its portable remote controller.” Neikirk Decl., ¶175. I also explained that “applying Stoner’s teachings thus yields a system in which McFarland’s automation device includes an indicator of which sensors are currently in control at the central controller, enabling the system to more accurately respond to conditions as the user experiences them and the users to more easily understand and control the operation of the system.” Neikirk Decl., ¶176. Neither the Ollnova, nor Mr. de la Iglesia disputes my opinion in this regard.

65. Mr. de la Iglesia does not address Stoner’s disclosures at all in his opinion. *See generally* Ex. 2008. Ollnova, likewise, does not substantively dispute Stoner’s disclosures of this element. *See* POR 36-38. Instead, my understanding of

Ollnova’s challenge against Stoner is limited to criticizing the Petition’s reliance on cross-referencing a prior discussion of Stoner’s teachings “by reference to claim element [7.e], which does not even recite ‘sensor control information.’” *Id.* But as detailed in my Declaration, I explicitly noted that “[t]hese same disclosures from Stoner that I discussed with respect to [7.e] also further disclose elements [1.e], [13.f], and [20.d].” Neikirk Decl., ¶196. I further addressed the element [1.e] explicitly, and explained that “Stoner’s disclosure of operational information received by the remote controller discloses ‘control information related to sensor data in control’ as required by claim element [1.e] because this operational information identifies the sensor data that the HVAC controller is using to control HVAC services; that is, for example, information about whether data from the HVAC controller’s sensor or the remote controller’s sensor is used to determine the control of the HVAC system.” Neikirk Decl., ¶196 (citing Stoner, 9:11-42). This analysis thus plainly sets forth how Stoner’s teachings disclose this element. The Petition contains the same cross-references. See Pet. 67-68.

66. Based on the foregoing, my conclusion remains the same that Stoner discloses this element, that a POSITA would have been motivated to combine McFarland with Stoner.

VI. MCFARLAND’S, STONER’S, AND KATES-089’S DISCLOSURES OF A “SECOND AUTOMATION COMPONENT IN COMMUNICATION WITH THE BUILDING AUTOMATION SYSTEM”

67. As I explained in my March 6, 2023 Declaration, McFarland (both alone and in view of Stoner) and Kates-089⁵ each discloses and renders obvious a “second automation component in communication with the building automation system.” Neikirk Decl., ¶¶84-88, 108-112, 135-137, 181-182, 217-222.

68. Based upon my review of Ollnova’s POR and Mr. de la Iglesia’s declaration, neither Ollnova nor Mr. de la Iglesia addresses any of my opinions or conclusions under the plain meaning of this claim element. Instead, Ollnova (for Grounds 1, 3, and 9) and Mr. de la Iglesia (for Grounds 1, 3, 5, 7) challenge McFarland (alone or in view of Stoner) and Kates-089 with respect to this claim element based solely on their claim construction excluding second automation components from being “within” the building automation system.

69. For the reasons discussed above in §III.C, it is my opinion that Ollnova’s and Mr. de la Iglesia’s construction of this claim element is incorrect and, therefore, their challenges against McFarland (alone or in view of Stoner), and Kates relying on that construction are also incorrect. But regardless, even under Ollnova’s and Mr. de la Iglesia’s construction, it is still my opinion that McFarland (alone and

