

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ECOBEE TECHNOLOGIES ULC,

Petitioner,

v.

OLLNOVA TECHNOLOGIES LTD.,

Patent Owner.

Case IPR2024-00131

Patent 7,746,887

PATENT OWNER'S PRELIMINARY RESPONSE TO PETITION

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<i>Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.</i> , 200 F.3d 795 (Fed. Cir. 1999)	8

PATENT OWNER'S EXHIBIT LIST

Exhibit No.	Description
2001	Verdict, <i>Ollnova Technologies Limited v. ecobee Technologies, ULC</i> , No. 2:22-cv-00072-JRG, Dkt. No. 225, (E.D. Tex. Oct. 5, 2023)
2002	Transcript Excerpts from Trial on the Merits, Vol. 3, <i>Ollnova Technologies Limited v. ecobee Technologies, ULC</i> , No. 2:22-cv-00072-JRG (E.D. Tex. Oct. 3, 2023)
2003	Plaintiff's Notice Regarding the Court's Order Awarding Fees and Expenses to Plaintiff, <i>Ollnova Technologies Limited v. ecobee Technologies, ULC</i> , No. 2:22-cv-00072-JRG, Dkt. No. 231, (E.D. Tex. Oct. 18, 2023)
2004	Defendant's Preliminary Local P.R. 3-3 and 3-4 Disclosures, <i>Ollnova Technologies Limited v. ecobee Technologies, ULC</i> , No. 2:22-cv-00072-JRG, (E.D. Tex. Oct. 12, 2022)
2005	Claim Construction Memorandum Opinion and Order, <i>Ollnova Technologies Limited v. ecobee Technologies ULC</i> , No. 2:22-cv-00072-JRG, Dkt. No. 105 (E.D. Tex. Apr. 10, 2023)
2006	Declaration of Erik de la Iglesia in Support of Patent Owner's Response
2007	Curriculum Vitae of Erik de la Iglesia
2008	Merriam-Webster Dictionary

CHALLENGED CLAIMS

Claim	Text
[1.pre]	A wireless automation device, comprising:
[1.a]	a transceiver operable to wirelessly communicate packets of information over a wireless network;
[1.b]	a sensor operable to generate a indicator for a sensed condition;
[1.c]	a controller configured to poll the sensor at a polling interval to read the indicator during a current period of the polling interval and to selectively operate the transceiver to communicate information associated reading of the indicator; and
[1.d]	a memory, the controller storing a reading of the indicator during the current period in the memory, where the memory stores at least one prior reading of the indicator, the prior reading of the indicator made during a prior period of the polling interval,
[1.e]	wherein the transceiver is configured to transmit a most recent reading of the indicator stored in the memory during a period of a transmission interval in response to detecting a change in the sensed condition outside a predetermined range and wherein transmission of the most recent reading of the indicator stored in the memory during the period of the transmission interval is suspended in response to detecting a chance in the sensed condition within the predetermined range.
[3]	The wireless automation device of claim 1 where an upper limit and a lower limit of the predetermined range may be varied.
[4]	The wireless automation device of claim 3 where the upper limit and lower limit may be varied according to an analysis of the most current reading of the indicator and the at least one prior reading of the indicator.

Claim	Text
[5]	The wireless automation device of claim 1 where the transceiver is configured to transmit the most recent reading of the indicator stored in the memory during a period of the transmission interval in response to detecting a sensed condition beyond a band limit.
[6]	The wireless automation device of claim 5 where an upper band limit and a lower band limit may be varied.
[7]	The wireless automation device of claim 5 where the upper band limit and lower band limit may be varied according to an analysis of the most current reading of the indicator and the at least one prior reading of the indicator.
[8]	The wireless automation device of claim 1 where the transceiver is configured to transmit the most recent reading of the indicator stored in the memory in response to an externally-received transmission control signal received over the wireless network.
[14]	The wireless automation device of claim 1 where the memory stores timing data associated with the most recent reading and the at least one prior reading of the indicator.
[15]	The wireless automation device of claim 1 where the transceiver is configured to transmit the timing data.
[18]	The wireless automation device of claim 1, where the sensor is configured to sense an environmental condition.

