

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: March 18, 2009 Name: Matthew T. Ridsdale Signature: /Matthew T. Ridsdale/

IN RE APPLN. OF: SONGKAKUL ET AL.

FOR: METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES

ATTORNEY DOCKET NO.: 2008P04306US01

UTILITY PATENT APPLICATION TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

1. TRANSMITTED HERewith: A new application under 37 CFR §1.53(b), including the following elements and other papers:

- ☐ Application Data Sheet (see 37 CFR §1.76)
☒ Title page
☒ Specification, including claims and Abstract (30 pages)
☒ Drawings (7 sheet(s))
☐ Appendices: _____
☐ Declaration (_____ pages; ☐ Executed ☐ Unexecuted)
☒ Combined Declaration and Power of Attorney (6 pages; ☐ Executed ☒ Unexecuted)
☐ Information Disclosure Statement, including Form PTO-1449 (_____ sheets), and any required copies
☐ Power of Attorney (_____ pages; ☐ by inventor ☐ by Assignee identified in Assignment)
☐ Nonpublication Request under 35 USC §122(b)(2)(B)(i)
☐ Other: _____

2. SMALL ENTITY STATUS: ☐ Applicant is small entity (per 37 CFR §1.27).

3. FEE CALCULATION:

Claims as Filed	Col. 1	Col. 2	Small Entity			Not a Small Entity	
For	No. Filed	No. Extra	Rate	Fee	or	Rate	Fee
Basic Fee				\$ 82	or		\$ 330
Total Claims	25-20	0	x\$26=	\$	or	5 x\$52=	\$260
Independent Claims	4-3	0	x\$110=	\$	or	1x\$220=	\$220
Multiple Dependent Claims Present			+ \$195=	\$	or	+ \$390=	\$
Utility Application Size Fee (for each additional 50 sheets that exceeds 100 sheets, including specification and drawings)			x\$135=	\$	or	x\$270=	\$
Search Fee			+ \$270=	\$	or	+ \$540=	\$540
Examination Fee			+ \$110=	\$	or	+ \$220=	\$220
*If the difference in col. 1 is less than zero, enter "0" in col. 2.			Total	\$	or	Total	\$1570

4. FEE PAYMENT:

- ☒ Please charge Deposit Account No. 23-1925 in the amount of \$1570.00.
☐ Payment by credit card in the amount of \$_____ (Form PTO-2038 is attached).
☒ The Director is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 23-1925:
☒ Any addtl. filing fees required under 37 CFR §1.16. ☒ Any patent application processing fees under 37 CFR §1.17.

5. CORRESPONDENCE ADDRESS: Please recognize the correspondence address for this application as the address associated with the following Customer Number:

Customer No.: 28524 Siemens Corporation

6. PLEASE DIRECT all telephonic communications to: Elsa Keller, Legal Assistant (tel: (773) 321-3026).

Respectfully submitted,

March 18, 2009
Date

/Matthew T. Ridsdale/
Matthew T. Ridsdale (Reg. No. 56,832)

**DECLARATION FOR PATENT APPLICATION, POWER OF
ATTORNEY & DESIGNATION OF CORRESPONDENCE ADDRESS**

As below named inventor, I hereby declare that I believe I am an original inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

METHODS TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICE

the specification of which (check one)

 X is attached hereto.

 was filed on as Application Serial No. .

I hereby state that I have reviewed and understand the contents of the above-identified specification including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with 37 CFR §1.56(a).

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS (6 MONTHS
FOR DESIGN) PRIOR TO THIS APPLICATION AND ANY PRIORITY CLAIMS
UNDER 35 U.S.C. § 119(a)-(d)**

I hereby claim foreign priority benefits under 35 USC §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
Number	Country	Day/Month/Year Filed	Yes	No

**CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(34 U.S.C. § 119(e))**

I hereby claim the benefit under Title 35, United States Code, § 119(3) of any United States provisional application(s) listed below:

Provisional Application Number	Filing Date
61/037,739	March 19, 2008

**CLAIM FOR BENEFIT OF EARLIER US/PCT APPLICATION(S)
UNDER 35 U.S.C. 120**

I hereby claim the benefits under 35 USC §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 USC §112, I acknowledge the duty to disclose material information as defined in 37 CFR §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Appl. No.	Filing Date	Patented, Pending, Abandoned

Power of Attorney: I hereby appoint practitioners associated with customer number **28524** to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Send Correspondence to:

Customer No. 28524
Siemens Corporation

Direct Inquiries to:
Elsa Keller, Legal Assistant
Tel. No. (732) 321-3026
Fax No. (732) 321-3014

I hereby declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under 18 USC §1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

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Residence: Spring Grove, IL	
Citizenship: United States	
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Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES		
First Named Inventor/Applicant Name:		Pornsak Songkakul		
Filer:		Matthew T Ridsdale/LAURA MARKHAM		
Attorney Docket Number:		2008P05081US01		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility application filing	1011	1	330	330
Utility Search Fee	1111	1	540	540
Utility Examination Fee	1311	1	220	220
Pages:				
Claims:				
Claims in excess of 20	1202	5	52	260
Independent claims in excess of 3	1201	1	220	220
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1570

Electronic Acknowledgement Receipt

EFS ID:	4992089
Application Number:	12406799
International Application Number:	
Confirmation Number:	6102
Title of Invention:	METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES
First Named Inventor/Applicant Name:	Pornsak Songkakul
Correspondence Address:	SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH - ISELIN NJ 08830 US - -
Filer:	Matthew T Ridsdale/Edward Ppopoca
Filer Authorized By:	Matthew T Ridsdale
Attorney Docket Number:	2008P05081US01
Receipt Date:	18-MAR-2009
Filing Date:	
Time Stamp:	18:15:51
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 1570

RAM confirmation Number	5193				
Deposit Account	231925				
Authorized User					
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees) Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees) Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees) Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Drawings-only black and white line drawings	12468-00098_FIGS.pdf	54928 4ab56ba82255d55005ebebce53d01eaeed780e49	no	7
Warnings:					
Information:					
2		12468-00098__2008P05081US01__PA_Power_Save.pdf	132126 77ae26124e0ee0b207c46881cd7947e03c231029	yes	31
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	24	
	Claims		25	30	
	Abstract		31	31	
Warnings:					
Information:					
3	Transmittal of New Application	12468-00098_Application_Transmittal.pdf	72133 27e02526364f410be77b38da8ebd767d6f47324d	no	1
Warnings:					
Information:					
4	Oath or Declaration filed	12468-00098_UNEXECUTED_DEEC-POA.pdf	80420 e82b07863793d0462ba91751689b84e6e8f242be	no	6
Warnings:					
Information:					
5	Fee Worksheet (PTO-06)	fee-info.pdf	37994 ad49f07096fca46556467a581ddf2fb93163c35d	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	377601
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.	