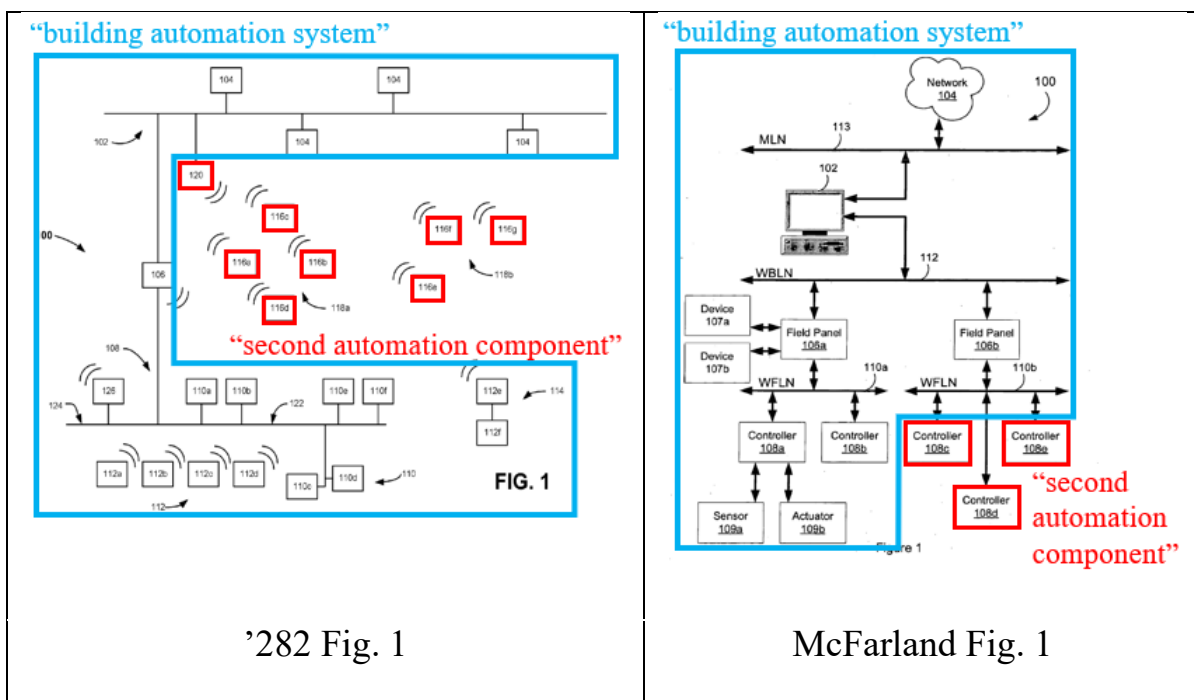
⁵ “Kates-089” refers to U.S. Patent Application Publication 2006/0071089.

in view of Stoner) and Kates-089 each discloses and renders obvious this element. My opinion remains the same for Grounds 2 and 4, 6, 8, even if Ollnova and Mr. de la Iglesia contend that their argument for this element applies to those Grounds.

70. Under Ollnova's and Mr. de la Iglesia's contention, wireless building automation components 112e-f (first automation components) of the '282 patent specification are part of the building automation system 100, while field panels 120 and reduced function devices 120 and 116-a116g are not, because Ollnova contends that field panels and reduced function devices are second automation components that are "not within" the building automation system. POR 3, n.1. See annotations below. Without any disclosure in the '282 patent specification excluding field panels 120 or reduced function devices 120 and 116-116g from the building automation system (§III.C), this appears to be an arbitrary box-drawing exercise. The only rationale for Ollnova's and Mr. de la Iglesia's contention appears to be that reduced function devices in the '282 patent are in a separately defined network and communicate with other components in the system "using, direct, indirect or routed wireless communications." POR, 13 (quoting '282, 5:44-49); de la Iglesia Decl., ¶¶35, 42-43.

71. Under Ollnova's and Mr. de la Iglesia's logic, McFarland still discloses a second automation component that communicates with but is outside the building

automation system, as shown below. For example, under Ollnova's and Mr. de la Iglesia's logic, McFarland's controllers 108 and 108b (first automation components) are part of the system and controllers 108c-108e are not because, e.g., controllers 108-108e are in a separate "wireless field (or floor) level network ('WFLN's')." McFarland, [0027], [0030]-[0031].