I. INTRODUCTION

Patent Owner Ollnova Technologies Ltd. (“Patent Owner”) submits this response to Petitioner ecobee Technologies ULC’s (“Petitioner”) Petition for *inter partes* review of U.S. Patent No. 7,746,887 (“the ’887 patent”). The Petition fails to establish that the challenged claims of the ’887 patent are unpatentable because the prior art does not teach or disclose “a transmission interval” or “wherein transmission of the most recent reading of the indicator stored in the memory during the period of the transmission interval is suspended in response to detecting a change in the sensed condition within the predetermined range” in the sole independent claim and, consequently, all challenged claims.

As to the “transmission interval” in limitation [1.e], the ’887 patent separately describes and claims a “polling interval” and a “transmission interval.” The Petition points to the “sensing” periods in Kates-711, Kates-505, and Mueller as satisfying the “polling interval” of limitation [1.c]. Under the plain and ordinary meaning of “interval,” a “transmission interval” is the space of time between successive transmission periods in the transceiver. Neither Kates-711, Kates-505, nor Mueller describe a space of time between successive transmission periods. They only describe a “sensing” periods, *i.e.*, “polling intervals,” and thus do not meet the claimed “transmission interval” limitation. The Petition’s reliance on decision points within the “sensing” periods of Kates-711, Kates-505, and Mueller, where the

sensed data is transmitted if it falls outside of a predetermined range and not transmitted otherwise, is misplaced. These decision points are not a space of time between successive transmission periods in the transceiver and the Petition unsurprisingly fails to explain how the decision to transmit or not-transmit is a “transmission interval” or is tied to a “transmission interval.” Furthermore, the Petition does not assert any combination of references or modification of Kates-711, Kates-505, or Mueller to satisfy the failure of each of these references to disclose the claimed “transmission interval.”

The prior art also does not disclose or teach “wherein transmission of the most recent reading of the indicator stored in the memory during the period of the transmission interval is suspended in response to detecting a change in the sensed condition within the predetermined range,” also of limitation [1.e] As with the general “transmission interval” limitation, the Petition relies on the decision point in Kates-711, Kates-505 or Mueller to transmit or not-transmit based on whether the sensed data is outside of a predetermined range to satisfy this limitation. However, under a proper construction of the clause and based on the plain and ordinary meaning of “suspended,” *i.e.*, to “cause to stop for a period,” “interrupt,” or to “halt a process temporarily,” the decision points in Kates-711, Kates-505, and Mueller are not a “suspension” of “transmission” “during the period of the transmission interval”—*i.e.*, stopping a transmission that would otherwise occur as a result of the

“transmission interval.” The Petition does not cite to any disclosure in Kates-711, Kates-505, or Mueller that ties the “suspension” of a transmission of a most recent reading of the indicator to a “transmission interval,” and does not assert any combination of references or modification of these reference to satisfy their failure to disclose the claimed limitation.

Because the prior art does not teach or disclose limitations of the sole independent claim, it does not anticipate or render obvious any of the claims of the ’887 patent. *Synqor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1375 (Fed. Cir. 2013) (“Th[e] court need not consider Defendants’ arguments that certain dependent claim limitations would have been obvious where the base claim has not been proven invalid.”); *see also Callaway Golf Co. v. Acushnet Co.*, 576 F.3d 1331, 1344 (Fed. Cir. 2009) (holding verdict irreconcilably inconsistent where jury found dependent claim obvious and found independent claim nonobvious). For these reasons, Petitioner has not shown that the Petition has a reasonable likelihood of success. Accordingly, institution should be denied.

