

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 IPR2023-00626

U.S. Patent No. 7,746,887

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

TABLE OF CONTENTS

	Page
LIST OF EXHIBITS.....	ii
I. INTRODUCTION	1
II. CLAIM CONSTRUCTION	1
A. “transmission interval” ([1.e]).....	1
B. “wherein transmission ... is <i>suspended</i> in response to detecting a chan[g]e in the sensed condition within the predetermined range” ([1.e])	5
III. KATES-711 (GROUNDS 1-4) AND KATES-505 (GROUNDS 5-12) DISCLOSE “TRANSMISSION INTERVALS”	8
IV. KATES-711 (GROUNDS 1-4), KATES-505 (GROUNDS 5-12), AND MUELLER (GROUNDS 9-12) DISCLOSE “WHEREIN TRANSMISSION ... IS SUSPENDED”	12
A. Kates-711 and Kates-505 disclose that transmission is “suspended in response to detecting a chan[g]e in the sensed condition within the predetermined range” by “not transmitting data that falls within a normal range” to “conserve[] power”	13
B. Mueller discloses that transmission is “suspended in response to detecting a chan[g]e in the sensed condition within the predetermined range” because “transmission shall only occur if the new sensed temperature is different by a pre-defined amount from a previous transmitted temperature”	17
V. CONCLUSION.....	18

LIST OF EXHIBITS

Exhibit ("Ex.")	Description
1001	U.S. Patent No. 7,746,887
1002	Declaration of Dr. Dean P. Neikirk
1003	File History of U.S. Patent No. 7,746,887
1004	U.S. Patent No. 7,528,711 to Kates
1005	U.S. Patent Application Publication No. 2004/0100394 to Hitt
1006	U.S. Patent Application Publication No. 2005/0246593 to Littrell
1007	U.S. Patent No. 5,696,695 to Ehlers
1008	U.S. Patent Application Publication No. 2005/0270173 to Boaz
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)

Exhibit ("Ex.")	Description
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)
1018	U.S. Patent No. 6,124,806 to Cunningham
1019	U.S. Patent Application Publication No. 2003/0174070 to Garrod
1020	U.S. Patent Application Publication No. 2003/0137968 to Lareau
1021	U.S. Patent No. 7,230,528 to Kates
1022	U.S. Patent No. 7,102,505 to Kates
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)
1024	Standing Order Governing Proceedings (OGP) 4.1—Patent Cases (W.D. Tex.) (April 14, 2022)
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)
1026	Redline comparison between the specifications of U.S. Patent No. 7,746,887 and U.S. Patent No. 7,102,505
1027	<i>Reserved</i>

Exhibit ("Ex.")	Description
1028	<i>Reserved</i>
1029	<i>Reserved</i>
1030	<i>Reserved</i>
1031	U.S. Patent No. 6,513,723 to Mueller
1032	<i>Reserved</i>
1033	<i>Reserved</i>
1034	<i>Reserved</i>
1035	Lex Machina: Overview for E.D. Mo. (Jan. 29, 2023) (retrieved from https://law.lexmachina.com/court/moed)
1036	<i>Reserved</i>
1037	<i>Reserved</i>
1038	<i>Reserved</i>
1039	<i>Reserved</i>
1040	<i>Reserved</i>
1041	U.S. Patent No. 7,268,581 to Trimberger
1042	U.S. Patent No. 7,254,691 to Ebeling
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	<i>Reserved</i>

Exhibit ("Ex.")	Description
1046	M.R. Barbacci, C.B. Weinstock and J.M. Wing, "Programming at the processor-memory-switch level," Proc. [1989] 11th Int. Conf. on Software Eng'g, Singapore, 1988, pp. 19-28
1047	Declaration of Jonathan Bradford
1048	<i>Ollnova Technologies Ltd. v. Emerson Electric Co.</i> , 4:22-cv-01387-JAR (E.D. Mo.) Memorandum and Order (April 5, 2023)
1049	Memorandum from Director Vidal dated June 21, 2022
1050- 1051	<i>Reserved</i>
1052	Supplemental Declaration of Dr. Dean P. Neikirk

I. INTRODUCTION

Patent Owner's ("PO") challenges to the Petition are limited to the "transmission interval" and "wherein transmission ... is suspended" elements. PO's arguments, however, rely on mischaracterizations of the Petition, the prior art references, and the '887 patent claims themselves. With no dispute that the prior art discloses or renders obvious the remaining claim elements, Claims 1, 3-8, 14-15, and 18 ("Challenged Claims") are unpatentable. Ex. 1052 ("Neikirk Reply"), ¶¶1-7.