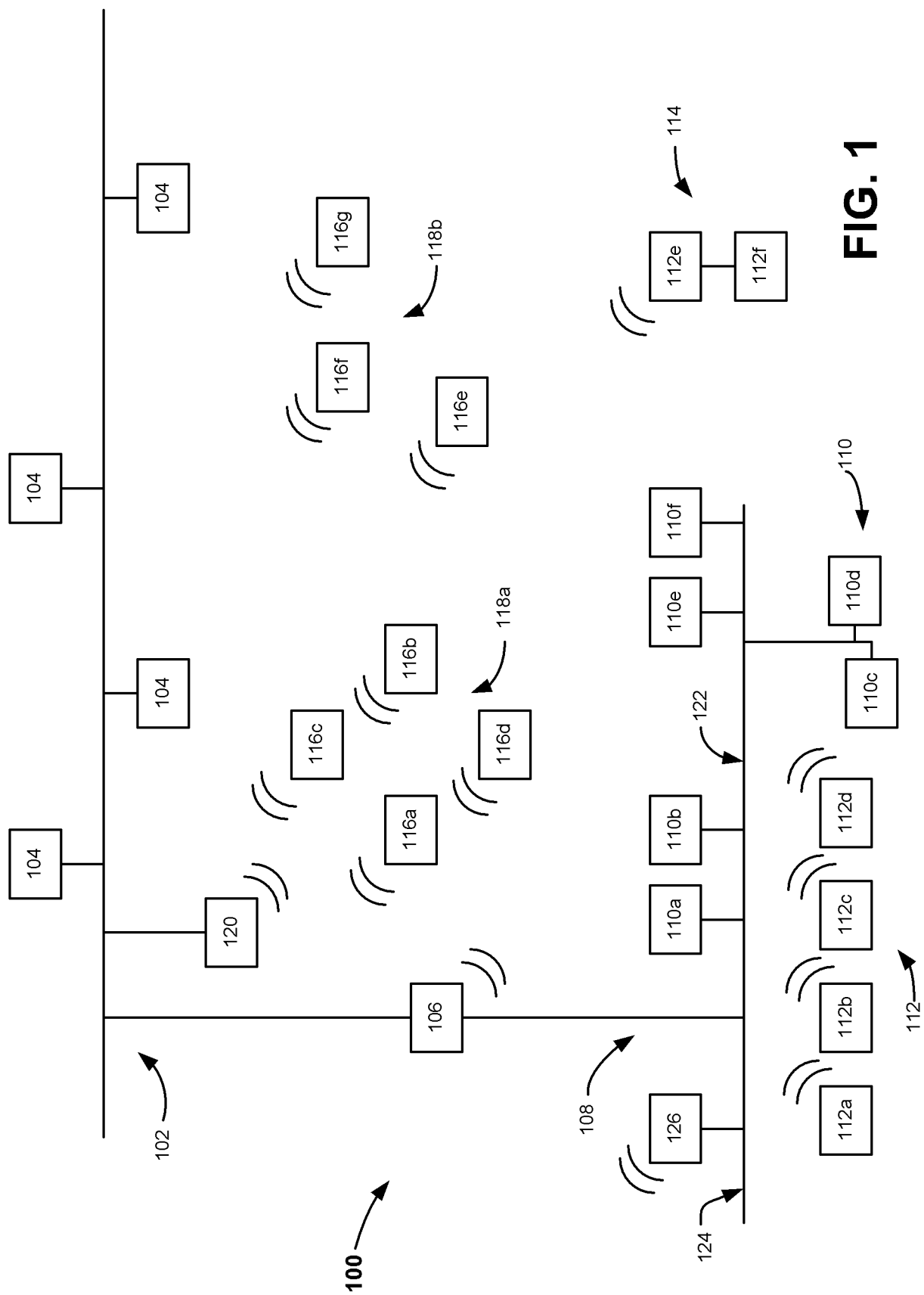


FIG. 1

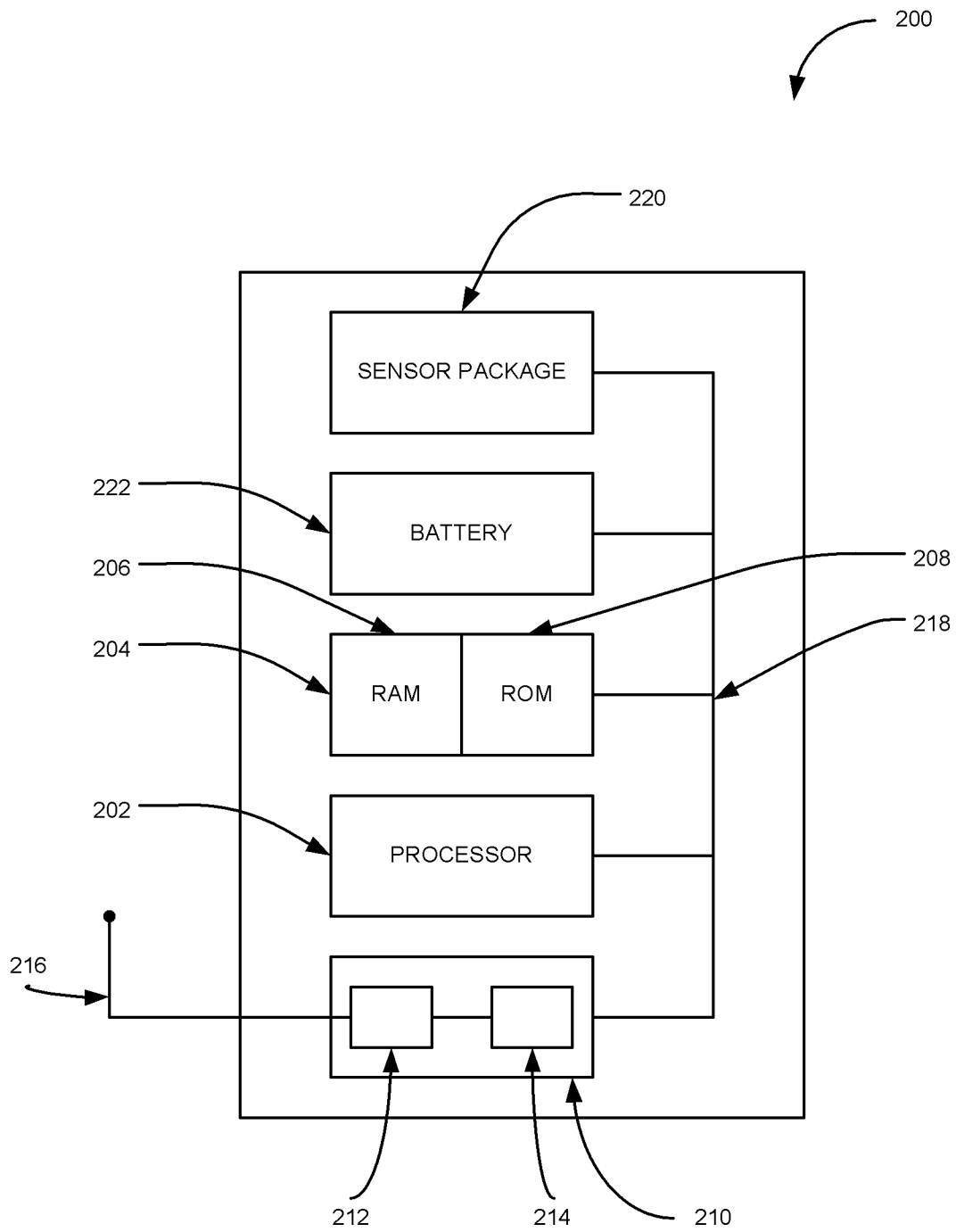


FIG. 2

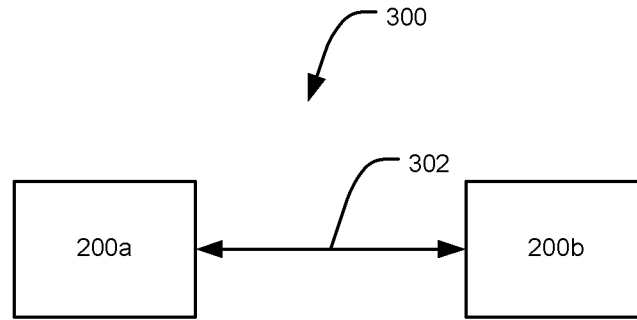


FIG. 3

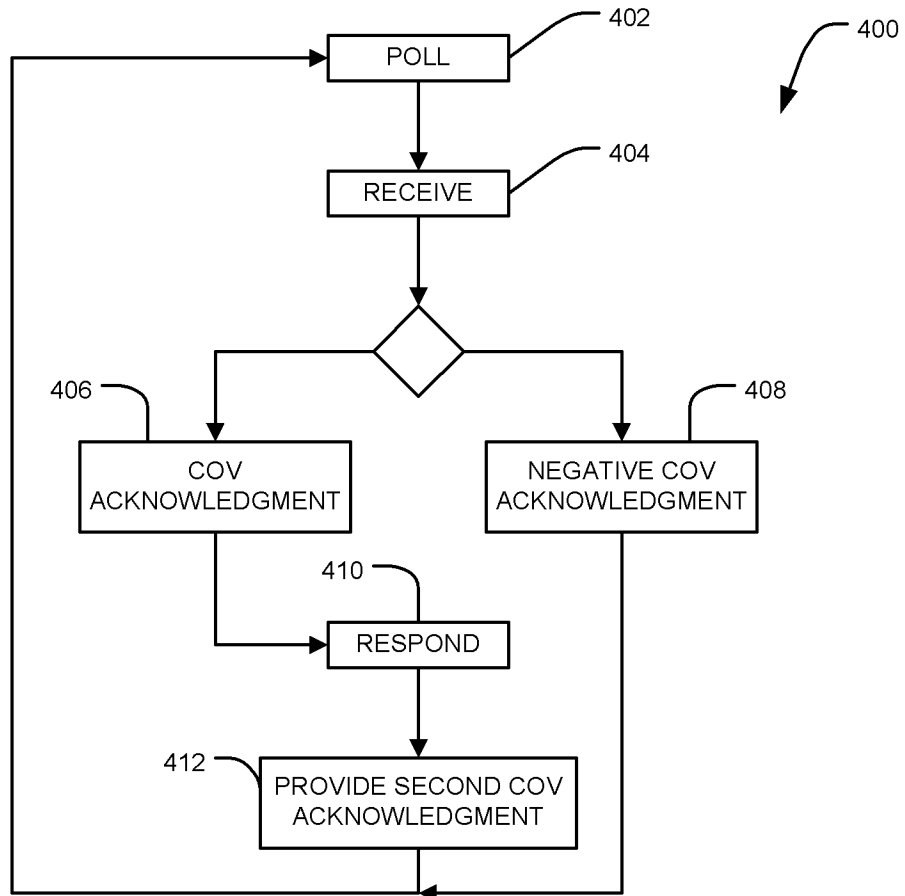


FIG. 4

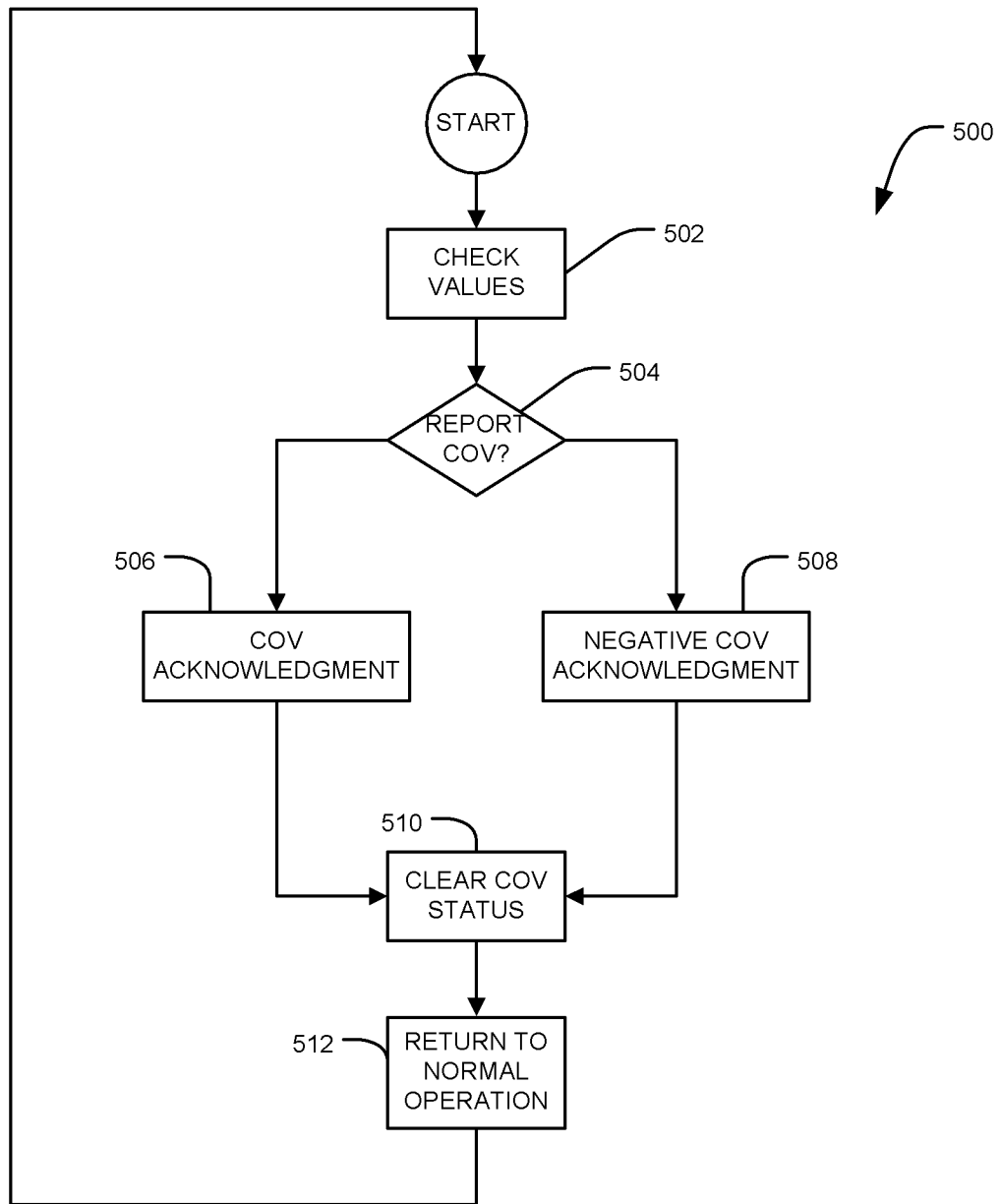


FIG. 5

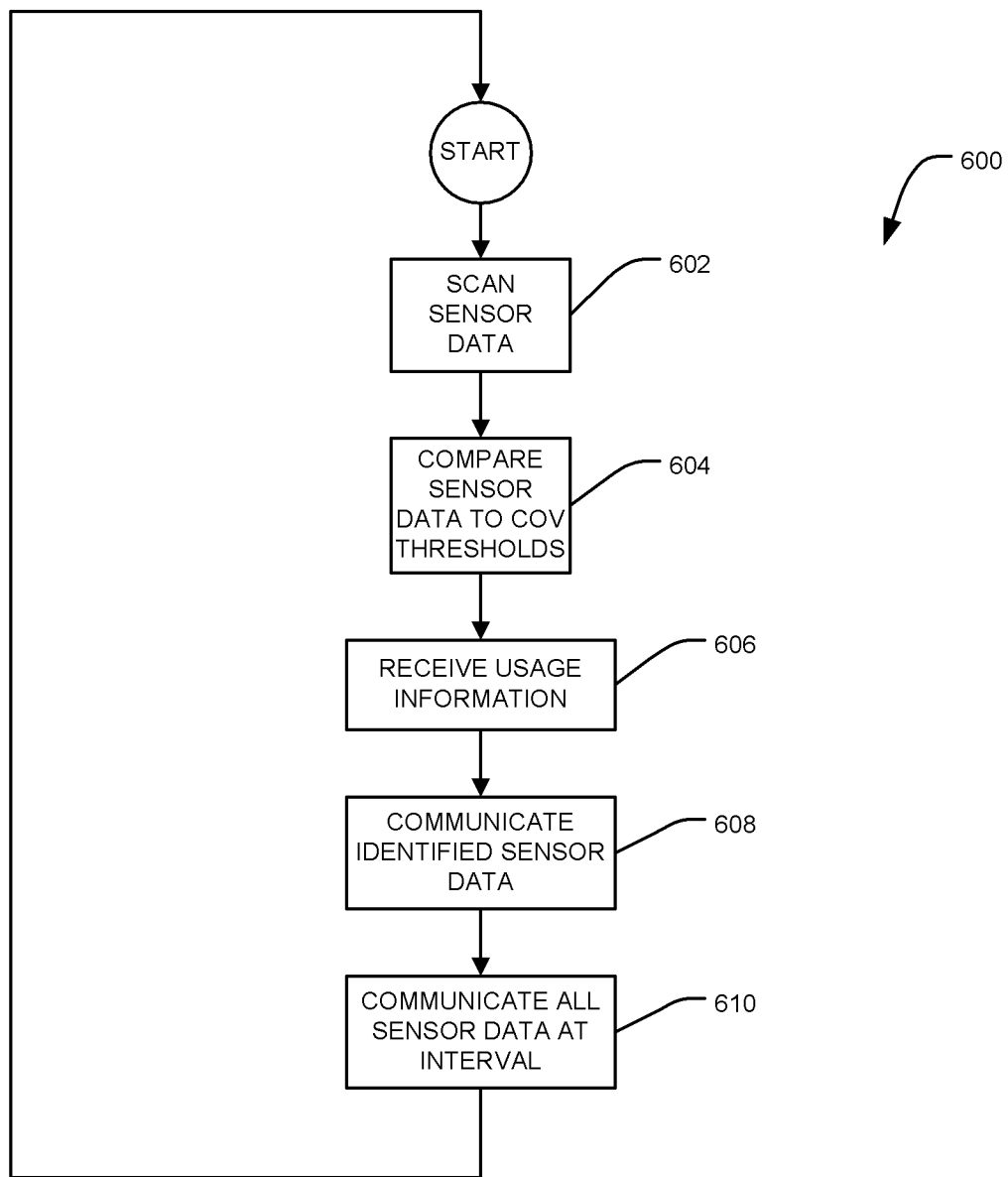


FIG. 6

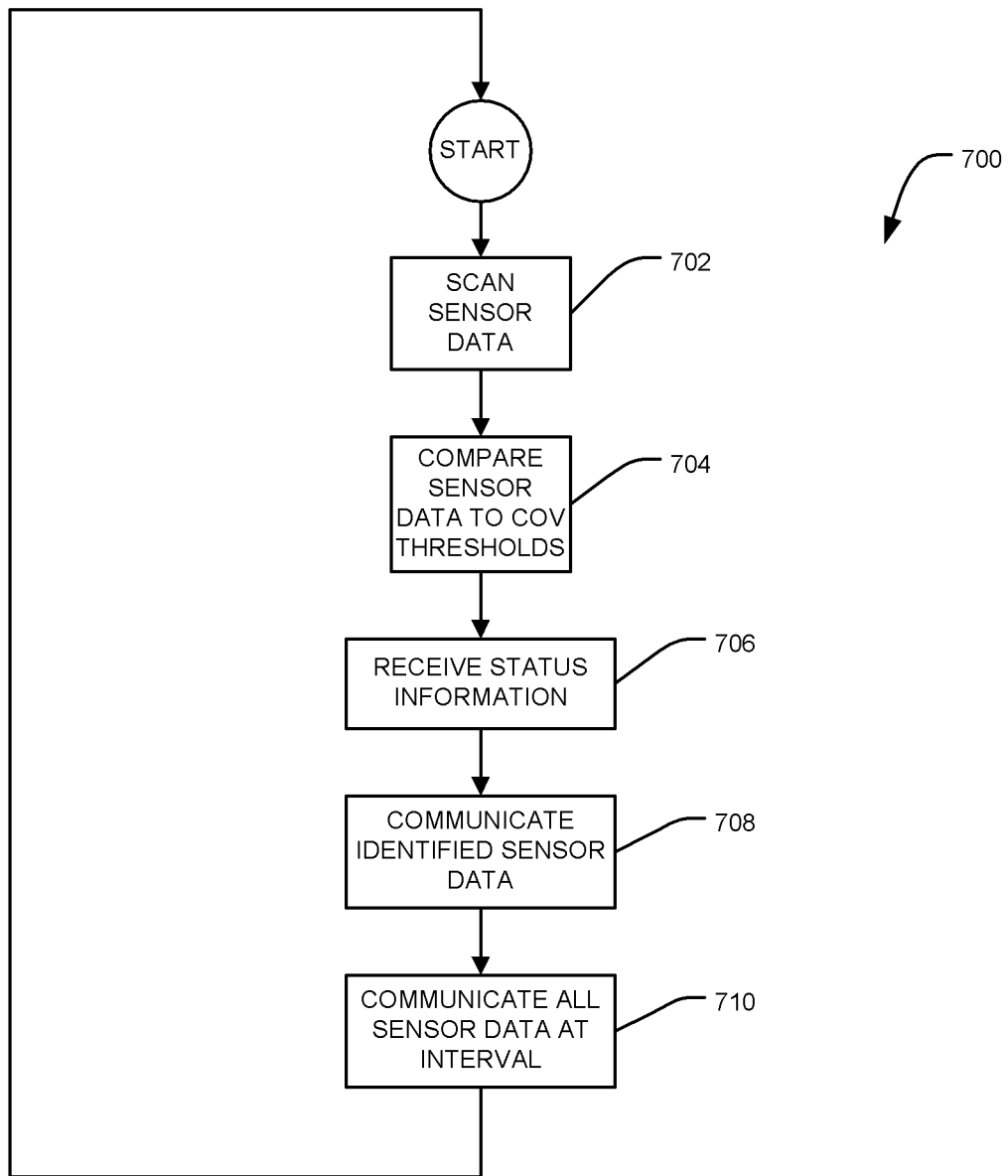


FIG. 7

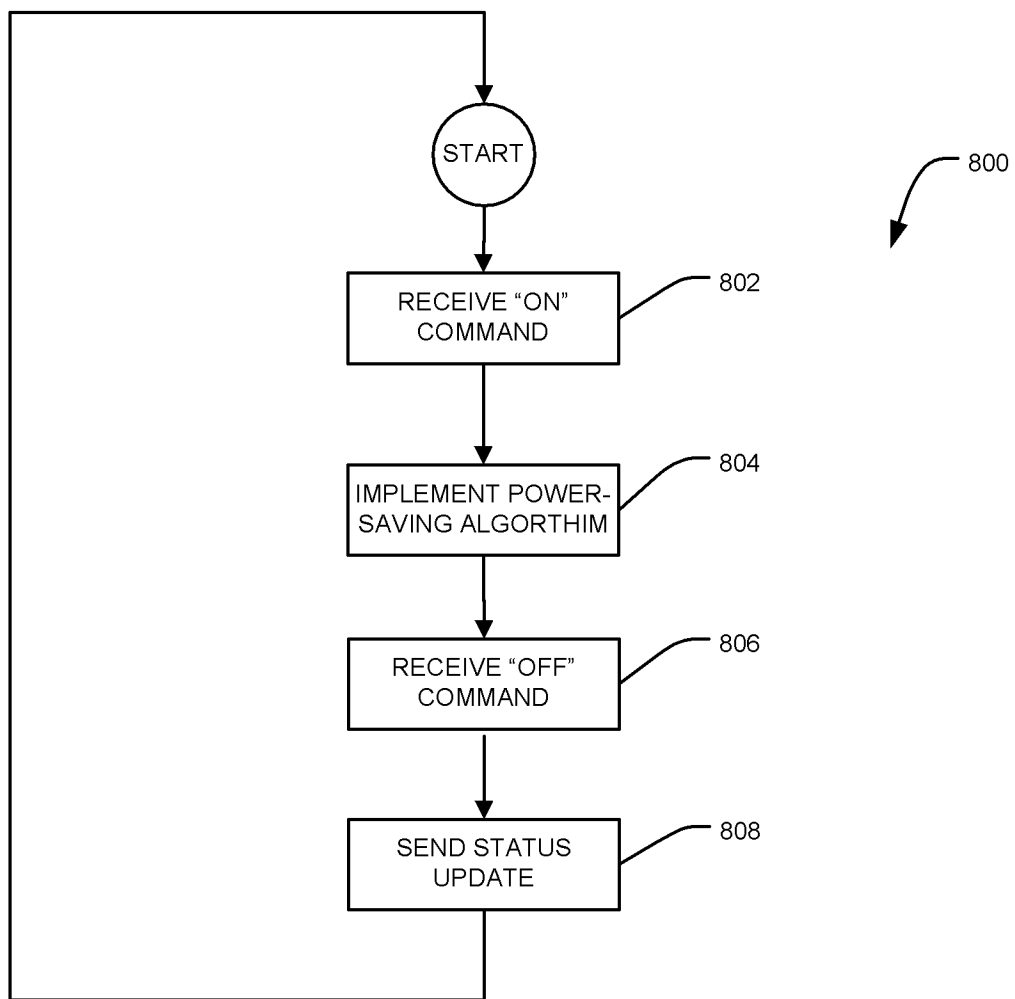


FIG. 8

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
APPLICATION FOR UNITED STATES LETTERS PATENT**

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WILLIAM T. PIENTA (PROSPECT HEIGHTS, IL)
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TITLE: **METHOD AND DEVICE TO MANAGE POWER OF
WIRELESS MULTI-SENSOR DEVICES**

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METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES

PRIORITY CLAIM

[0001] This patent document claims the priority benefit provided under 35
5 U.S.C. §119(e) to U.S. provisional patent application serial No. 61/037,739,
filed on March 19, 2008. The content of this provisional patent application is
incorporated herein by reference for all purposes.

BACKGROUND

[0002] The present disclosure generally relates to communications within a
10 building automation system. In particular, the present disclosure relates to
methods and devices for communicating change-of-value information within a
building automation system.

[0003] A building automations system (BAS) typically integrates and
controls elements and services within a structure such as the heating,
15 ventilation and air conditioning (HVAC) system, security services, fire systems
and the like. The integrated and controlled systems are arranged and
organized into one or more floor level networks (FLNs) containing application
or process specific controllers, sensors, actuators, or other devices distributed