II. THE ’887 PATENT

The ’887 patent describes and claims an improved wireless automation device comprising a controller configured to poll a sensor and selectively operate a transceiver to communicate information, and more specifically, a sensor process that consists of an independent polling interval and transmission interval. Ex. 2006,

Declaration of Erik de la Iglesia, ¶ 27. “In an embodiment, the processor 214 polls the sensor 209 during a recurring polling period 336. During a polling period 336, any one or each of the processor 214, the sensor 209 and/or the transceiver 216 may be operable.” Ex. 1001, 9:24-27; *see also* Ex. 2006, ¶ 28. This generates a “continuous or discrete signal representing a current value for the sensed condition, or the status of the condition, during the current [polling] interval.” Ex. 1001, 9:51-54; *see also* Ex. 2006, ¶ 28. The “polling interval” is variable. Ex. 1001, 9:27-28; *see also* Ex. 1001, 2:13-15, Ex. 2006, ¶ 29. Fig. 3 of the ’887 patent, reproduced below, shows a varying “polling interval.” *See also* Ex. 2006, ¶ 29.

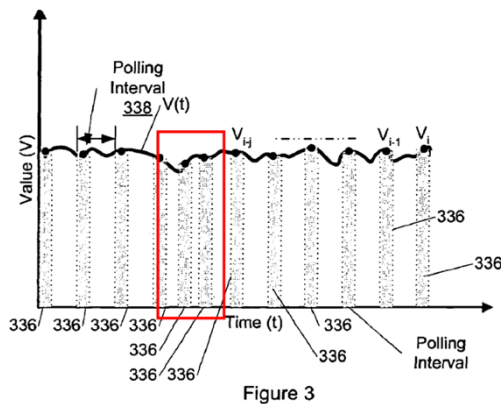


Figure 3

Ex. 1001, Fig. 3 (annotated to show shorter “polling intervals”).

The ’887 patent further describes that the value for the sensed condition for one or more polling intervals may be retained in memory. *See id.*, 9:66-10:3; *see also* Ex. 2006, ¶ 30. The value for the sensed condition may be compared to values from prior polling intervals to identify the amount of change in the sensed condition

or may be compared to other limit values. *See* Ex. 1001, 10:12-56; *see also* Ex. 2006, ¶ 31.

For the “transmission interval,” the ’887 patent describes a transmission period within the transmission interval when the processor selectively communicates information based on the flag being set from the comparison of the sensed condition value. *See* Ex. 1001, 10:57-11:3; *see also* Ex. 2006, ¶ 32. The “transmission interval” is variable. *See* Ex. 1001, 2:19-20; *see also* Ex. 2006, ¶ 33. Fig. 4 of the ’887 patent, reproduced below, shows a varying “transmission interval.” *See also* Ex. 2006, ¶ 33.

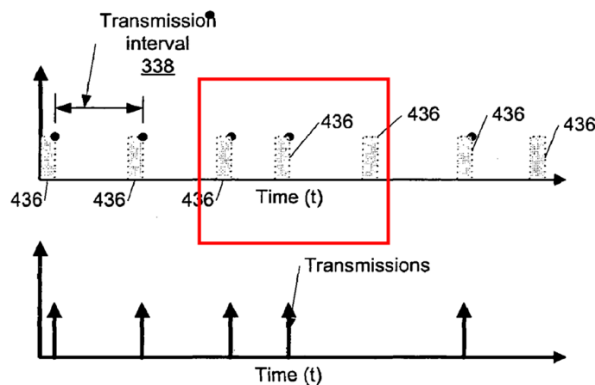


Figure 4

Ex. 1001, Fig. 4 (annotated to show varying “transmission intervals” and showing “transmission intervals” where transmission is “suspended”); *see also id.*, 3:36-38 (“[T]ransmission of information may be suspended for periods of a transmission interval for which no change in the indicator has been identified.”).