II. CLAIM CONSTRUCTION

As the Board recognized, claim construction is unnecessary here. Decision to Institute (Pap. 12, "DI"), 15. Indeed, the Challenged Claims are obvious based on the prior art in the Petition under either party's proposed construction, as explained in the Petition (e.g., 14-15) and further explained in §§III-IV below. Neikirk Reply, ¶8.

To the extent the Board is inclined to construe these terms, however, PO's proposed constructions are wrong for the reasons set forth below. PO already had its opportunity to amend the claims, and it would be improper to allow PO to limit the unamended claim scope for purposes of this IPR solely to try to dodge Petitioner's cited prior art. See 37 C.F.R. §42.121(a)(1).

A. "transmission interval" ([1.e])

While no construction is necessary for this term, to the extent the Board considers the construction of “transmission interval,” the term should be given its plain meaning. Despite agreeing that the term “transmission interval” need not be construed, PO nonetheless asks the Board to construe “transmission interval” as the “space of time between successive transmission periods,” and separate from “polling periods,” without reason. POR, 1, 15-16. It is unclear whether PO is arguing that the “transmission” and “polling” intervals must be separate or whether PO is arguing that the “transmission” and “polling” periods themselves cannot overlap. *See id.* Regardless, neither PO’s improperly narrow construction, nor its arbitrary and ambiguous application of its own construction to further narrow the scope, is supported. As addressed below, PO’s construction and various interpretations of it should be rejected. Neikirk Reply, ¶9.

First, PO asserts that the word “interval” requires a “transmission interval” to be a “space of time **between** successive transmission periods” (POR, 15-16), but the ’887 specification discloses the transmission interval including the transmission periods. *See, e.g.,* ’887, 9:27-30 (“[t]he interval 338 may be considered **a time beginning at the start of a period 336 and ending at the start of the next consecutive interval 338.**”).¹ Fig. 4 is illustrative—showing transmission intervals (ele-

¹ Unless otherwise indicated, all emphasis is added.

ment 338) that include transmission periods (element 436):

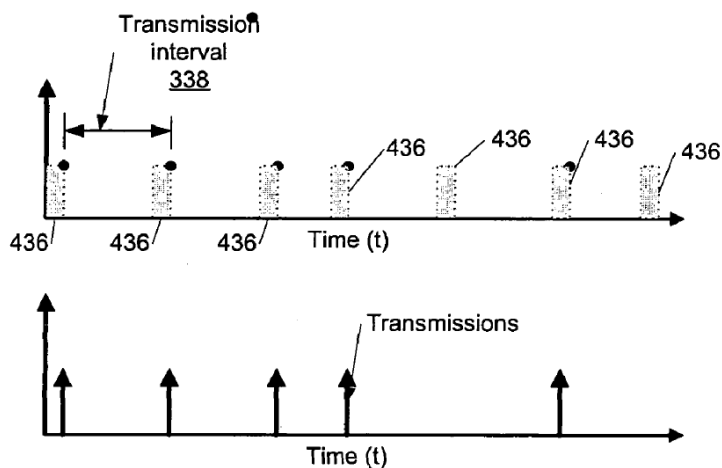


Figure 4

'887, Fig. 4, 9:27-30 (“The interval 338 may be considered a time beginning at the start of a period 336 and ending at the start of the next consecutive interval 338.”), 10:59-63 (describing Fig. 4 as illustrating an example transmission interval that spans from the end of a first transmission period to the end of a successive transmission period); Neikirk Reply, ¶10. Indeed, the '887 uses the terms “period” and “interval” consistent with this understanding of the claim: a “period” may be a time window that is part of an “interval.” '887, 3:28-40, 9:30-50, 10:57-11:8 (discussing a “transmission period” within a “transmission interval”); Neikirk Reply, ¶10. PO does not provide any basis for excluding this embodiment.

