



Petitioner's Demonstrative Slides

***Copeland Comfort Control LP v. Ollnova Technologies Ltd.
Inter Partes Review of
U.S. Patent No.8,224,282
July 9, 2024***

**IPR2023-00624
Patent Trial and Appeal Board
United States Patent and Trademark Office**

July 9, 2024

ROPES & GRAY

Copeland v. Ollnova Ex. 1054

IPR2023-00624 | Page 1

Abbreviation	Description
'282	Ex. 1001, U.S. Patent No. 8,224,282
'282FH	Ex. 1003, File History of U.S. Patent No. 8,224,282
Neikirk	Ex. 1002, Declaration of Dr. Neikirk
Neikirk Reply Decl.	Ex. 1052, Neikirk Declaration in Support of Reply to Response
Ahmed-629	U.S. Patent Application Publication No. 2005/0270173
ecobee Litigation	Ollnova Technologies Ltd. v. ecobee, Inc., No. 2-22-cv-00072 (E.D. Tex., filed March 8, 2022)
Kates-089	U.S. Patent Application Publication No. 2006/0071089
McFarland	U.S. Patent Application Publication No. 2007/0242688
Stoner	U.S. Patent No. 8,276,829
Petitioner	Copeland Comfort Control LP
PO	Patent Owner (Ollnova Technologies Ltd.)
Pet.	Paper 2 (Petition)
POR	Paper 16 (Patent Owner's Response)
Reply	Paper 17 (Reply)
POSR	Paper 25 (Patent Owner's Sur-Reply)

All citations within quotations omitted herein, and emphasis and color annotations added unless otherwise indicated

7. 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; wherein the computer readable instructions are programmed to:

[7.e] 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.

Ground	Basis	Claim(s)	Prior Art
1	§102 / §103	1-5, 7-11, 20-21	McFarland
2	§103	13-16	McFarland in view of Kates-089
3	§103	1-5, 7-11, 20-21	McFarland in view of Stoner
4	§103	13-16	McFarland in view of Stoner and Kates-089
5	§103	1-5, 7-11, 20-21	McFarland in view of Ahmed-629
6	§103	13-16	McFarland in view of Kates-089 and Ahmed-629
7	§103	1-5, 7-11, 20-21	McFarland in view of Stoner and Ahmed-629
8	§103	13-16	McFarland in view of Stoner, Kates-089, and Ahmed-629
9	§103	20-21	Kates-089 in view of Ahmed-629

Pet. 5-6.

Disputed Issue	Slides
Claim Construction	
“multi-sensor package” (all challenged claims)	10
“a second automation component in communication with the building automation system” (claims 1-5, 7-11, 20-21)	11-14
“receive sensor control information related to sensor data in control” (claims 1-5)	15-17
McFarland Grounds (All Challenged Claims)	
Overview	19-20
Teachings of a “multi-sensor package” (all challenged claims)	21-28
Teachings of “a second automation component in communication with the building automation system” (claims 1-5, 7-11, 20-21)	29-31
Teachings of “receive sensor control information related to sensor data in control” (claims 1-5)	32-34
Kates Grounds (Claims 20-21)	
Overview	36-37
Teachings of a “multi-sensor package” (claims 20-21)	38
Teachings of “a second automation component in communication with the building automation system” (claims 20-21)	39

- Ollnova did not dispute that a POSITA would have been motivated to combine the references in the McFarland and Kates grounds
- PO’s surreply addresses only claim construction for, and disclosure of, the “multi-sensor package” and “in communication with” terms

- Because of a prior final judgment after a jury trial in which multiple claims were found invalid, Ollnova is apparently no longer disputing the unpatentability of claims 1-5 and 20-21

Ex. 1053 (ecobee Final Judgment) at 1: “[T]he Court hereby **ORDERS** and **ENTERS JUDGMENT** as follows:

... **Claims 1, 3, 6, and 21 of U.S. Patent No. 8,224,282 are invalid[.]**”

PO’s Surreply: “**In view of the Final Judgment in Ollnova Technologies Limited v. ecobee Technologies ULC d/b/a ecobee, ... Patent Owner is not addressing the patentability of challenged claims 1, 3 and 21** in this surreply. 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 surreply.** And as claim 21 depends from claim 20, **Patent Owner is not addressing the patentability of claim 20 in this sur-reply.**”

POSR, 1.

- Accordingly, only claims 7-11, 13-16 appear to remain in dispute

Claim Construction

<u>Disputed Claim Term</u>	<u>Petitioner's Proposed Construction</u>	<u>PO's Proposed Construction</u>
"multi-sensor package" ([1.a], [7.a], [13.a], [20.a])	"a single packaged sensor device, not a group of individual sensors"	"a single packaged sensor device with multiple operational sensors"
"second automation component in communication with [...] the building automation system" ([1.e], [7.e], [20.c])	Plain and ordinary meaning	"an automation component that communicates with, but is not within, the building automation system"
"receive sensor control information related to sensor data in control" ([1.e])	Plain and ordinary meaning	"receive information that identifies which sensor or sensor value is driving or controlling a receiving device in communication with the building automation system"

- The prior art discloses and renders obvious the Claims under either party's construction

Neikirk, ¶ 54; Neikirk Rebuttal, ¶ 10.

Federal Circuit: “[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy...’”

Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Matal, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

<u>Disputed Claim Term</u>	<u>Petitioner’s Proposed Construction</u>	<u>PO’s Proposed Construction</u>
“multi-sensor package” ([1.a], [7.a], [13.a], [20.a])	“a single packaged sensor device, not a group of individual sensors”	“a single packaged sensor device with multiple operational sensors”

- **Petitioner’s construction should be adopted because it is (a) agreed and (b) does not use the ambiguous term “operable”**
 - **In district court, PO agreed that Petitioner’s construction should be adopted**
Ex. 1013, 1.
 - **PO agrees that a “multi-sensor package” is “not a group of individual sensors”**
POSR, 4.
 - **The intrinsic record supports this understanding and Petitioner’s construction**

’282: “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.”

’282, 6:25-29; Reply, 3-4.

- **Petitioner would agree to the construction “a single packaged multi-sensor device, not a group of individual sensors”**

Cf. POSR 9 (“There is no need to identify which sensor data if there is only one operable sensor.”)

<u>Disputed Claim Term</u>	<u>Petitioner's Proposed Construction</u>	<u>PO's Proposed Construction</u>
"second automation component in communication with the building automation system" ([1.e], [7.e], [20.c])	Plain and ordinary meaning	"an automation component that communicates with, but is not within , the building automation system"

- PO's proposed negative limitation, "but is not within," is unsupported by the words of the claim, express disclaimer, or independent lexicography

Federal Circuit: "Beyond the words of the claim, neither the district court nor Raytek has identified any express disclaimer or independent lexicography in the written description that would justify adding that negative limitation."

Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1323 (Fed. Cir. 2003);
see also Neikirk Reply, ¶ 30 (unaddressed in POSR).

PO Admits that the Specification Discloses Second Automation Components Within the System

“In Communication With...”

- The second automation components identified by PO are within the building automation system

POR: “[T]he second automation component in claim 7 could be a **field panel or ‘a reduced function device (RFD)’** implemented as a wireless room temperature sensor.” See, e.g., ’282 Patent, 3:51-4:4.

POR, 3 n.1 (citing ’282, 3:51-4:4 (“...devices may be ... a field panel transceiver ... a reduced function device ... in a building automation system”).

’282 Patent, 4:47-59: “FIG. 1 illustrates an exemplary **building automation system or control system 100** that may incorporate the methods, systems and teaching provided herein.”

’282 patent, 5:13-51: “...automation components **116a to 116g** such as, for example, full or **reduced function devices field panel 120**... individual automation components 116a to 116d within the subnet 118a may communicate directly with the **field panel 120**”

See also Reply, 9-10.

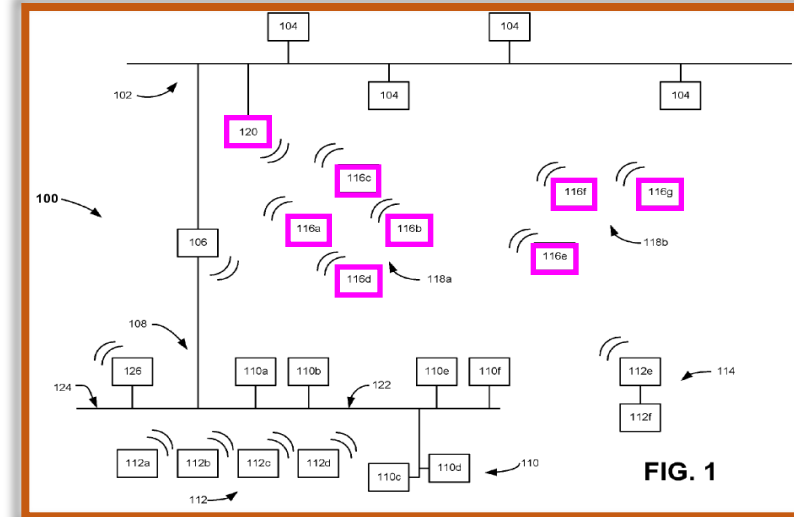
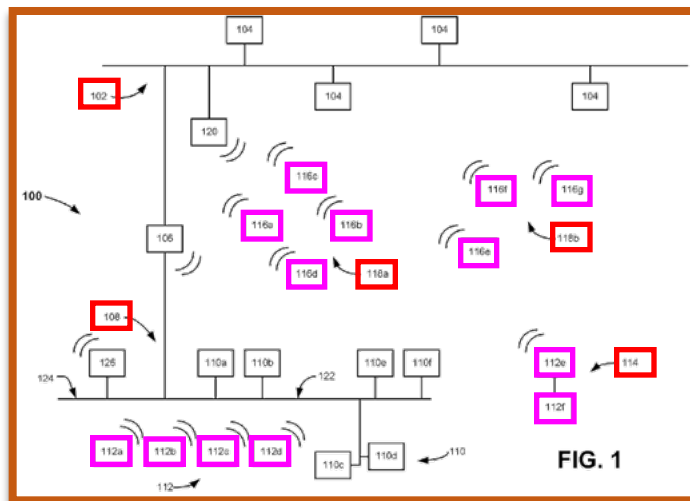


FIG. 1

’282, Fig. 1; see also Reply, 9; Neikirk Reply, ¶¶ 32, 33 (all ’282 embodiments of second automation components are within the building automation system).

- Mr. De la Iglesia's opinion cited by PO identifies components that are within building automation system 100

Mr. de la Iglesia: "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.'"



Ex. 2008, ¶ 35; see also POR, 14 (citing Ex. 2008, ¶ 35).

'282, Fig. 1; see also Reply, 9-10.