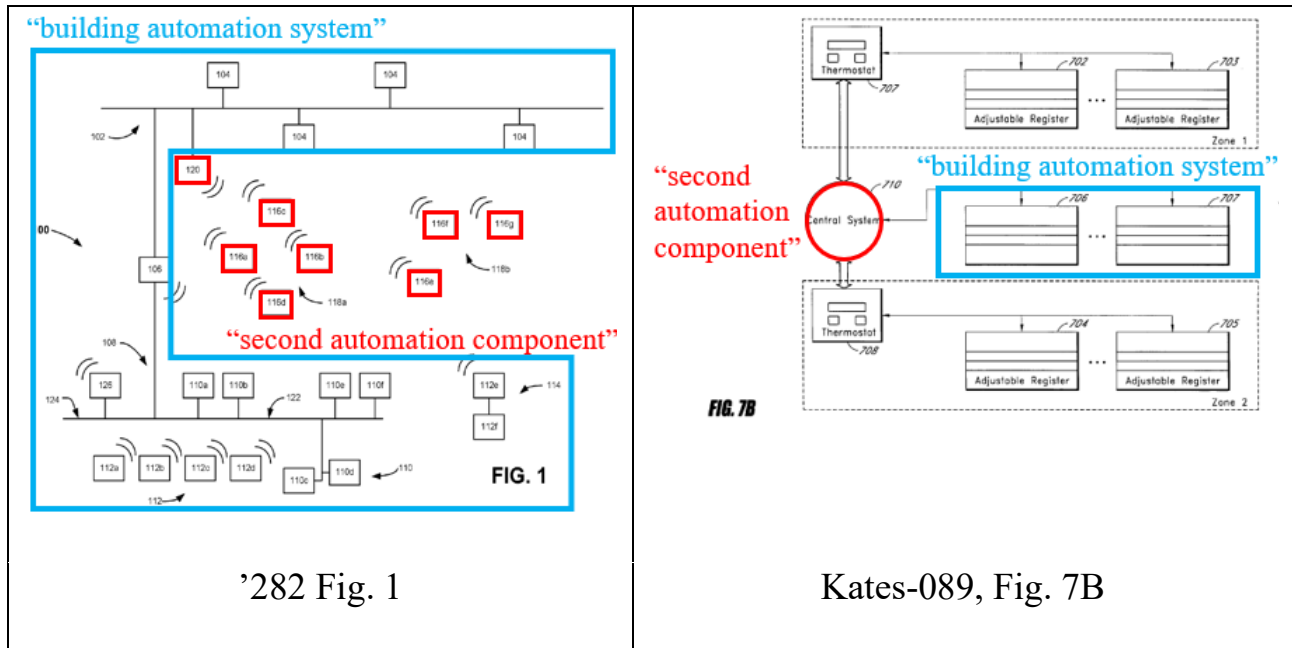
Compare, e.g., McFarland, Fig. 1, [0024], with '282, Fig. 1, 5:13-38. Indeed, McFarland's disclosures provide a principled basis for identifying controllers 108c-108e as "second automation components" that are outside of a "building automation system" because McFarland discloses sub-dividing building control with, e.g., a separate "wireless field"; while, as set forth in my prior Declaration, this is properly considered part of a "building automation system," McFarland also discloses and

renders obvious the Challenged Claims when re-drawing the “building automation system” to exclude this separate field.

72. To the extent further disclosure is required, Stoner (Grounds 3-4, 7-8) also discloses an HVAC controller, a “second automation component” that “communicate[s] with” various components of a building automation system such as “one or more HVAC components of HVAC equipment 16” and “remote controller 14.” Stoner, 4:11-27. As noted in my Declaration, a POSITA would have been motivated to modify McFarland’s automation device with Stoner’s teachings of a remote portable controller to allow the user to advantageously adjust system settings from *any* location. *See* Stoner, Fig. 2, 3:40-50, 4:28-40, 4:54-63, 6:26-28; Neikirk Decl., ¶167. Because “any” location for a remote device includes locations outside the system, this renders obvious this element even under Ollnova’s construction. Mr. de la Iglesia does not dispute my opinion in this regard.