The “polling interval” and “transmission interval” may vary independently. *See* Ex. 1001, 14:5-9 (“[t]he controller 508 may instruct the device ... to increase and/or decrease the polling interval 338 **and/or** the transmission interval 336.”) (emphasis added). The ’887 patent claims are consistent with the specification’s disclosure of a “transmission interval” separate from the “polling interval.” As Erik de la Iglesia explains in his declaration, the independent control over the “polling interval” and the “transmission interval” is part of numerous configurable aspects of the automation devices and components described in the ’887 patent that provide an automation system designer with significant flexibility in arranging a system with multiple sensor devices. *See* Ex. 2006, ¶¶ 34-35. This allows the automation system designer to account for power consumption, *see id.*, ¶ 36, as well as manage or synchronize communications in a system with a large number of sensor devices, *see id.* Indeed, the separate control of the “polling interval” and the “transmission interval” are but one facet of the system configurability described in the ’887 patent. *See id.*, ¶ 37.

III. CLAIM CONSTRUCTION

Patent Owner contends that the Board should construe the “wherein transmission of the most recent reading of the indicator stored in the memory during the period of the transmission interval is suspended in response to detecting a change in the sensed condition within the predetermined range” clause of limitation [1.e] of

the '887 consistent with the claim construction from the District Court in *Ollnova Technologies Limited v. ecobee Technologies ULC*, No. 2:22-cv-00072-JRG (E.D. Tex.) as set forth in Ex. 2005, Claim Construction Memorandum Opinion and Order, *Ollnova Technologies Limited v. ecobee Technologies ULC*, No. 2:22-cv-00072-JRG, Dkt. No. 105 (E.D. Tex. Apr. 10, 2023).

When construing claims, “[t]here is a heavy presumption that claim terms are to be given their ordinary and customary meaning.” *Aventis Pharm. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc)). Courts must therefore “look to the words of the claims themselves to define the scope of the patented invention.” *Id.* (citations omitted). The “ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313. This “person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.*

Intrinsic evidence is the primary resource for claim construction. *See Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010) (citing *Phillips*, 415 F.3d at 1312). For certain claim terms, “the ordinary meaning of claim

language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314; *see also Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) (“We cannot look at the ordinary meaning of the term . . . in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history.”).

Claim terms that are in dispute and for which resolution of such dispute is “necessary to resolve the controversy” must be construed. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999); *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). This threshold for construing claim terms is applicable in IPR proceedings. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

A. “Wherein transmission ... is suspended” is properly construed as “wherein the transmission ... that would otherwise occur is stopped.”

The clause “wherein transmission of the most recent reading of the indicator stored in the memory during the period of the transmission interval is suspended in response to detecting a chance in the sensed condition within the predetermined range” of limitation [1.e] is properly construed as “wherein the transmission of the most recent reading of the indicator that would otherwise occur is stopped in

response to detecting a change in the sensed condition within the predetermined range.”

As the *ecobee* Court noted, the plain and ordinary meaning of “suspend” is “[t]o cause to stop for a period; interrupt” or “[t]o halt a process temporarily.” *See* Ex. 1023 at [00017]; Ex. 2005 at 7. The Court also found that this ordinary meaning was consistent with the specification of the ’887 patent which describes that “the processor 216 may control the transceiver 216 to suspend the transmission of information, notwithstanding a flag being set identifying a transmission may be pending.” *See* Ex. 2005 at 7 (citing Ex. 1001, 11:8-11). In evaluating the clause further, the Court also determined that, “[b]ased on the ordinary meaning of the term and the intrinsic record, ‘suspended’ is clearly something more than ‘not transmitted.’” Accordingly, the “wherein transmission ... is suspended” clause in claim limitation [1.e] of the ’887 patent should be construed as “wherein the transmission of the most recent reading of the indicator that would otherwise occur is stopped in response to detecting a change in the sensed condition within the predetermined range,” just as the *ecobee* Court did. *See also* Ex. 2006, ¶ 47.