PO argues: "the '282 Patent specification consistently uses the words 'within' and 'with' to mean different things, which is in accordance with their respective dictionary definitions."

POSR, 11.

- The different definitions cited by PO do not support construing "with" to read in PO's negative limitation
- PO's cited definition of "with" confirms Petitioner's understanding that "with" identifies the other party to a communication

Webster's Dictionary: "with ... 21. To : onto <Link your arm with your partner's.> ... 25. In relationship to <infatuated with a neighbor>"

Ex. 2006, 3-4; see *a/s/o* Neikirk Reply, ¶36; Reply, 11.

<u>Disputed Claim Term</u>	<u>Petitioner's Proposed Construction</u>	<u>PO's Proposed Construction</u>
“receive sensor control information related to sensor data in control” ([1.e])	Plain and ordinary meaning	“receive information that identifies which sensor or sensor value is driving or controlling a receiving device in communication with the building automation system”

- PO does not articulate how this construction was material to its arguments and, regardless, PO apparently is no longer disputing that claims 1-5 are unpatentable or invalid

<u>Disputed Claim Term</u>	<u>Petitioner's Proposed Construction</u>	<u>PO's Proposed Construction</u>
"receive sensor control information related to sensor data in control" ([1.e])	Plain and ordinary meaning	"receive information that identifies which sensor or sensor value is driving or controlling a receiving device in communication with the building automation system"

- PO's construction improperly rewrites "related to" to mean "identifies"—which is inconsistent with the specification

'282 Patent: "The **sensor** usage or **control information relates to or identifies** the sensor values and routines that are controlling and driving the receiving device."

'282 patent, 9:13-16.

Federal Circuit: **"The disjunctive 'or' plainly designates that a series describes alternatives."**

SkinMedica, Inc. v. Histogen Inc., 727 F.3d 1187, 1199 (Fed. Cir. 2013); *see also* Reply, 6.

PO argues: “Because McFarland does not disclose or suggest multiple operable sensors, there is no reason to identify which sensor and sensor data is currently being analyzed and/or is primary or controlling. **Petitioner** sidesteps this problem by essentially **arguing that the data received is self-identifying** as the driving or controlling information because it was received. Pet., 25-26. Petitioner’s circular logic **vitiates the separate claim requirement for information that identifies which sensor or sensor value is driving or controlling a receiving device in communication with the building automation system.**”

POR, 32.

- Petitioner is not relying on “self-identifying” information as described by PO
- PO’s argument reads in an improper negative limitation excluding self-identifying information—which lacks intrinsic support

Federal Circuit: “**Beyond the words of the claim, neither the district court nor Raytek has identified any express disclaimer or independent lexicography** in the written description **that would justify adding that negative limitation.**”

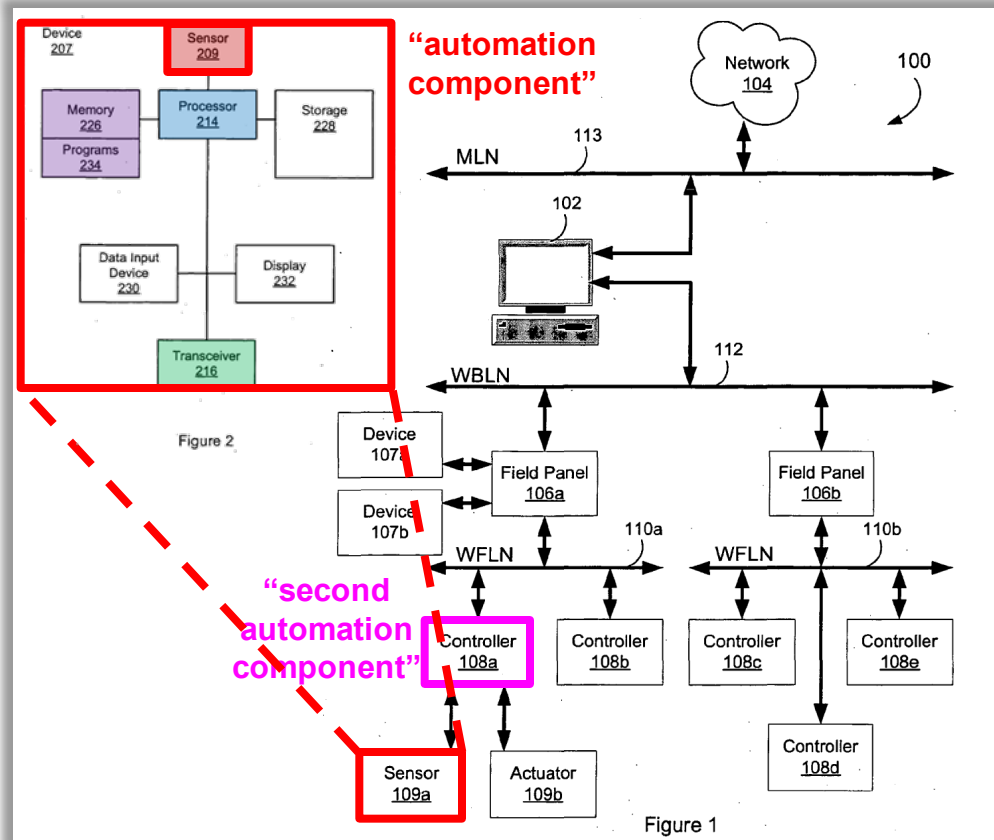
Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1323 (Fed. Cir. 2003).