73. And, under Ollnova’s and Mr. de la Iglesia’s logic, Kates-089 (Ground 9) also discloses a second automation component that communicates with but is not within a building automation system. Specifically, Kates-089 discloses a “central system 710” (a second automation component) that communicates with Electronically Controlled Register Vents (“ECRVs,” first automation components). Kates-089, Fig. 7B, [0041], [0056], [0064]-[0065], [0078], [0080], [0090], [104]-[107]; Neikirk ¶¶217-219. Notably, Kates-089 discloses a zone comprising ECRVs

706 and 707 (as shown below) that “communicate[] with” but is not disclosed as “within” Central System 710. Kates-089, [0056]-[0057]. In other words, Kates-089 discloses putting devices in its system into different building zones. While the system of Kates-089 as a whole is a “building automation system” as discussed in my prior Declaration, based upon Kates-089’s disclosure of subdividing this system into “zones,” each of the “zones,” as well as a separate stand-alone set of ECRVs such as ECRVs 706 and 707 (including, alternatively grouping such ECRVs into their own “zone”), also discloses and renders obvious a building automation system under Ollnova’s and Mr. de la Iglesia’s logic, as shown below. And, under Ollnova’s and Mr. de la Iglesia’s logic, the central system is outside the building automation system, because it is used to control multiple different building automation systems (i.e., different zones), including the system comprising ECRVs 706 and 707 (as shown below), but is not considered within those zones. Kates-089, Fig. 7B, [0056]-[0058].



Compare, e.g., Kates-089, Fig. 7B, [0056]-[0062], [0084], [0090]-[0097], [0110] with '282, Fig. 1, 5:13-38; Neikirk, ¶¶148, 217-219.

74. It is accordingly my opinion that (1) Ollnova's and Mr. de la Iglesia's construction and contentions relying on the same are incorrect; and (2) even under Ollnova's and Mr. de la Iglesia's construction and logic, McFarland, alone or in view of Stoner (for Grounds 1, 3, 4, 7, 8) and Kates-089 (Ground 9) each discloses and renders obvious this element.

VII. CONCLUSION

75. In summary, and as outlined in my Declaration and set forth above, I have concluded that claims 1-5, 7-11, 13-16, and 20-21 of U.S. Patent No. 8,224,282 are anticipated and/or rendered obvious over the prior art references discussed in my

Declaration and herein. As discussed above, I disagree with Ollnova's and Mr. de la Iglesia's arguments, and none of their arguments alters my opinions expressed in my previous Declaration.

76. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed this March 22, 2024, in Dripping Springs, TX.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Dean Neikirk", with a long horizontal line extending to the right.

Dr. Dean P. Neikirk, Ph.D.

Appendix A

LIST OF MATERIALS CONSIDERED

1001	U.S. Patent No. 8,224,282
1002	Declaration of Dr. Dean P. Neikirk
1003	File History of U.S. Patent No. 8,224,282
1005	U.S. Patent Application Publication No. 2004/0100394 to Hitt
1009	<i>Ollnova Technologies Ltd. v. Emerson Electric Co.</i> , 4:22-cv-01387 (E.D. Mo.) Defendants' Opening Claim Construction Brief (October 27, 2022)
1010	<i>Ollnova Technologies Ltd. v. Emerson Electric Co.</i> , 4:22-cv-01387 (E.D. Mo.) Plaintiff Ollnova Technologies Ltd.'s Responsive Claim Construction Brief (November 17, 2022)
1011	<i>Ollnova Technologies Ltd. v. Emerson Electric Co.</i> , 4:22-cv-01387 (E.D. Mo.) Defendants' Reply Claim Construction Brief (December 1, 2022)
1012	<i>Ollnova Technologies Ltd. v. Emerson Electric Co.</i> , 4:22-cv-01387 (E.D. Mo.) Plaintiff Ollnova Technologies Ltd.'s Sur-Reply Claim Construction Brief (December 15, 2022)
1013	<i>Ollnova Technologies Ltd. v. Emerson Electric Co.</i> , 4:22-cv-01387 (E.D. Mo.) Joint Claim Construction Statement (December 20, 2022)
1014	<i>Ollnova Technologies Ltd. v. Carrier Global Corp.</i> , 9:22-cv-80388 (S.D. Fla.) Plaintiff Ollnova Technologies Ltd.'s Opening Claim Construction Brief (November 4, 2022)
1015	<i>Ollnova Technologies Ltd. v. Carrier Global Corp.</i> , 9:22-cv-80388 (S.D. Fla.) Carrier Global Corp.'s Responsive Claim Construction and Indefiniteness Brief (November 18, 2022)
1016	<i>Ollnova Technologies Ltd. v. Carrier Global Corp.</i> , 9:22-cv-80388 (S.D. Fla.) Plaintiff Ollnova Technologies Ltd.'s Reply Claim Construction Brief (November 30, 2022)