IV. THE PRIOR ART

Petitioner asserted twelve (12) grounds for unpatentability based on five references: (1) U.S. Patent No. 7,528,711 to Kates (“Kates-711,” Ex. 1004); (2) U.S. Patent No. 7,102,505 to Kates (“Kates-505,” Ex. 1022); (3) U.S. Patent Application

Publication No. 2004/0100394 to Hitt (“Hitt,” Ex. 1005); (4) U.S. Patent Application Publication No. 2005/0246593 to Littrell (“Littrell,” Ex. 1006); and (5) U.S. Patent No. 6,513,723 to Mueller et al. (“Mueller,” Ex. 1031). For limitation [1.e] and the “transmission interval” term and the “wherein transmission ... is suspended” clause, the Petition relies only on Kates-711 in Grounds 1-4, only on Kates-505 in Grounds 5-8, and only on Mueller in Grounds 9-12. Because neither Kates-711, Kates-505 nor Mueller disclose the “transmission interval” term and the “wherein transmission ... is suspended” clause of limitation [1.e], as discussed below, these references, either alone or in the asserted combinations, do not render the challenged claims unpatentable.

A. U.S. Patent No. 7,528,711 (“Kates-711”) and U.S. Patent No. 7,102,505 (“Kates-505”)

Kates-711 and Kates-505 are granted to the same inventor, Lawrence Kates. *Compare* Ex.1004, at [00001] and Ex. 1022, at [00001]. These references share overlapping disclosures and the portions of their disclosures that Petitioner relies upon with respect to limitation [1.e] of the ’887 patent are nearly identical. *See, e.g.*, Ex. 1026 (misabeled as comparing ’887 patent and Kates-505). Kates-711 and Kates-505 disclose two main sensor monitoring embodiments. The first is a continuous monitoring embodiment shown in Fig. 6; and the second is a periodic monitoring embodiment shown in Fig.7. *See* Ex. 2006, ¶ 38. With respect to the

“transmission interval” term and the “wherein transmission ... is suspended” clause of limitation [1.e], the Petition only relies on the periodic monitoring embodiment of Fig. 7, reproduced below for both Kates-711 and Kates-505. *See* Ex. 2006, ¶ 39.

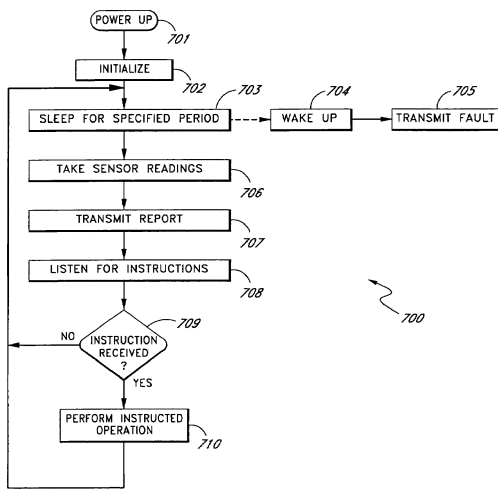


FIG. 7

Ex. 1004, Fig. 7.

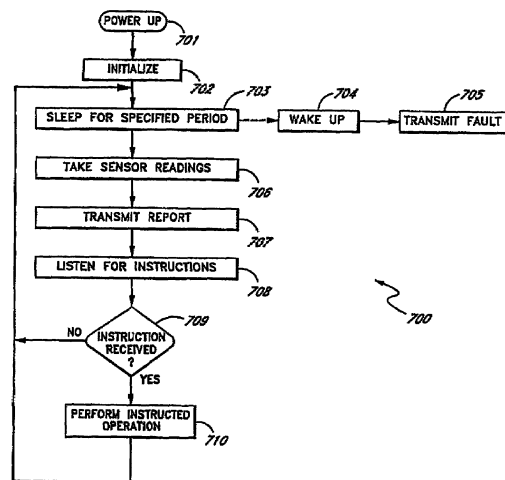


FIG. 7

Ex. 1022, Fig. 7.