McFarland Grounds

Ground	Basis	Claim(s)	Prior Art
1	§102/ §103	1-5, 7-11, 20-21	McFarland
2	§103	13-16	McFarland in view of Kates-089
3	§103	1-5, 7-11, 20-21	McFarland in view of Stoner
4	§103	13-16	McFarland in view of Stoner and Kates-089
5	§103	1-5, 7-11, 20-21	McFarland in view of Ahmed-629
6	§103	13-16	McFarland in view of Kates-089 and Ahmed-629
7	§103	1-5, 7-11, 20-21	McFarland in view of Stoner and Ahmed-629
8	§103	13-16	McFarland in view of Stoner, Kates-089, and Ahmed-629

[0060]: “The **controller** [508] **may transmit** data and information addressed to a specific device 507.... The information may include **control instructions**, communications settings or other information transmitted from another device 507 or controller.”

[0061]: “The **controller** 508 **receives information communicated from the device** 507. The controller 508 processes the information according to a control algorithm for the system and for the device 507.”



McFarland Figs. 1, 2, [0060]-[0061]; see also *id.* [0060] (“The device 507 is configured ... as described above with respect to FIGS. 1-4”).

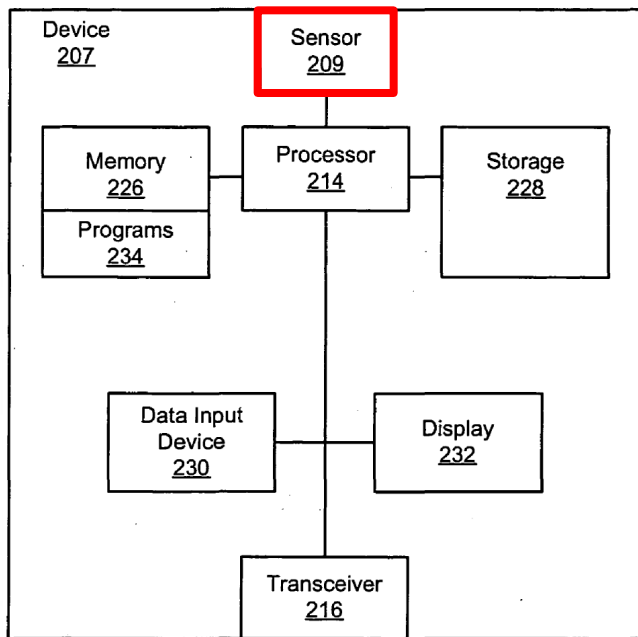


Figure 2

McFarland [0043]: “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.... The [sic] may be provided as an indicator of the sensed condition, parameter or event. In an example, **the sensor 209 is configured as any of a temperature sensor, humidity sensor, fire sensor ... combinations thereof**, or other now known or later developed sensors. The sensor 209 may be a **micro-electro-mechanical sensors (“MEMS”) ... for sensing any condition or parameter.**”

See also Pet., 21.

PO argues: “McFarland does not teach or disclose how multiple operational sensors would be distinguished and processed.”

- **McFarland discloses a processor handling a “plurality” of sensors, and sensing multiple “conditions, parameters, and/or events” and outputting multiple “signals”**

McFarland [0039]: “**The 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 implements a control process algorithm specific to the sensor 209.** Other control processes may be stored but unused due to a specific configuration.”

McFarland [0043]: “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 information may be provided an output as one or more signals that may be read by the processor 214.**... In an example, **the sensor 209 is configured as** any of a temperature sensor, humidity sensor, fire sensor ... **combinations thereof**, or other now known or later developed sensors. The sensor 209 may be a micro-electro-mechanical sensors (“MEMS”) ... for sensing any condition or parameter.”

See also Pet., 21.

PO argues: “McFarland does not teach or disclose how multiple operational sensors would be distinguished and processed.”

POR, 28.

- PO nevertheless admits that the claim language encompasses using only one sensor at a time

POSR: “‘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.”

POSR, 7 (citing '282, 9:9-13 (“sensor usage or control information ... identifies which sensor and sensor data is currently being analyzed and/or is primary or controlling”))

PO argues: “Furthermore, **adding additional sensor identification information would be inimical to solving** the problem identified by McFarland — ‘**a need for reducing an amount of communication** over a wireless automated system”

POR, 29 (citing McFarland, [0005]).

- **PO's argument is belied by McFarland's express disclosures of a “combination” sensor**
- **McFarland discloses addressing this purported problem through “dynamic value reporting” while increasing the number of devices in the system—not reducing the number of such devices**

McFarland [0006]: “An automated wireless system **using dynamic value reporting** provides for a robust process control that minimizes an amount of communications in the wireless network. The amount of **wireless traffic** in the system **may be reduced, and/or the number of devices** communicating over a wireless network **increased, by minimizing or reducing the amount of information reported by a sensor.**”

See also Reply, 14; Neikirk Reply, ¶ 44.

PO argues McFarland is similar to prior art distinguished during prosecution: “McFarland, like Petite, discloses ‘a device or a collection of devices that sense conditions, parameters and/or events such as an environmental condition in a building.’”

POR, 28.

- **The Petite reference discussed during prosecution identified different sensors on different devices—not a combination sensor as disclosed in McFarland**

'282 File History: “[I]t is clear that **Petite discloses utilizing one or more individual sensors 310** to provide data signals to the data interface 321 which, in turn, provides the data to a data controller 324. **Nowhere in Petite is it disclosed or suggested that a group of individual sensors 310 could be combined to create a multi-sensor package** configured to detect a plurality of variables and generate sensor data for each detected variable as recited by the claims at issue.”