1017	<i>Ollnova Technologies Ltd. v. Carrier Global Corp.</i> , 9:22-cv-80388 (S.D. Fla.) Joint Claim Construction Chart (December 5, 2022)
1023	<i>Ollnova Technologies Ltd. v. ecobee Technologies, ULC</i> , 2:22-cv-00072 (E.D. Tex.) P.R. 4-3 Joint Claim Construction and Prehearing Statement (January 10, 2023)
1025	<i>Ollnova Technologies Ltd. v. Emerson Electric Co.</i> , 4:22-cv-01387 (E.D. Mo.) Plaintiff's Preliminary Disclosure of Asserted Claims and Infringement Contentions (July 7, 2022)
1027	U.S. Patent Application Publication No. 2007/0242688 to McFarland
1028	U.S. Patent Application Publication No. 2006/0186214 to Simon
1029	U.S. Patent Application Publication No. 2006/0071089 to Kates
1030	U.S. Patent No. 8,276,829 to Stoner
1032	U.S. Patent No. 7,455,236 to Kates
1033	WIPO International Application Publication WO 1999/017477 to Kriz
1036	U.S. Patent Application Publication No. 2005/0268629 to Ahmed
1037	U.S. Patent Application Publication No. 2006/0071773 to Ahmed
1038	WIPO International Application Publication WO 2007/036922 to Cummins
1039	U.S. Patent Application Publication No. 2007/0026107 to Wang
1040	U.S. Patent No. 6,392,536 to Tice
1043	<i>Ollnova Technologies Ltd. v. Emerson Electric Co.</i> , 6:22-cv-00358-ADA (W.D. Tex.) Declaration of Erik De La Iglesia in Support of Plaintiff Ollnova Technologies Ltd.'s Responsive Claim Construction Brief

1044	<i>Ollnova Technologies Ltd. v. ecobee Technologies, ULC</i> , 2:22-cv-00072 (E.D. Tex.) Ollnova Technologies Ltd.’s Opening Claim Construction Brief (January 31, 2023)
1045	U.S. Provisional Patent Application No. 61/037,739
1044	<i>Ollnova Technologies Ltd. v. ecobee Technologies, ULC</i> , 2:22-cv-00072 (E.D. Tex.) Ollnova Technologies Ltd.’s Opening Claim Construction Brief (January 31, 2023)
1048	<i>Ollnova Technologies Ltd. v. Emerson Electric Co.</i> , 4:22-cv-01387-JAR (E.D. Mo.) Memorandum and Order, Dkt. 79 (April 5, 2023)
1050	U.S. Patent Application Publication No. 2006/0028997 to McFarland
1051	U.S. Patent Application Publication No. 2005/0275530 to Kates
1053	<i>Ollnova Techs Ltd. v. ecobee Techs. ULC</i> , No. 2:22-cv-00072-JRG (“ <i>ecobee</i> ”), Dkt. No. 237 (E.D. Tex. Oct. 5, 2023)
2002	<i>Ollnova Technologies Ltd. v. ecobee Technologies, ULC</i> , 2:22-cv-00072 (E.D. Tex.) Claim Construction Memorandum Opinion and Order, Dkt. No. 105 (Apr. 10, 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
2006	Excerpt from Webster’s II New College Dictionary (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