Second, to the extent PO contends that a “period” must be a regular “periodic interval” (POR, 16-17), this also is contrary to the plain meaning of the claim and the specification. Indeed, PO acknowledges that the '887’s “transmission in-

terval” is variable. POR, 5, 16-17. Moreover, the specification disclosures cited by PO of a “periodic” transmission interval describes only one embodiment, in which a period is variable—not regular: “[i]n an **embodiment**, ... [t]he information is transmitted during **a variable periodic interval** for transmitting the information.” ’887, 2:8-20 (emphasis added); *see also* ’887, 9:24-50, 12:34-48 (periods occur with “variable frequency” and can be “extended” or “shortened”), Fig. 4 (see above depicting variable frequencies); Neikirk Reply, ¶11.²

Third, to the extent PO improperly seeks to add in a limitation requiring “polling” and “transmission” intervals to be separate and thus different from one another (*see, e.g.*, POR, 16-17 (arguing the “report block” does not occur within “a periodic interval other than ... the ‘polling interval,’” and stating that there is no disclosure of “a ‘transmission interval,’ ... separate from the identified ‘polling interval’”), this is also unsupported. PO cites no disclaimer or lexicography to exclude “polling” and “transmissions” intervals that are overlapping. *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003) (holding that negative limitations must find support either in “the words of the claim” or through an “express disclaimer or independent lexicography in the written description that would

² Dr. Iglesia parrots PO’s argument and likewise does not provide any additional explanation in support of this assertion. Ex. 2006, ¶ 46.

justify adding that negative limitation”) (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366–67 (Fed. Cir. 2002)). To the contrary, the ’887 discloses that the “controller 508 may also synchronize the timing of the polling periods 336 and/or transmission periods 436” such that the polling and transmission intervals are “synchronized intervals”—meaning that these intervals may be the same. ’887, 14:10-23. Neikirk Reply, ¶12.

Regardless, contrary to PO’s arguments, Kates-711 and Kates-505 disclose the “transmission interval,” as detailed in the Petition and further explained below in §III, both under the plain and ordinary meaning of the term and even under PO’s improper construction. *See* Pet., 31-36, 66-67; Neikirk, ¶¶85-89, 160; Neikirk Reply, ¶13.

B. “wherein transmission ... is *suspended* in response to detecting a chan[gle] in the sensed condition within the predetermined range” ([1.e])

Because the prior art discloses the term regardless of whether PO’s proposed construction is adopted or the plain and ordinary meaning is applied, the Board need not address this construction. Neikirk, ¶¶90, 160; *see also* DI, 15. But to the extent that there is a dispute, the term should be given its plain meaning, which is consistent with the *ecobee* district court construction that PO purports to adopt here, and inconsistent with PO’s characterization of the same. Neikirk Reply, ¶14.

The *ecobee* district court stated that its construction addresses a dispute over

the term “suspended,” and consistent with the “well-understood” and “ordinary” meaning of that term, construed “suspended” to require that a transmission “that would otherwise occur is stopped.” Ex. 2002, 7-8; *see also* POR, 9.³ In doing so, the court rejected PO’s prior argument that the term “suspend” does not require “information ‘that would otherwise occur’ be ‘stopped’ from transmission,” and rejected its other arguments as either unsupported or contrary to the term’s plain meaning as well. Ex. 2002, 7-8. Neikirk Reply, ¶15.

PO improperly interprets the *ecobee* construction to argue that “forbearance” of a transmission, or “refraining from transmission,” that would otherwise occur is not enough (e.g., POR, 17-18), but this characterization of the *ecobee* construction is unsupported. The *ecobee* district court decision is clear that the specification

³ PO purports to adopt, but misquotes, the *ecobee* district court construction of: “wherein the transmission of the most recent reading of the indicator that would otherwise occur is stopped for the remainder of the transmission interval in response to detecting a change in the sensed condition within the predetermined range.” Ex. 2002, 8 (underlined language is omitted from PO’s construction). The difference in these constructions is immaterial to PO’s arguments and the prior art discloses this element under the *ecobee* construction as well for the same reasons set forth in the Petition and below. Neikirk Reply, ¶¶14-15

does not “contradict[]” the plain meaning of “suspend.” See Ex. 2002, 7-8. If a transmission occurs unless there is no change in a sensed condition within the predetermined range, “refraining” or “forbearing” from transmission based on that determination is suspending that transmission under the claim’s plain meaning and the *ecobee* construction because, if a different determination is made, transmission would occur. Neikirk Reply, ¶16.