The identical portions of the specification of Kates-711 and Kates-505 as to the periodic monitoring embodiment describe as follows with respect to Fig. 7:

By contrast, periodic monitoring can be used for sensors that sense relatively lower priority data (e.g., humidity, moisture, water usage, etc.). FIG. 7 is a flowchart showing one embodiment of operation of the sensor unit 102 wherein periodic monitoring is provided. In FIG. 7, a power up block 701 is followed by an initialization block 702. After initialization, the sensor unit 102 enters a low-power sleep mode. If a fault occurs during the sleep mode (e.g., the tamper sensor is activated), then the process enters a wake-up block 704 followed by a transmit fault block 705. **If no fault occurs during the sleep period, then when the specified sleep period has expired, the process enters a block 706 where the sensor unit 102 takes a sensor reading from the**

sensor(s) 201. *The sensor data is subsequently sent to the monitoring computer 113 in a report block 707.* After reporting, the sensor unit 102 enters a listen block 708 where the sensor unit 102 listens for a relatively short period of time for instructions from monitoring computer 708. If an instruction is received, then the sensor unit 102 performs the instructions, otherwise, the process returns to the sleep block 703. In one embodiment, the sensor 201 and transceiver 203 are normally powered down. The controller 202 powers up the sensor 201 during execution of the block 706. The controller 202 powers up the transceiver during execution of the blocks 705, 707, and 708. The monitoring computer 113 can send instructions to the sensor unit 102 to change the sleep period used in block 703, the listen period used in block 708, etc.

Ex. 1004, 15:48-16:8 (emphasis added); *see also* Ex. 1022, 12:30-57, Ex. 1026, at [00015], Ex. 2006, ¶ 40.

As emphasized above, Kates-711 and Kates-505 describes a periodic sensing process where a controller of a sensor unit powers the sensor up periodically to take a sensor reading. *See* Ex. 2006, ¶ 40. The sensor data is subsequently sent to the monitoring computer at “report block 707.” *See id.* Kates-711 and Kates-505 also teach that “[t]he sensor unit 102 generally conserves power by not transmitting data that falls within a normal range.” Ex. 1004, 14:4-16 (emphasis added); *see also* Ex. 1022, 9:61-63, Ex. 2006, ¶ 41.

B. U.S. Patent No. 6,513,723 (“Mueller”)

Mueller is very similar to Kates-711 and Kates-505 in that it teaches periodic sensing. *See* Ex. 1031, 8:66-9:6 (“The temperature is preferably sensed or measured at a variable time intervals ... transmission shall only occur if the new sensed

temperature is different by pre-defined amount from a previous transmitted temperature (e.g., 2/16° F”). Mueller is also very similar in that it teaches that the sensor data is transmitted “only on a sensed change of temperature.” Ex. 1031, 2:16-21; *see also id.* 2:44-48 (“[T]ransmission of the sensed temperature transmitted only on a predetermined temperature change (i.e., comparing the current sensed temperature with a previously transmitted temperature and transmitting only upon a predetermined change)”).

V. ASSERTED GROUNDS OF ALLEGED UNPATENTABILITY

Grounds 1-4 assert that claims 1, 3-8, 14-15, and 18 are rendered obvious by Kates-711, either alone or in combination with Hitt and/or Littrell. These grounds fail because the prior art, more specifically Kates-711 upon which the Petition primarily relies for these grounds, does not disclose, teach, or suggest the “transmission interval” and the “wherein transmission ... is suspended” limitations of the challenged claims.

Grounds 5-8 assert that claims 1, 3-8, 14-15, and 18 are rendered obvious by Kates-505, either alone or in combination with Hitt and/or Littrell. These grounds fail because the prior art, and more specifically Kates-505 upon which the Petition primarily relies for these grounds, does not disclose, teach, or suggest the “transmission interval” and the “wherein transmission ... is suspended” limitations of the challenged claims.

Grounds 9-12 assert that claims 1, 3-8, 14-15, and 18 are rendered obvious by Kates-505 in view of Mueller, or in combination with Hitt and/or Littrell. These grounds fail because the prior art, and more specifically Kates-505 and Mueller upon which the Petition primarily relies for these grounds, does not disclose, teach, or suggest the “transmission interval” and the “wherein transmission ... is suspended” limitations of the challenged claims.

A. “Transmission interval”

All of the grounds for unpatentability asserted in the Petition fail because neither Kates-711, Kates-505 nor Mueller disclose a “transmission interval” as required by limitation [1.e] of the challenged claims.