'282FH, 110-11; see also Neikirk, ¶ 44; Neikirk Reply ¶ 42; Pet. 8; Reply 4.

McFarland [0043]: “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. ... In an example, **the sensor 209 is configured as any of a temperature sensor, humidity sensor, fire sensor ... combinations thereof**, or other now known or later developed sensors. The sensor 209 may be a micro-electro-mechanical sensors (“MEMS”) ... for sensing any condition or parameter.”

See also Pet., 21.

- **Ahmed-629's "MEMS sensors incorporated into a single substrate" discloses this element**

Ahmed-629 [0047]-[0048]: "The first sensor module 28 represents a temperature sensor module and is preferably embodied as a wireless integrated network sensor that incorporates micro electro mechanical system ("MEMS) technology. By way of example, in the exemplary embodiment described herein, **the first sensor module 28 includes** a MEMS local RF communication circuit 34, a microcontroller 36, a programmable non-volatile memory 38, a signal processing circuit 40, and **a MEMS sensor suite 42.**

In one embodiment, **the sensor suite 42 is a collection of MEMS sensors incorporated into a single substrate.** The incorporation of multiple MEMS sensor technologies on a single substrate is known. **For example, a MEMS module that includes both temperature and humidity sensing functions is commercially available** from Hygrometrics Inc. of Alpine Calif.."

See also Pet., 69.

- A POSITA would have been motivated to modify McFarland's MEMS sensor with Ahmed-629's Teachings of "MEMS sensors incorporated into a single substrate"

McFarland [0043]: "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.... The [sic] may be provided as an indicator of the sensed condition, parameter or event. In an example, **the sensor 209 is configured as** any of a temperature sensor, humidity sensor, fire sensor ... **combinations thereof**, or other now known or later developed sensors. **The sensor 209 may be a micro-electro-mechanical sensors ("MEMS") ... for sensing any condition or parameter.**"

Neikirk, ¶ 200: "**A person having ordinary skill in the art would have been motivated to modify McFarland** (alone and in view of Kates-089 and/or Stoner) **with Ahmed's teachings to implement McFarland's combination sensor as a MEMS sensor suite on a single substrate**, disclosing a multi-sensor module."

See also Neikirk, ¶¶ 201-203; Pet. 69-71.

PO argues: “In Ahmed-629, only one sensor functionality is enabled in a particular sensor module.”

POR, 40.

- **Ahmed discloses using multiple sensors in the sensor suite**

Ahmed-629 [0052]: “The memory 38 further includes set-up configuration information related to the type of sensor or **sensors being used**.”

Ahmed-629 [0054]: “As discussed above, the configuration information may define which of **multiple possible sensor combinations** is **to be provided by the sensor module** 28.”

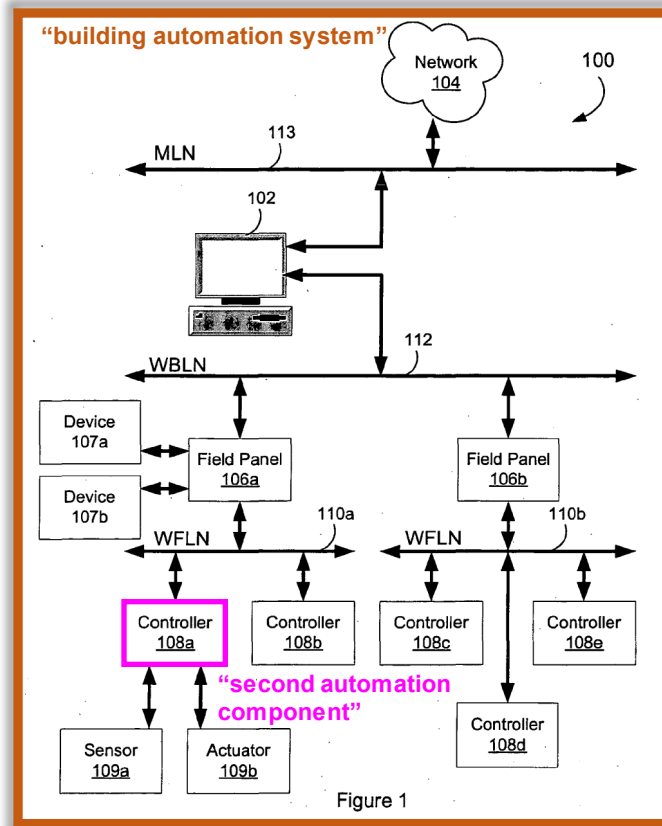
Ahmed-629 [0074]-[0075]: “Accordingly, the **MEMS modules** in the protection functional control subsystem 20 **include a sensor suite with** one or more sensors used to provide the function of protection. The sensors in the protection sensor suit may include **a fire sensor, a smoke sensor, a chemical sensor and a biological sensor**. Similarly, the MEMS modules in the security functional control subsystem 22 include **a sensor suite with** one or more sensors used to provide the function of security. The sensors in the security sensor suite may include **a biometric sensor, a complementary metal oxide semiconductor (CMOS) camera, a smart card sensor and a smart tagging/ tracking sensor**.”

See also Pet., 69; Reply, 15-16.