This understanding is consistent with how the ’887 describes that a transmission is “suspended.” For example, the specification discloses suspending transmission “for periods of a transmission interval for which no change in the indicator has been identified”—i.e., transmission occurs when a change is identified, and is suspended when no change is identified. ’887, 3:36-38. Indeed, this is similar to the language of claim 1 (“...suspended in response to detecting a chan[g]e in the sensed condition within the predetermined range”). Neikirk Reply, ¶17.

Similarly, PO’s characterization of the *ecobee* construction as requiring transmission to have “otherwise occurred **as a result of ‘the transmission interval’**” (POR, 18) likewise improperly limits the suspension to a different and unre-cited specific cause: the “result” of the transmission interval. The claims do not require suspension based on the result of a “transmission interval”; the suspension is instead “in response to detecting a change in the sensed condition within the predetermined range.” The district court already rejected PO’s arguments for a dif-

ferent construction because those arguments provided “only reasons *for* transmission.” Ex. 2002, 7-8. PO’s argument here repeats this same flawed logic. Neikirk Reply, ¶18.

To the extent PO contends that suspension must be notwithstanding “a flag being set identifying a transmission may be pending” (e.g., POR, 5, 8-9 (citing Ex. 2002, 7), 17-18), this improperly limits the claim to one embodiment. The disclosure PO cites states merely that a processor “*may* control the transceiver 216 to suspend the transmission of information, notwithstanding a flag being set identifying a transmission may be pending” (’887, 11:10-12)—an optional feature not required by this claim language.⁴ The claim language itself already recites what is required of the suspension: that it is “in response to detecting a change[] in the sensed condition within the predetermined range.” Neikirk Reply, ¶19.

This term should be given its plain meaning. But regardless, as set forth in the Petition and discussed below, the prior art discloses this term under both its plain meaning and PO’s mischaracterization of the *ecobee* construction. Neikirk Reply, ¶20.

III. KATES-711 (GROUNDS 1-4) AND KATES-505 (GROUNDS 5-12) DISCLOSE “TRANSMISSION INTERVALS”

As explained in the Petition, both Kates-711 and Kates-505 disclose “the transceiver is configured to transmit a most recent reading of the indicator stored in

the memory during a period of a transmission interval...” as recited in [1.e]. Pet., 31-36, 64-68. PO’s arguments to the contrary improperly read limitations into the Claims, and should be rejected. POR, 14-17.⁵ Neikirk Reply, ¶21.

As the Petition details, Kates-711 and Kates-505 each disclose a process of “periodic monitoring” during which the system periodically performs a process in which it “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 report block 707.” Kates-711, 15:50-16:4; Kates-505, 12:32-54; Pet. 32 (citing Pet. 22), 67. Each of the periodic intervals of “periodic monitoring” is a [1.e] “transmission interval,” during which there is a [1.e] “transmission period” that includes a “report block.” Indeed, Kates-711 and Kates-505 explicitly disclose that “the sensor unit 102 reports [sensor] readings at **regular intervals**.” Kates-711, 18:56-57; Pet., 22, 27; Kates-505, 15:29-31; Pet., 65-66. These teachings therefore disclose the claimed “transmission period” within a “transmission interval.” Indeed, the ’887 patent includes a similar disclosure of a “transmission period” 436 occurring within a “transmission interval” 338:

⁵ Contrary to PO’s assertion, Petitioner does not rely on Mueller for a “transmission interval.”