The Petition identifies the periodic monitoring embodiment of Kates-711 and Kates-505 as satisfying the “polling interval” requirement of claim limitation [1.c] of the '887 Patent. *See* Petition at 26 (“**Kates-711 discloses a controller** (e.g., “controller”) **configured to poll the sensor at a polling interval to read the indicator during a current period of the polling interval** (e.g., “powers up the sensor” during “periodic monitoring” and “takes a sensor reading from the sensor(s)”) ...”) (emphasis in original); Ex. 1002 at ¶ 78; *see also* Petition at 60-67, Ex. 1002 at ¶ 160 (comparing substantially similar disclosures of Kates-711 and Kates-505); Ex. 2006, ¶ 48. Similarly, the Petition identifies Mueller’s “sensing ...

at variable intervals” as satisfying the “polling interval” requirement. *See* Petition at 68, Ex. 1002 at ¶ 162; Ex. 2006, ¶ 48.

For the “transmission interval” requirement of claim limitation [1.e] of the ’887 Patent, the Petition also identifies the periodic monitoring embodiment, and more specifically the “report block 707” step in the periodic monitoring embodiment, of Kates-711 and Kates-505. *See* Petition at 30 (“**Kates-711 discloses wherein the transceiver (see [1.a]) is configured to transmit a most recent reading of the indicator stored in the memory** (e.g., “sensor data” is stored in memory (see [1.d]) and “sent to the monitoring computer”) **during a period of a transmission interval** (e.g., during a “report block 707” of the “periodic monitoring”) ...”) (emphasis in original); Ex. 1002 at ¶ 86; *see also* Petition at 60-61, Ex. 1002 at ¶ 160 (comparing substantially similar disclosures of Kates-711 and Kates-505); Ex. 2006, ¶ 49. Similarly, the Petition identifies Mueller’s “transmitting ... at variable intervals” as satisfying the “transmitting interval” requirement. *See* Petition at 68;¹ *see also* Ex. 2006, ¶ 49.

While Patent Owner does not contend that the term “transmission interval” requires construction, it posits that a review of the plain and ordinary meaning of the

¹ Notably, Petitioner’s expert, Dr. Neikirk, does not assert that Mueller discloses a “transmission interval.” *See, e.g.*, Ex. 1002 at ¶ 162 (only describing that Mueller “take[s] temperature measurements at variable time intervals”); *see also* Ex. 2006, ¶ 49.

term, and in particular “interval,” provides valuable context. The plain and the ordinary meaning of “interval” is “a space of time between events or states.” *See* Ex. 2008, *Merriam-Webster Dictionary*. This is consistent with the specification of the ’887 Patent which describes both the polling interval and transmission interval as “periodic.” *See* Ex. 1001, 2:13-15, 2:19-20; *see also* Ex. 2006, ¶ 46. The “polling interval” is therefore the space of time between successive polling periods, and the “transmission interval” is the space of time between successive transmission periods. *See* Ex. 2006, ¶ 46.

The Petition’s reliance on the disclosure “report block 707” in Kates-711 and Kates-505 fails to satisfy the “transmission interval” requirement of limitation [1.e] of the ’887 patent. The “report block 707” only performs the step of transmitting the sensor report. *See* Ex. 2006, ¶ 50. This step is not periodic and is not an interval. *See id.* Nor does “report block 707” occur within a periodic interval other than the period in which the sensor measurement is taken, i.e., within the “polling interval.” *See id.* The “report block 707” is not “a space of time between events or states,” and is therefore not a “transmission interval” as required by the claims of the ’887 patent. *See id.* The Petition does not explain how the “report block 707” could be a “transmission interval,” let alone an interval that is separate from the identified “polling interval” in which the “report block 707” is contained. *See id.* Because Kates-711 and Kates-505 do not disclose a “transmission interval,” the Petition fails

to show that either Kates-711 or Kates-505 satisfy the claims of the '887 patent as the Petition has asserted in at least Grounds 1-8.