McFarland's Disclosure of "a second automation component in communication with the building automation system"

- PO does not dispute that this term is met under the plain meaning of the claim

McFarland [0026]: "The **controller 108a is programmed with** the set points and a code setting forth **instructions that are executed by the controller for controlling the actuators** to drive the sensed condition to be with the set point. For example, the actuator 109b is operatively connected to an air conditioning damper and sensor 109a may be a room temperature sensor that reports information related to a temperature being monitored by the sensor. ... If the temperature sensed by the sensor 109a exceeds a threshold, the actuator may respond accordingly to open a damper, allowing air conditioning to flow into a room. The **sensor 109a may communicate the sensed condition to the** actuator 109b and/or to the **controller 108a, which thereafter provides an appropriate control signal to the actuator 109a.**"



- Even under PO’s flawed construction (see Slides), McFarland still discloses this element:

McFarland [0027]: “To facilitate sharing of information, **groups of subsystems such as those coupled to controllers 108a and 108b are organized into wireless field (or floor) level networks (“WFLNs”)** and generally interface at least one field panel 106a.”

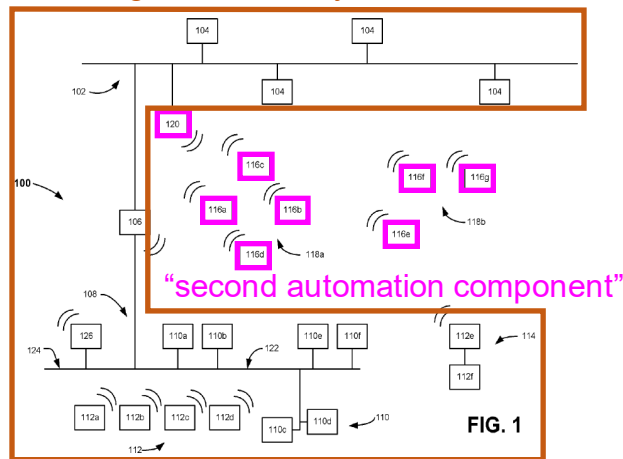
McFarland, [0027]; Reply, 21-22.

Dr. Neikirk: “**McFarland discloses sub-dividing building control with, e.g., a separate ‘wireless field’; ... McFarland also discloses and renders obvious the Challenged Claims when re-drawing the ‘building automation system’ to exclude this separate field.**”

Neikirk Reply Decl., ¶71; McFarland, [0030]-[0031]; Reply, 21-22.

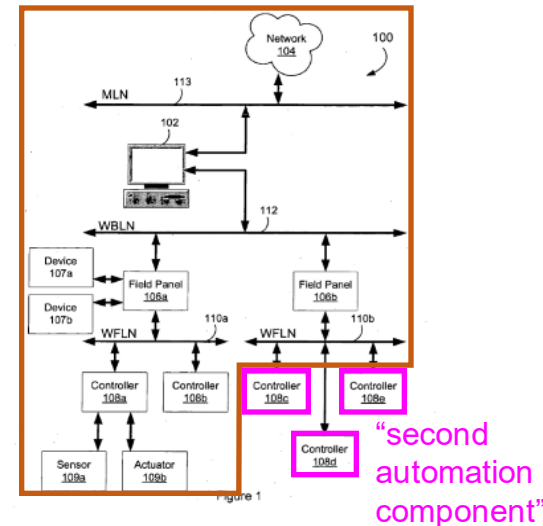
’242 Patent Fig. 1:

“building automation system”



McFarland Fig. 1:

“building automation system”



“second automation component”

- PO does not dispute that Stoner discloses the second automation component under this term’s plain meaning

Stoner 4:28-40: “Remote Controller 14 can provide for user interaction with the HVAC Controller 12 from locations remote from the HVAC Controller 12. Also, and as detailed above, the remote controller 14 may include a temperature sensor (and/or other type of sensors such as humidity), and may transmit a temperature (and/or other) sensor value to the HVAC Controller 12 for use in controlling the comfort level of at least a portion of the building or structure.”

See also Pet., 52-53.

- Stoner’s “remote controller 14” can be located outside the building—and therefore the building automation system

Stoner 5:24-36: “Because the remote controller 14 is portable, it can be placed at locations where the sensed temperature may not accurately reflect the ambient temperature of the room. For example, bright sunlight, an open window, an air draft caused by an open door or the like, a heat source, or other condition may cause the sensed temperature at the remote controller 14 to be inaccurate. In some instances, the remote controller 14 may be moved to a location outside the building or structure.”

See also Pet., 56.

Dr. Neikirk: “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. 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.”

Neikirk Reply Decl., ¶72;

See also Neikirk, ¶171 (“user may use a remote controller ... from any location”); Pet. 55; Reply, 23.

- **McFarland discloses reporting an “indicator” for a “plurality of different types of sensors” to the controller, which performs control “operation[s]” for, e.g., “actuators” based on reported sensor data**

McFarland [0062]: “The controller 508 may also communicate a report instruction to the device 507. **In response to a report instruction, the device 507 may** wake up from a sleep mode, and sense and **report a current indicator Vi** or other requested information.”

McFarland [0039]: “The processor 214 implements a control process for the device 207. The **control process 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. ... The 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. **The processor 214 implements a control process algorithm specific to the sensor 209.** Other control processes may be stored but unused due to a specific configuration.”