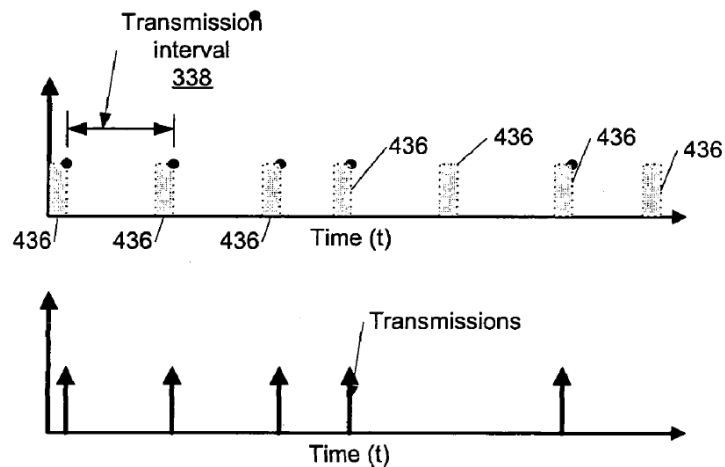


Figure 4

'887, Fig. 4; *see also* '887, 9:27-30 (“Each period 336 recurs at a variable frequency or interval 338. **The interval 338 may be considered a time beginning at the start of a period 336 and ending at the start of the next consecutive interval 338.**”); *see also id.*, 10:59-63 (“**FIG. 4 illustrates** a transmission interval for a device configured for dynamic value reporting. For example, a processor 214 may control or trigger the transceiver 214 to communicate information during **a transmission period 436.**”); Neikirk Reply, ¶22.

PO's arguments to the contrary rely on an incorrect construction of the claims (see §II.A), and mischaracterize the Petition. Contrary to PO's argument that the report block “is not periodic and is not an interval” (POR, 16), the Petition explains that the “report block 707” occurs during an “interval” (which Kates-711 and Kates-505 also call a “period”) of “periodic reporting”; this interval is the [1.e] “interval,” and the [1.e] “period” is a period of time that includes, e.g., the time

that “report block 707” occurs. Pet. 32; *see also* Kates-711, 15:50-64, 18:56-57; Pet., 22, 27; Kates-505, 15:29-31; Pet., 65-66. Because this “report block 707” occurs at each interval of periodic reporting, Kates-711 and Kates-505 therefore each disclose a period of time including the “report block” (i.e., [1.e] transmission period) that repeats in each interval ([1.e] transmission interval) of periodic reporting. Neikirk Reply, ¶23.

PO’s further argument that the “report block 707” takes place within the “polling interval” and not the “transmission interval” (POR 16) relies on PO’s improper negative limitation requiring that the “polling” and “transmission” intervals be different. As explained in §II.A, PO’s construction is both improper and ambiguous as to what PO contends is required. But regardless of what PO contends is required, PO’s construction is met by Kates-711 and Kates-505. If PO contends the polling and transmission periods must be separate, then as cited in the Petition, “report block 707” and “block 706” are separate, periodic blocks that each occur at different, non-overlapping times. Kates-711, 15:50-16:4; Pet. 32-35; Kates-505, 12:32-54; Pet. 67. And if PO contends that there have to be distinct periodic transmission and polling intervals, then Kates-711 and Kates-505 disclose transmission intervals that start at different times: transmission intervals that begin at each “report block” 707, and polling intervals that begin at each sensor reading block 706. *See* Pet., 32; *see also id.* 22 (citing Kates-711, 18:56-57), 24-29 (citing

Kates-711, 15:50-16:7, Fig. 7), Pet., 65-66 (citing Kates-505, 12:32-59, 15:29-31, Fig. 7). Indeed, the '887 discloses an embodiment that is similar to Kates-711's and Kates-505's disclosures of coordinated, separate blocks 706 and 707 for reading and transmitting sensor data: the '887 discloses that the "timing of the polling periods 336 and/or transmission period 436" are "synchronized intervals for report and receiving information." '887, 14:10-23. Kates-711's and Kates-505's disclosures thus meet this element under any purported interpretation of PO's in the same way as an embodiment in the '887 itself. Neikirk Reply, ¶¶24-27.

Kates-711 and Kates-505 disclose this element under both its plain meaning and PO's construction. Neikirk Reply, ¶28.

IV. KATES-711 (GROUND 1-4), KATES-505 (GROUND 5-12), AND MUELLER (GROUND 9-12) DISCLOSE "WHEREIN TRANSMISSION ... IS SUSPENDED"

As the Petition details, each of Kates-711, Kates-505, and Mueller discloses "wherein transmission ... is suspended." Pet., 31-36, 66-67, 72-74; *see also* Neikirk, ¶¶85-89, 160, 168-172. PO's attempt to distinguish Kates-711, Kates-505, and Mueller relies on its mischaracterization of the *ecobee* district court construction and imposes limitations that are inconsistent with the plain meaning of the Challenged Claims, and should be rejected. Neikirk Reply, ¶29.