The Petition similarly fails to show that Mueller satisfies the claimed requirement of a “transmission interval.” Mueller is substantially similar to Kates-711 and Kates-505 in that it only discusses periodic sensing. *See* Ex. 2006, ¶ 51. Mueller does not disclose, and the Petition makes no attempt to identify, a “transmission interval.” *See id.* Because Kates-505 and Mueller do not disclose a “transmission interval,” the Petition fails to show that either Kates-505 or Mueller satisfy the claims of the '887 patent as the Petition has asserted in Grounds 9-12.

B. “Wherein transmission ... is suspended”

All of the grounds for unpatentability asserted in the Petition fail because neither Kates-711, Kates-505, nor Mueller disclose “wherein transmission of the most recent reading of the indicator stored in the memory during the period of the transmission interval is suspended in response to detecting a change in the sensed condition within the predetermined range” of limitation [1.e] of the challenged claims.

Kates-711, Kates-505, and Mueller only describe refraining from transmission. In other words, these references only describe making a decision to transmit or not-to-transmit. They simply forbear from transmission when the sensed data is not out of a pre-determined range. *See* Ex. 1004, 14:4-16 (“The sensor unit

102 generally conserves power *by not transmitting data that falls within a normal range.*)” (emphasis added); Ex. 1022, 9:61-63; *see also* Ex. 1031, 8:66-9:6 (“The temperature is preferably sensed or measured at a variable time intervals ... *transmission shall only occur if the new sensed temperature is different by pre-defined amount from a previous transmitted temperature* (e.g., 2/16° F”) (emphasis added); Ex. 2006, ¶ 52.

Applying the proper claim construction of “wherein the transmission of the most recent reading of the indicator that would otherwise occur is stopped in response to detecting a change in the sensed condition within the predetermined range,” *see* Section III.A, *supra*, the step of “not transmitting” in Kates-711, Kates-505, and Mueller is not a “suspension” of “transmission ... during the period of a transmission interval” as required by the claims of the ’887 Patent. *See* Ex. 2006, ¶ 52. Simple forbearance is not “stopping” a “transmission ... that would otherwise occur.” *See id.* As the Court stated in the claim construction order in the *ecobee* case, “‘suspended’ is clearly something more than ‘not transmitted.’” Ex. 2005 at 8; *see also* Ex. 2006, ¶ 52. Neither Kates-711, Kates-505, nor Mueller teach suspending a transmission that would have otherwise occurred as a result of the “transmission interval.” Because neither Kates-711, Kates-505, nor Mueller disclose “wherein the transmission of the most recent reading of the indicator that would otherwise occur is stopped in response to detecting a change in the sensed

condition within the predetermined range,” the Petition fails to show that Kates-711, Kates-505 or Mueller satisfy the claims of the ’887 patent as the Petition has asserted in all of the Grounds.

VI. CONCLUSION

As set forth above, neither Kates-711, Kates-505 nor Mueller disclose a “transmission interval” or “wherein the transmission of the most recent reading of the indicator that would otherwise occur is stopped in response to detecting a change in the sensed condition within the predetermined range,” as required by limitation [1.e] of the claims of the ’887 patent. For all of the reasons above, Patent Owner respectfully requests that the Board deny institution.

Date: March 1, 2024

Respectfully submitted,

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

The undersigned hereby certifies that the word count in this Patent Owner's Preliminary Response is 4,215 words, as counted by the word-processing program Microsoft Word that was used to generate this Patent Owner's Preliminary Response to Petition, where such word count excludes the table of contents, table of authorities, mandatory notices, certificate of service, appendix of exhibits, claim listing, and this certificate of word count. This Patent Owner's Preliminary Response to Petition is in compliance with the 14,000-word limit set forth in 37 C.F.R. § 42.24(b)(1).

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

The undersigned hereby certifies that the above document was served on March 1, 2024, by filing this document through the Patent Trial and Appeal Case Tracking System as well as delivering a copy via electronic mail upon the following attorneys of record for the Petitioner:

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