or wired to form a network. The floor level networks provide general control
20 for a particular floor or region of the structure. For example, a floor level
network may be an RS-485 compatible network that includes one or more
controllers or application specific controllers configured to control the
elements or services within floor or region. The controllers may, in turn, be
configured to receive an input from a sensor or other device such as, for

example, a room temperature sensor (RTS) deployed to monitor the floor or region. The input, reading or signal provided to the controller, in this example, may be a temperature indication representative of the physical temperature. The temperature indication can be utilized by a process control routine such as a proportional-integral control routine executed by the controller to drive or adjust a damper, heating element, cooling element or other actuator towards a predefined set-point.

[0004] Information such as the temperature indication, sensor readings and/or actuator positions provided to one or more controllers operating within a given floor level network may, in turn, be communicated to an automation level network (ALN) or building level network (BLN) configured to, for example, execute control applications, routines or loops, coordinate time-based activity schedules, monitor priority based overrides or alarms and provide field level information to technicians. Building level networks and the included floor level networks may, in turn, be integrated into an optional management level network (MLN) that provides a system for distributed access and processing to allow for remote supervision, remote control, statistical analysis and other higher level functionality. Examples and additional information related to BAS configuration and organization may be found in the co-pending U.S. patent application serial No. 11/590,157 (2006P18573 US), filed on October 31, 2006, and co-pending U.S. patent application serial No. 10/915,034 (2004P13093 US), filed on August 8, 2004, the contents of these applications are hereby incorporated by reference for all purposes.

[0005] Wireless devices, such as devices that comply with IEEE 802.15.4/ZigBee protocols, may be implemented within the control scheme of a building automation system without incurring additional wiring or installation costs. ZigBee-compliant devices such as full function devices (FFD) and
5 reduced function devices (RFD) may be interconnected to provide a device net or mesh within the building automation system. For example, full function devices are designed with the processing power necessary to establish peer-to-peer connections with other full function devices and/or execute control routines specific to a floor or region of a floor level network. Each of the full
10 function devices may, in turn, communicate with one or more of the reduced function devices in a hub and spoke arrangement. Reduced function devices such as the temperature sensor described above are designed with limited processing power necessary to perform a specific task(s) and communicate information directly to the connected full function device.

[0006] Wireless devices for use within the building automation system must operate for an extended period on a limited battery charge. Systems, devices and methods to maximize power conservation may be desirable to extend and/or maximize the operating life of wireless devices and the network in which they operate.

SUMMARY

[0007] The present disclosure generally provides for communicating information between wireless devices and/or automation components operating within a building automation system (BAS). Wireless devices

and/or automation components may be configured to optimize radio and/or data communications to extend battery life.

[0008] In one embodiment, an automation component configured for wireless communication within a building automation system is disclosed.

5 The automation component includes a multi-sensor package, a wireless communications component, a processor in communication with the wireless communications component and the sensor package, and a memory in communication with the processor. The memory configured to store sensor data provided by the sensor package and computer readable instructions
10 which are executable by the processor, wherein the computer readable instructions are programmed to receive status information related to sensor data in control at a second automation component in communication with the building automation system, and communicate a portion of the stored sensor data corresponding to the received status information to the second
15 automation component.

[0009] In another embodiment, an automation component configured for wireless communication within a building automation system is disclosed.

The automation component includes a multi-sensor package, a wireless communications component, a processor in communication with the wireless
20 communications component and the sensor package, 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. The computer readable instructions are programmed to receive status data related to sensor data in control at a

second automation component in communication with the building automation system, determine the sensor data in control at the second automation component based on the received status data, and communicate the stored sensor data corresponding the sensor data in control at the second automation component.