- A. **Kates-711 and Kates-505 disclose that transmission is “suspended in response to detecting a chan[g]le in the sensed condition within the predetermined range” by “not transmitting data that falls within a normal range” to “conserve[] power”**

As shown in Fig. 7, Kates-711 and Kates-505 (Grounds 1-12) disclose a cycle of processes that repeat during each reporting period or interval of “periodic monitoring,” including block 706 when the sensor unit takes a sensor reading, and “report block 707” for reporting the sensor reading to a monitoring computer.

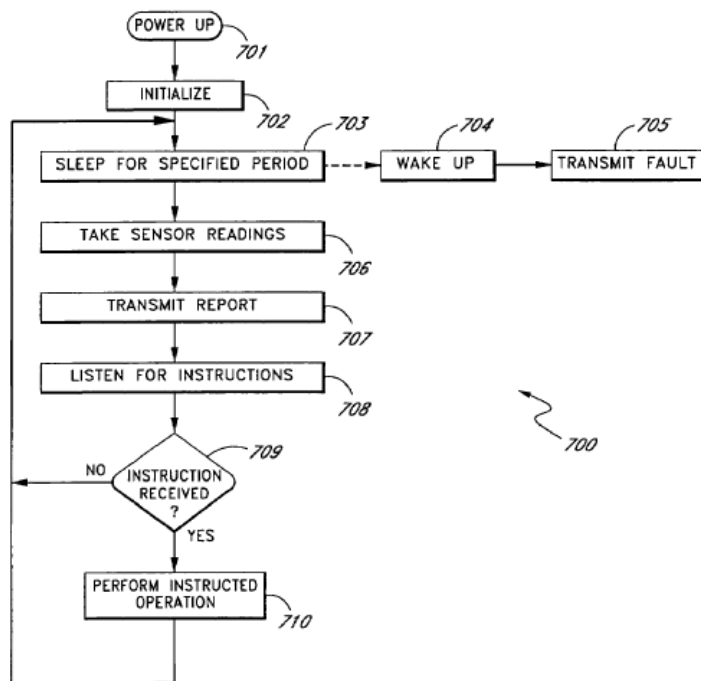


FIG. 7

Kates-711, Fig. 7, 15:50-16:4; Kates-505, Fig. 7, 12:32-54; Pet., 32, 67; Neikirk, ¶¶85-87. During each of the periodic report blocks 707, transmission occurs if the data is deemed “sufficiently anomalous.” Kates-711, 4:39-42, 5:12-16, 13:8-23;

Kates-505, 1:61-64, 2:34-38, 9:55-10:3; Pet., 32, 66-67; Neikirk, ¶¶88-89. Because this determination of whether to transmit occurs during each interval of “periodic monitoring,” as shown in Fig. 7, this “report block” occurs periodically. Kates-711, 15:50-16:4; Kates-505, 12:32-54; Pet., 26-27, 31-36, 67. Such periodic transmission that would otherwise occur, however, is suspended or stopped, as PO contends the term requires (POR, 8-9), when the sensor data “falls within a normal range,” at least until the next transmission cycle. Kates-711, 13:8-23; Kates-505, 9:55-10:3; *see* Pet., 32, 67; Neikirk, ¶¶88-89; Neikirk Reply, ¶30.