McFarland [0025]: “The controller 108a provides control functionality of each, one, or both of the sensor 109a and the actuator 109b. Controller 108a controls a subsystem based on sensed conditions and desired set point conditions. **The controller 108a controls the operation of one or more actuators in response to an event reported by a sensor 109a. The controller 108a may drive the one or more actuator to a desired set point.**”

See also Pet., 25-29.

- **PO’s only response relies on its improper “self-identifying” claim interpretation (see Slide 17)—regardless, the data itself is not “self-identifying” because McFarland’s processor handles multiple data types**

See POR, 32.

- PO does not substantively dispute that Stoner’s “operational information” including “updated sensed” readings are sensor data in control because they are used for “controlling” the HVAC system and controlling what is “displayed” on the remote controller

Stoner, 9:11-42: “As illustrated in FIG. 4A..., **the temperature sensor 24 of the remote controller 14 is currently being used to control the comfort level of the building or structure.** When a condition, such as a predetermined condition or a combination of predetermined conditions, is detected, the temperature control may be automatically switched to use the temperature sensor of the HVAC controller 12.... A data exchange between the HVAC controller 12 and the remote controller 14 may take place during this time period. In some cases, it may take a period of time for the **remote controller 14** to communicate with the HVAC controller 12 and to **upload and/or download** updated data. The updated data can include any suitable data including updated set points, **updated sensed temperature readings, updated sensed humidity readings**, updated system status information, updated operational data and/or other data, as desired.... As indicated in FIG. 4C, when the remote controller 14 has uploaded the operational information from the HVAC controller 12, **the remote user interface 74** may display a similar display 72 as shown in FIG. 4A, with the change of icon 78 **indicating that the temperature sensor 18 of the HVAC controller 12 is now controlling instead of the remote controller temperature sensor 24.** Also, and in some cases, **updated** setpoint, **sensed temperature, sensed humidity**, system status and/or other data **may also be displayed.**”

See also Pet., 19.

- PO does not dispute that a POSITA would have been motivated to modify McFarland to implement its controller as a remote controller (see Slide 31)

PO’s only response complains that the Petition addresses this claim element “by reference to claim element [7.e], which does not even recite ‘sensor control information’”

POR 36-37.

- But, the Petition explains that “[t]hese same teachings [that disclose [7.e]] also disclose [1.e]/[13.f]/[20.d],” and that Stoner’s “received operational information” also discloses [1.e] sensor control information

See Pet., 68.

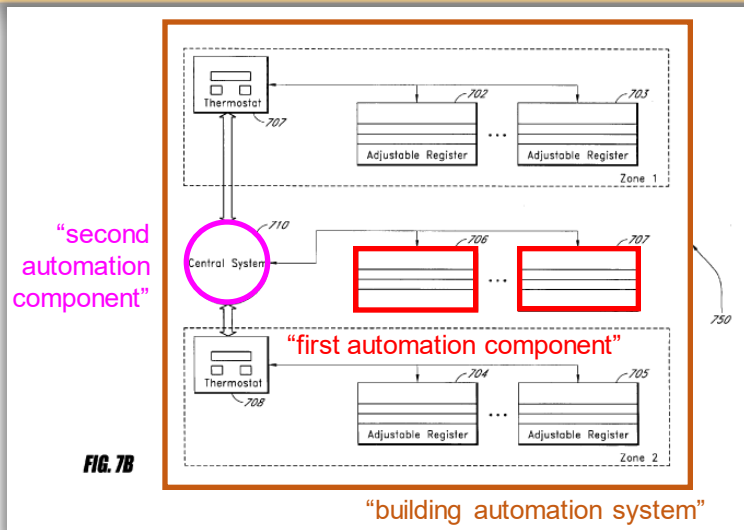
Kates Ground

Ground	Basis	Claim(s)	Prior Art
9	§103	20-21	Kates-089 in view of Ahmed-629

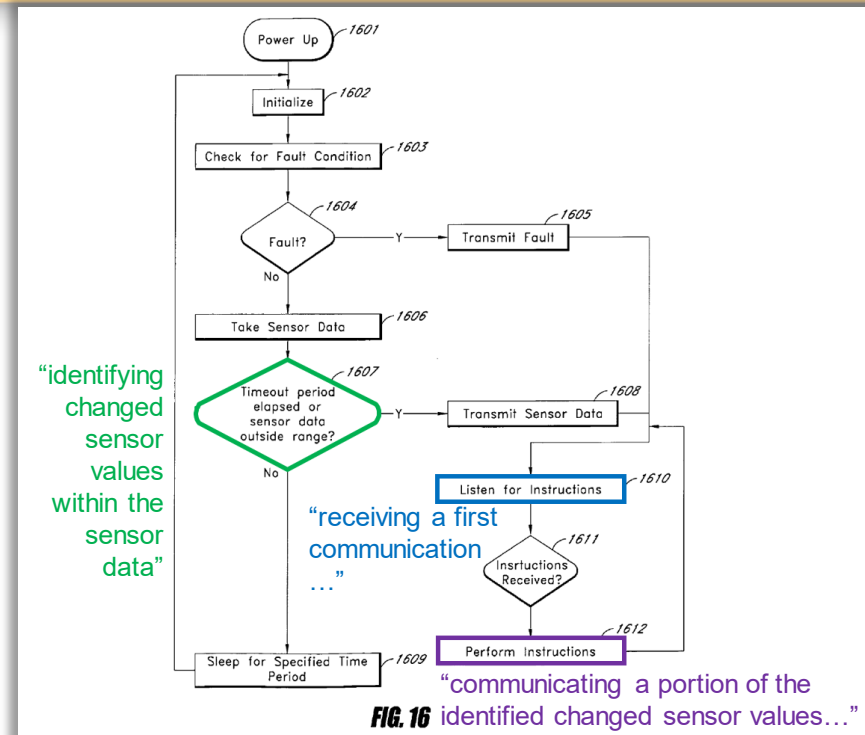
- In view of a district court final judgment, PO is no longer disputing that claims 20-21 are invalid

PO's Surreply: "In view of the Final Judgment in *Ollnova Technologies Limited v. ecobee Technologies* ULC d/b/a ecobee, ... **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 surreply.** And **as claim 21 depends from claim 20, Patent Owner is not addressing the patentability of claim 20 in this sur-reply.**"

POSR, 1.