[0010] In another embodiment, an automation component configured for wireless communication within a building automation system is disclosed. The automation component includes, a multi-sensor package, a wireless communications component, a processor in communication with the wireless communications component and the sensor package, 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. The computer readable instructions are programmed to receive a wake-up command from a second automation component, communicate stored sensor data related to the sensor data in control at a second automation component, and receive a power-down command from the second automation component.

[0011] A method for providing power saving wireless communication within a building automation system is disclosed. The method includes scanning sensor data associated with a multi-sensor package of a first automation component, identifying changed sensor values within the sensor data, receiving a first communication from a second automation component in communication with the first automation component and the building automation system, and communicating a portion of the identified changed

sensor values associated with the first communication received from the second automation component.

[0012] Additional features and advantages of the present invention are described in, and will be apparent from, the following Detailed Description and the figures.

BRIEF DESCRIPTION OF THE FIGURES

[0013] The method, system and teaching provided relate to binding automation components within a building automation system (BAS).

[0014] FIG. 1 illustrates an embodiment of a building automation system configured in accordance with the disclosure provided herein;

[0015] FIG. 2 illustrates an embodiment of a wireless device or automation component that may be utilized in connection with the building automation system shown in FIG. 1;

[0016] FIG. 3 illustrates an exemplary flowchart representative of a communications and updating configuration;

[0017] FIG. 4 illustrates an exemplary flowchart representative of a communications algorithm;

[0018] FIG. 5 illustrates an exemplary flowchart representative of another communications algorithm;

[0019] FIG. 6 illustrates an exemplary flowchart representative of a communications and power saving configuration;

[0020] FIG. 7 illustrates an exemplary flowchart representative of a communications and power saving algorithm; and

[0021] FIG. 8 illustrates an exemplary flowchart representative of another communications and power saving algorithm.

DETAILED DESCRIPTION

[0022] The embodiments discussed herein include automation

5 components, wireless devices and transceivers. The devices may be IEEE 802.15.4/ ZigBee-compliant automation components such as: a personal area network (PAN) coordinator which may be implemented as a field panel transceiver (FPX); a full function device (FFD) implemented as a floor level device transceiver (FLNX); and a reduced function device (RFD) implemented
10 as a wireless room temperature sensor (WRTS) that may be utilized in a building automation system (BAS). The devices identified herein are provided as an example of automation components, wireless devices and transceivers that may be integrated and utilized within a building automation system embodying the teachings disclosed herein and are not intended to limit the
15 type, functionality and interoperability of the devices and teaching discussed and claimed herein. Moreover, the disclosed building automation system describes automation components that may include separate wireless devices and transceivers, however it will be understood that that the wireless device and transceiver may be integrated into a single automation component
20 operable within the building automation system.

I. BUILDING AUTOMATION SYSTEM OVERVIEW

[0023] One exemplary building automation system that may include the devices and be configured as described above is the APOGEE® system

provided by Siemens Building Technologies, Inc. The APOGEE® system may implement RS-485 wired communications, Ethernet, proprietary and standard protocols, as well as known wireless communications standards such as, for example, IEEE 802.15.4 wireless communications which are
5 compliant with the ZigBee standards and/or ZigBee certified wireless devices or automation components. ZigBee standards, proprietary protocols or other standards are typically implemented in embedded applications that may utilize low data rates and/or require low power consumption. Moreover, ZigBee standards and protocols are suitable for establishing inexpensive, self-
10 organizing, mesh networks which may be suitable for industrial control and sensing applications such as building automation. Thus, automation components configured in compliance with ZigBee standards or protocols may require limited amounts of power allowing individual wireless devices, to operate for extended periods of time on a finite battery charge.

15 **[0024]** The wired or wireless devices such as the IEEE 802.15.4/ZigBee-compliant automation components may include, for example, an RS-232 connection with an RJ11 or other type of connector, an RJ45 Ethernet compatible port, and/or a universal serial bus (USB) connection. These wired, wireless devices or automation components may, in turn, be configured to
20 include or interface with a separate wireless transceiver or other communications peripheral thereby allowing the wired device to communicate with the building automation system via the above-described wireless protocols or standards. Alternatively, the separate wireless transceiver may be coupled to a wireless device such as a IEEE 802.15.4/ ZigBee-compliant

automation component to allow for communications via a second communications protocol such as, for example, 802.11x protocols (802.11a, 802.11b ... 802.11n, etc.) These exemplary wired, wireless devices may further include a man-machine interface (MMI) such as a web-based interface screen that provide access to configurable properties of the device and allow the user to establish or troubleshoot communications between other devices and elements of the BAS.

[0025] FIG. 1 illustrates an exemplary building automation system or control system 100 that may incorporate the methods, systems and teaching provided herein. The control system 100 includes a first network 102 such as an automation level network (ALN) or management level network (MLN) in communication with one or more controllers such as a plurality of terminals 104 and a modular equipment controller (MEC) 106. The modular equipment controller or controller 106 is a programmable device which may couple the first network 102 to a second network 108 such as a floor level network (FLN). The second network 108, in this exemplary embodiment, may include a first wired network portion 122 and a second wired network portion 124 that connect to building automation components 110 (individually identified as automation components 110a to 110f). The second wired network portion 124 may be coupled to wireless building automation components 112 via the automation component 126. For example, the building automation components 112 may include wireless devices individually identified as automation components 112a to 112f. In one embodiment, the automation component 112f may be a wired device that may or may not include wireless

functionality and connects to the automation component 112e. In this configuration, the automation component 112f may utilize or share the wireless functionality provided by the automation component 112e to define an interconnected wireless node 114. The automation components 112a to 112f may, in turn, communicate or connect to the first network 102 via, for example, the controller 106 and/or an automation component 126. The automation component 126 may be a field panel, FPX or another full function device in communication with the second wired network portion 124 which, in turn, may be in communication with the first network 102.

[0026] The control system 100 may further include automation components generally identified by the reference numerals 116a to 116g. The automation components 116a to 116g may be configured or arranged to establish one or more networks or subnets 118a and 118b. The automation components 116a to 116g such as, for example, full or reduced function devices and/or a configurable terminal equipment controller (TEC), cooperate to wirelessly communicate information between the first network 102, the control system 100 and other devices within the mesh networks or subnets 118a and 118b. For example, the automation component 116a may communicate with other automation components 116b to 116d within the mesh network 118a by sending a message addressed to the network identifier, alias and/or media access control (MAC) address assigned to each of the interconnected automation components 116a to 116g and/or to a field panel 120. In one configuration, the individual automation components 116a to 116d within the subnet 118a may communicate directly with the field panel

120 or, alternatively, the individual automation components 116a to 116d may be configured in a hierarchal manner such that only one of the components for example, automation component 116c, communicates with the field panel 120. The automation components 116e to 116g of the mesh network 118b may, in turn, communicate with the individual automation components 116a to 116d of the mesh network 118a or the field panel 120.

[0027] The automation components 112e and 112f defining the wireless node 114 may wirelessly communicate with the second network 108, and the automation components 116e to 116g of the mesh network 118b to facilitate communications between different elements, section and networks within the control system 100. Wireless communication between individual the automation components 112, 116 and/or the subnets 118a, 118b 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. In an alternate embodiment, the first wired network portion 122 is not provided, and further wireless connections may be utilized.