Specifically, Kates-711 and Kates-505 teach that when the processor receives data from the sensor for transmission, the processor “evaluates the data received from the sensor(s) 201.” Kates-711, 13:8-16; Kates-505, 9:55-63; Pet. 32-35, 67. Based on this evaluation, the processor then suspends certain transmissions that would otherwise occur in order to “conserve[] power by not transmitting data that falls within a normal range.” Kates-711, 13:14-19; Kates-505, 9:61-66; *see* Pet., 32, 67; Neikirk, ¶¶88-89. These Kates-711 and Kates-505 disclosures of transmitting data that is “sufficiently anomalous” and not transmitting data that “falls within a normal range” are similar to the ’887’s disclosure that “information may be *communicated in response to a comparison that identifies a change in the sensed condition*,” and “transmission ... may be suspended” if “no change in the indicator has been identified.” ’887, 3:32-37. *See* Pet., 32-33 & n.8, 67; Nei-

kirk, ¶¶88-89. The fact that Kates-711 and Kates-505 do not use the word “suspend” to describe this same functionality is irrelevant. *See, e.g., In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009) (noting that a prior art reference need not satisfy an *ipsissimis verbis* test). Neikirk Reply, ¶31.

To the extent PO argues that suspending requires suspending the transmission to occur “during the period of the transmission interval” or that the transmission is “pending” before suspension (*see* POR 2-3, 9), that argument improperly reads in a requirement that is disclosed in only one embodiment of the specification and relies on PO’s improper construction of “transmission interval”—*see* §II.B. Nevertheless, as explained above in §III, this element is met under PO’s construction because, during each periodic transmission interval, there is a period of time (the [1.e] “period of the transmission interval”) during which the processor receives data that is ready for transmission, and then when preparing to transmit the received data, decides whether it is “anomalous” and, if not, suspends transmission. Kates-711, 13:8-23; Kates-505, 9:55-10:3; Pet., 32-35, 67. Neikirk Reply, ¶¶32-33.

To the extent PO contends that a period of time including the “report block” does not meet this element (e.g., POR 2-3, 9), PO’s argument is tantamount to seeking *ipsissimis verbis* disclosure of a “transmission period”—which is not required. *Gleave*, 560 F.3d at 1334. Kates-711’s and Kates-505’s disclosure of a pe-

riod of time during periodic reporting in which the processor determines whether to suspend transmission, and then either suspends transmission or transmits data is sufficient to disclose this element. Indeed, even under PO's exacting demand for disclosure of a specific "transmission period," the determination of whether to suspend occurs during the "report block" 707 because this block occurs after the device "takes a sensor reading" at block 706—only then can the processor determine whether to suspend "normal" data. Kates-711, 13:14-19, 15:57-62; Kates-505, 9:61-66, 12:39-44. Neikirk Reply, ¶34. Any argument by PO to the contrary is nothing more than a box drawing exercise about what processes occur within a block of a logical flow diagram. *Id.* Kates-711 and Kates-505 therefore disclose this feature even under PO's flawed interpretation.

And to the extent that PO argues that this "forbearing" of transmissions when no change is sensed is insufficient to show that transmission is "suspended," PO's argument again improperly reads limitations into the claim, as discussed above in Section II.B. The claim requires transmission to be "suspended in response to detecting a chan[g]e in the sensed condition within the predetermined range." As PO quotes from Kates-711 and Kates-505, they disclose this feature: "the sensor unit 102 generally conserves power **by not transmitting data that falls within a normal range.**" POR, 17-18 (quoting Ex. 1004 (Kates-711), 14:4-16, and citing Ex. 1022 (Kates-505), 9:61-63). Measured data that is "sufficiently anoma-

lous to be reported” is transmitted, while similar transmissions that would have occurred and wasted power are instead suspended when in a normal range. Kates-711, 4:39-42, 13:8-23; Kates-505, 1:61-64, 9:55-10:3; see Pet., 20-22, 66-67. Again, this mirrors the ’887 disclosure that “transmission of information may be suspended for periods of a transmission interval for which no change in the indicator has been identified.” ’887, 3:32-37; Neikirk Reply, ¶35.

B. Mueller discloses that transmission is “suspended in response to detecting a chan[gle] in the sensed condition within the predetermined range” because “transmission shall only occur if the new sensed temperature is different by a pre-defined amount from a previous transmitted temperature”

Mueller (Grounds 9-12) likewise discloses “wherein transmission ... is suspended” as claimed by the ’887 Patent.⁶ For example, Mueller discloses sensor readings are periodic and occur “at variable time intervals.” Mueller, 2:37-49 Pet., 73. Mueller further teaches, during subsequent intervals, “only transmit[ing] temperature information on a sensed change in temperature,” such that “transmission shall only occur if the new sensed temperature is different by a pre-defined amount