Kates-89 [0076]: “FIG. 16 is a flowchart showing one embodiment of an instruction and sensor data reporting loop process 1600 for **an ECRV or zone thermostat**. ... the process advances to a sensor block 1606 where **sensor readings are taken**. The **data values from one or more sensors are evaluated**, and if the sensor data is outside a specified range, ... **the process advances to a transmit data block 1608....**”



Kates-089, Figs. 7B, 16, [0076]; see also Pet., 72-77.

Ahmed-629 [0048]: “...the sensor suite 42 is a collection of **MEMS sensors incorporated into a single substrate...**”

- As explained on Slide 26, Ahmed-629 discloses a multi-sensor package

Ahmed-629 [0047]-[0048]: “The first sensor module 28 represents a temperature sensor module and is preferably embodied as a wireless integrated network sensor that incorporates micro electro mechanical system (“MEMS”) technology. By way of example, in the exemplary embodiment described herein, **the first sensor module 28 includes** a MEMS local RF communication circuit 34, a microcontroller 36, a programmable non-volatile memory 38, a signal processing circuit 40, and **a MEMS sensor suite 42.**

In one embodiment, **the sensor suite 42 is a collection of MEMS sensors incorporated into a single substrate.** The incorporation of multiple MEMS sensor technologies on a single substrate is known. **For example, a MEMS module that includes both temperature and humidity sensing functions is commercially available** from Hygrometrics Inc. of Alpine Calif..”

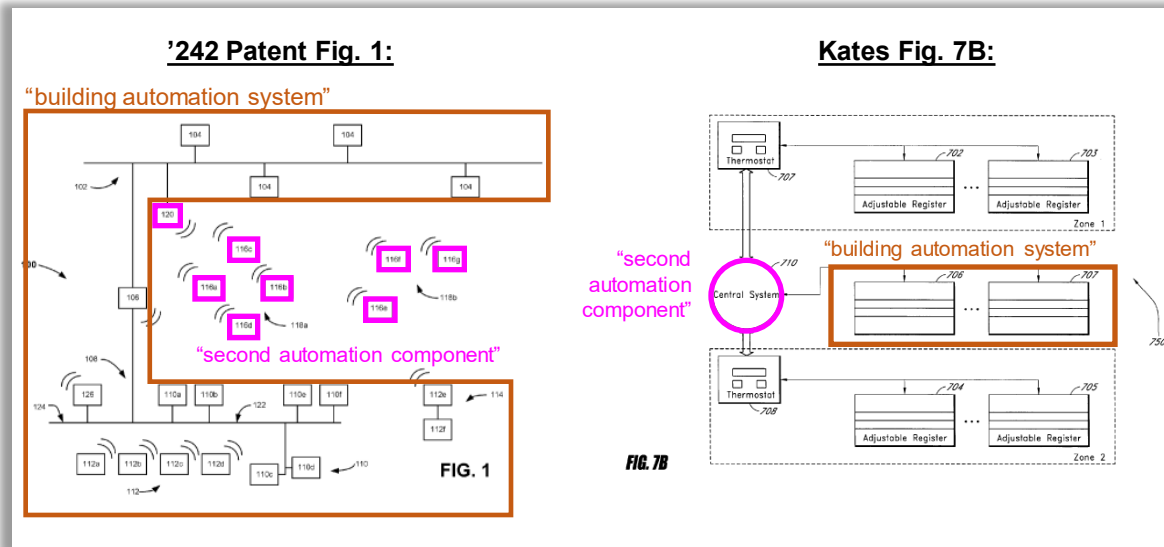
- PO does not dispute that a POSITA would have been motivated to modify Kates-089 with Ahmed-629’s teachings

Neikirk, ¶ 213: “A person having ordinary skill in the art would have been motivated to modify Kates-089 with Ahmed’s teaching of a ‘collection of MEMS sensors incorporated into a single substrate’ and reasonably expected success for the same reasons explained in Section X.D for McFarland; namely, Kates-089’s similar **compatibility and ability to benefit from the reduced costs and power savings.”**

See also Pet., 73-74.

- Kates-089’s Electrically Controlled Register Vents (“ECRVs”) in a given “zone” communicate with “central system” 710, which is a second automation component in line with PO’s read of this claim limitation:

Kates-089 [0056]: “In the system 750, the **ECRVs 702-705 are in zones that are associated with the respective zone thermostat 707, 708** that controls the respective ECRV s 702-705. The **ECRVs 706, 707** are not associated with any particular zone thermostat and **are controlled directly by the central system 710**.”



Dr. Neikirk: “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.”

Neikirk Reply Decl., ¶73; see also Reply, 23-25.