[0028] FIG. 2 illustrates an exemplary automation component 200 that may be utilized within the control system 100. The automation component 200 maybe be a full function device or a reduced function device and may be utilized interchangeably with the automation components 110, 112 and 116 shown and discussed in connection with FIG. 1. The automation component 200 in this exemplary embodiment may include a processor 202 such as an INTEL® PENTIUM, an AMD® ATHLON™, an Atmel® ATMega, or other 8, 12, 16, 24, 32 or 64 bit classes of processors in communication with a

memory 204 or storage medium. The memory 204 or storage medium may contain random access memory (RAM) 206, flashable or non-flashable read only memory (ROM) 208 and/or a hard disk drive (not shown), or any other known or contemplated storage device or mechanism. The automation component may further include a communications component 210. The communications component 210 may include, for example, the ports, hardware and software necessary to implement wired communications with the control system 100. The communications component 210 may alternatively, or in addition to, contain a wireless transmitter 212 and a receiver 214 communicatively coupled to an antenna 216 or other broadcast hardware.

[0029] The sub-components 202, 204 and 210 of the exemplary automation component 200 may be coupled and able to share information with each other via a communication bus 218. In this way, computer readable instructions or code such as software or firmware may be stored on the memory 204. The processor 202 may read and execute the computer readable instructions or code via the communication bus 218. The resulting commands, requests and queries may be provided to the communications component 210 for transmission via the transmitter 212 and the antenna 216 to other automation components 200, 112 and 116 operating within the first and second networks 102 and 108. Sub-components 202-218 may be discrete components or may be integrated into one (1) or more integrated circuits, multi-chip modules, and/or hybrids.

[0030] The automation component 200 may be a multi-sensor wireless device that includes a sensor package 220 in communication with the sub-components 202, 204 and 210 via the communication bus 218. The sensor package 220 may be configured to sense or detect a variety of variables such as, for example, temperature, humidity, carbon dioxide, carbon monoxide, volatile organic compounds, etc. Sensed values, signals and other data may be stored within the memory 204 and accessible to the processor 202.

Moreover, the signal or indication may be flagged to indicate that a change-of-value has occurred within the automation component 200. In other words, the detection or reception of the signal or indication may operate as a change-of-value flag which denotes that the information, setting, signals and/or indications stored within the memory 204 have been altered, updated or otherwise changed. Alternatively, a separate change-of-value flag may be set and/or correspond to each detected or received signal or indication.

[0031] A battery 222 may power the sub-components 202, 204, 210 and 220 via the communication bus 218, direct or hardwired connections via a circuit board, one or more wires or conduits or any other suitable power communication medium. Communication of the stored sensor readings and/or data via the communication component 210 is a power intensive operation that may drain the battery 222. Moreover, some of the sensors within the sensor package 220 may require a great deal of power to operate. In order to increase the life of the battery 222, the high power requirement sensors within the sensor package 220 may be configured to operate periodically or on a set schedule.

II. AUTOMATION COMPONENT COMMUNICATION AND UPDATING

[0032] FIG. 3 illustrates an exemplary communications and updating configuration 300 that may be implemented between automation components 200. In this exemplary configuration, the automation components 200a may be configured to implement a request-response (polling) communication 302 in order to pull information from 200b device(s) to the polling device or for the 200b device to push values up to the 200a device. For example, the automation component 200a may represent a field panel, FPX or another full function device. Similarly, the automation component 200b may represent a TEC, FLNX, a Full function or reduced function device, a wireless actuator or any other wired or wireless device operable within the BAS 100. Moreover, the automation components 200a, 200b may be operative within, for example, the mesh network or subnet 118a.

A. REQUEST-RESPONSE (POLLED) COMMUNICATIONS

[0033] FIG. 4 illustrates a poll communication algorithm 400 or method that may be implemented, for example, between the automation components 200a, 200b. At block 402, the automation component 200a, which may be a field panel or other full function device, may generate and communicate a change-of-value (COV) request message to one or more automation components 200b operating within the BAS 100 and/or within the individual FLNs that make up the BAS 100. The COV request message may request or direct the automation component 200b to indicate whether any of the local detected values, received values, parameters, or measurements have changed or altered beyond a pre-defined reporting limit, e.g. COV limit.

[0034] At block 404, the automation component 200b receives the COV request message. For example, if the automation component 200b has, since receipt of the last COV request message, detected or received a new value representing the change-of-value, then at block 406 the automation component 200b may generate a COV acknowledgment message for communication to the automation component 200a. Alternatively, if the automation component 200b hasn't detected or received the new value representing the change-of-value, then at block 408 the automation component 200b may generate a negative COV acknowledgment message for communication to the automation component 200a.

[0035] At block 410, if the automation component 200a has successfully received the COV acknowledgment message provided by the automation component 200b, then the automation component 200a may generate and send an acknowledge COV request message for reply to the automation component 200b.

[0036] At block 412, the automation component 200b, in response to the acknowledge COV request message provided by the automation component 200a, knows the COV was successfully transferred to the device 200a and clears those reported COV's, and provides a acknowledge COV request acknowledgment message. After block 412, the communication algorithm 400 may restart and another wireless device or automation component within the BAS 100 may be polled. It will be understood that the exemplary communications algorithm 400 may be implemented in a wired or wireless BAS 100

B. PUSH COMMUNICATIONS

[0037] FIG. 5 illustrates an alternate communication algorithm 500 or method that may be implemented, for example, between the automation components 200a, 200b. The exemplary communication method 500 may be employed in a BAS 100 configured for hybrid communications utilizing both wired and wireless communications.

[0038] At block 502, the automation component 200b, which may be, for example, a full function device, an FLNX and or a TEC, will check its inputs and outputs for new or changed values. If the new value has changed more than a pre-defined amount from the last reported value, then the variable is to be reported on the next COV communication.

[0039] At block 504, the automation component 200b will check, at regular intervals established by an internal COV Reporting time interval or as needed by the internal algorithm, to see if Change-Of-Value (COV) are waiting to be reported. If so, the automation component 200b will create a Push COV message containing all queued COV values and send them to automation component 200a. At block 506, the automation component 200a may respond to automation component 200b with a Push COV acknowledge response if the message is received and understood, or, at block 508, will respond with a negative acknowledge (NAK) and an error code if the message was not understood. On receipt, at block 510, automation component 200b clears the COV status. At block 512, the automation component 200b may return to its normal operations until the next check for new values.

[0040] Automation component 200a now processes those queued COV's into the internal database of the automation component 200a and may optionally report those new values to other devices as defined in the drawings and description of FIG. 1.

5 **[0041]** If automation component 200b was in fact a hardwired device with an external wireless network interface, such as a TEC with an FLNX configuration, then the FLNX would need to poll the TEC for COV's and hold them within the FLNX while the communication to automation component 200a was occurring. In addition, the FLNX would need to acknowledge the
10 COV's from the TEC as was defined in algorithm of FIG. 4.

[0042] If automation component 200a was a hardwired device with an external wireless network interface, such as a field panel with an FPX, then the FPX would need to act has the buffer for pushed COV's and queue the COV's for the field panel. The field panel would poll the FPX, in accordance
15 with the algorithms of FIG. 4, to accept the COV's into the database of the automation component 200a.

[0043] In this configuration, the communication algorithm 500 allows COV related messages to be gathered and pushed from one or more automation components 200b up to the 200a device and from the 200a device to other
20 system components as defined in FIG 1. By pushing COV's up to automation component 200a as opposed to polling each automation component 200b, less wireless bandwidth is used and system end to end delays shortened.

[0044] If the automation component 200b is operating in a stable state without any COV's for extended periods of time (as defined by internal

variable), the automation component 200b will communicate with the automation component 200a so that the automation component 200a knows that the automation component 200b is still operating. If the automation component 200a does not receive a message from the automation component 200b for a period longer than the internal variable defined within the automation component 200b, then the automation component 200a will report a loss of communication with the automation component 200b.