⁶ Grounds 5-12 cited Kates-505 rather than Kates-711 to the extent PO disputed Kates-711’s priority date, which PO did not. See Pet., 7 n.2. While Kates-505 and Kates-711 share the same core disclosures, Mueller was cited in Grounds 9-12 to address any argument that disclosures in Kates-711 that are not in Kates-505 are material to this feature—again PO has not made this argument. See Pet., 7 n.2.

from a previous transmitted temperature”—i.e., transmission is suspended if the new sensed temperature is not sufficiently “different.” Mueller, Abstract, 1:8-11, 2:16-21, 2:37-49, 4:26-27, 8:66-9:6, 11:60-12:9; *see* Pet., 72-73; Neikirk, ¶¶168-170. Mueller further teaches suspending transmissions when the sensed change in temperature is below a threshold amount advantageously reduces the “possibility of transmission collisions” by reducing the total number of transmissions. Mueller, 2:37-49. Neikirk Reply, ¶36.

PO does not separately address Mueller’s disclosures, and instead merely argues Mueller “is substantially similar to Kates-711 and Kates-505.” POR, 17. As explained above for Kates-711 and Kates-505, PO’s arguments each fail because, similar to the ’887’s own disclosures, Mueller’s teaching of transmitting when temperature changes outside a specified range, and not transmitting when it does not, discloses suspending transmission “in response to detecting a chan[g]e in the sensed condition within the predetermined range” as claimed in the ’887. Neikirk Reply, ¶37.

V. CONCLUSION

As set forth in the Petition, the Challenged Claims are rendered obvious. For the reasons provided herein, PO’s arguments fail to distinguish any Challenged Claim from the prior art, and the Challenged Claims should be found unpatentable.

Dated: March 22, 2024

Respectfully submitted,

/James L. Davis, Jr./

James L. Davis, Jr.

Reg. No. 57,325

Counsel for Petitioner
COPELAND COMFORT CONTROL
LP.

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. §42.24(a) and (d), the undersigned hereby certifies that this Petitioner's Reply to Patent Owner's Response complies with the type-volume limitation of 37 CFR §42.24(a)(i) because, exclusive of the exempted portions, it contains 3730 words as counted by the word processing program used to prepare the paper.

Dated: March 22, 2024

/Daniel W. Richards/

Daniel W. Richards

Reg. No. 69,652

CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing PETITIONER’S RE-
PLY TO PATENT OWNER’S RESPONSE and EXHIBIT 1052 were served in
its entirety by filing through the Patent Trial and Appeal Case Tracking System
(P-TACTS), as well as providing a courtesy copy via email to the following
attorneys of record for Patent Owner listed below:

Lead Counsel	Backup Counsel
Brett Cooper, Reg. No. 55,085 BC Law Group, P.C. 200 Madison Avenue, 24th Floor New York, NY 10016 Telephone: 212-951-0100 bcooper@bc-lawgroup.com Ollnova_Counsel@b-clg.com	Robert A. Auchter, Reg. No. 38,069 Auchter PLLC 1629 K Street, NW, Suite 300 Washing- ton, DC 20006 Telephone: 703-585-5721 rob- ert@auchterlaw.com

Courtesy copies of the same documents were also served at the following
email addresses of record for Ollnova Technologies Ltd.’s litigation counsel:

Anthony G. Simon, MO #38745 Paul J. Tahan, MO #73037 THE SIMON LAW FIRM, P.C. 800 Market Street, Suite 1700 St. Louis, Missouri 63101 Phone: (314) 241-2929 Fax: (314) 241-2029 asimon@simonlawpc.com ptahan@simonlawpc.com	Brett E. Cooper (NY SBN 4011011) bcooper@bc-lawgroup.com Seth Hasenour (TX SBN 24059910) shasenour@bc-lawgroup.com Drew B. Hollander (NY SBN 5378096) dhollander@bc-lawgroup.com BC LAW GROUP, P.C. 200 Madison Avenue, 24th Floor
---	--

	New York, NY 10016 Tel.: (212) 951-0100 Fax: (646) 293-2201
--	---

Dated: March 22, 2024

By: /Jonathan Bradford/
Name: Jonathan Bradford
ROPES & GRAY LLP