[0045] The communications algorithm 500 may be further configured to address and handle communications difficulties or errors between, for example, the automation components 200a, 200b. For example, if COV polling requests cannot be communicated or are not acknowledged by the intended receiving automation component, then the algorithm 500 may be configured to recover from the communications failure. Communication recovery may include repeating communication attempts a predetermined number of times (e.g., ten attempts). Similarly, if repeated communication attempts are unsuccessful, then the communication recovery may timeout and the procedure may be reattempted after a predetermined delay (e.g., every thirty minutes). Moreover, during the period when communication is not possible, the COV-related messages may still be aggregated and stored pending the reestablishment of communications.

III. AUTOMATION COMPONENT COMMUNICATION AND POWER SAVING

[0046] FIG. 6 illustrates a power saving communication algorithm 600 or method that may be implemented, for example, between the field panel 120

and the automation component 200. Generally, the power saving communication algorithm 600 instructs the automation component 200 to provide specific or limited sensor information to, for example, the field panel 120 in response to a communication indicating the particular sensed data (from a field of all the data gathered via the multi-sensor) currently in use by the field panel 120.

[0047] At block 602, the exemplary multi-sensor automation component 200 scans each of the sensors operating within the sensor package 220 and/or the sensor data stored in the memory 204. The scan time may be, for example, once every 10 msec, once a second, or any other desirable period of time.

[0048] At block 604, the sensor data identified during the sensor and memory scan may be compared to a COV threshold value corresponding to each individual sensor and/or sensor value. Sensor data found to exceed the COV threshold may be flagged for later transmission.

[0049] At block 606, a receiving device such as, for example, the field panel 120 may communicate sensor usage or control information to the automation component that identifies which sensor and sensor data is currently being analyzed and/or is primary or controlling the field panel 120.

The sensor usage or control information relates to or identifies the sensor values and routines that are controlling and driving the receiving device. In other words, during any given scan cycle, one of the sensor values and/or a corresponding sensor control routine is executed by the receiving device (e.g., the field panel 120). The communicated sensor control information provided

by the receiving device identifies for the automation component 200 which sensor and/or sensor value is driving or controlling the receiving device during the scan cycle.

5 **[0050]** At block 608, the automation component 200 may communicate the flagged sensor data corresponding to the primary sensor and/or sensor value in control of, and provided by, the field panel 120.

10 **[0051]** At block 610, all of the flagged sensor data, regardless of its status at the field panel 120, may be communicated (at a regular or scheduled interval) to provide sensor data for the sensors that are not the primary focus of the field panel during a given time period or duty cycle. In this way, the overall length and frequency of communications may be reduced thereby saving battery power. Moreover, by only communicating a subset of the total sensor data reduces the overall message size thereby freeing network bandwidth for other communications.

15 **[0052]** FIG. 7 illustrates an alternate power saving communication algorithm 700 or method that may be implemented between, for example, the field panel 120 and the automation components 200. Generally, the power saving communication algorithm 700 is configured to allow the automation component 200 to determine, in response to data provided by the field panel 20 120, to determine the sensed data currently in use by the field panel 120.

[0053] At block 702, the exemplary multi-sensor automation component 200 scans each of the sensors operating within the sensor package 220 and/or the sensor data stored in the memory 204. The scan time may be, for

example, once every 10 msec, once a second, or any other desirable period of time.

[0054] At block 704, the sensor data identified during the sensor and memory scan may be compared to a COV threshold value corresponding to each individual sensor and/or sensor value. Sensor data found to exceed the COV threshold may be flagged for later transmission.

[0055] At block 706, a receiving device such as, for example, the field panel 120 may communicate status information to the automation component 200. The received status information provides the complete status for each of the control routines or algorithm running in connection with each of the sensor elements in the sensor package 220. The automation component 200, and more particularly, the processor 202, may analyze or process to all of the received status information to determine which sensor and sensor data is currently being analyzed and/or is primary or controlling the field panel 120.

[0056] At block 708, the automation component 200 may communicate the flagged sensor data corresponding to the sensor and sensor data currently being analyzed and/or controlling the field panel 120.

[0057] At block 710, all of the flagged sensor data, regardless of its status at the field panel 120, may be communicated (at a regular or scheduled interval) to provide sensor data for the sensors that are not the primary focus of the field panel during a given time period or duty cycle. In this way, the overall length and frequency of communications may be reduced thereby saving battery power. Moreover, by only communicating a subset of the total

sensor data reduces the overall message size thereby freeing network bandwidth for other communications.

5 **[0058]** FIG. 8 illustrates another power saving communication algorithm 800 or method that may be implemented between, for example, the field panel 120 and the automation components 200. Generally, the power saving communication algorithm 800 provides for changing the power status of the automation component 200 in response to a command from the field panel 120.

10 **[0059]** At block 802, the exemplary multi-sensor automation component 200 may receive a “WAKE-UP” or “ON” command from another device such as, for example, the field panel 120. Prior to receipt of the ON command, the automation component 200 may have been in a low-power state.

15 **[0060]** At block 804, the now-active automation component may implement the power saving communication algorithm 700 and/or 800.

20 **[0061]** At block 806, the exemplary multi-sensor automation component 200 may receive a “POWER DOWN” or “OFF” command from another device such as, for example, the field panel 120. Upon receipt of the OFF command, the automation component 200 may return to a low-power state.

20 **[0062]** It should be understood that various changes and modifications to the presently preferred embodiments described herein will be apparent to those skilled in the art. For example, the elements of these configurations could be arranged and interchanged in any known manner depending upon the system requirements, performance requirements, and other desired capabilities. Well understood changes and modifications can be made based

on the teachings and disclosure provided by the present invention and without diminishing from the intended advantages disclosed herein. It is therefore intended that such changes and modifications be covered by the appended claims.

CLAIMS

What is claimed is:

1. An automation component configured for wireless communication within a building automation system, the automation component comprising:
a multi-sensor package;
a wireless communications component;
a processor in communication with the wireless communications component and the sensor package;
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:
receive sensor control information related to sensor data in control at a second automation component in communication with the building automation system; and
communicate a portion of the stored sensor data corresponding to the received sensor control information to the second automation component.
2. The automation component of claim 1, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.
3. The automation component of claim 1, wherein the computer readable instructions are further programmed to:
identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.

4. The automation component of claim 1, wherein the computer readable instructions are further programmed to:
set an identification flag for each identified sensor value.
5. The automation component of claim 1, wherein the computer readable instructions are further programmed to:
communicate all of the stored sensor data corresponding to the
received sensor control information to the second automation
component.
6. The automation component of claim 1, wherein all of the stored sensor data is communicated at a regular interval.

7. An automation component configured for wireless communication within a building automation system, the automation component comprising:
 - a multi-sensor package;
 - a wireless communications component;
 - a processor in communication with the wireless communications component and the sensor package;
 - 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:
 - receive status data related to sensor data in control at a second automation component in communication with the building automation system;
 - determine the sensor data in control at the second automation component based on the received status data; and
 - communicate the stored sensor data corresponding the sensor data in control to the second automation component.
8. The automation component of claim 7, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.
9. The automation component of claim 7, wherein the computer readable instructions are further programmed to:
 - identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.

10. The automation component of claim 7, wherein the computer readable instructions are further programmed to:
set an identification flag for each identified sensor value.
11. The automation component of claim 7, wherein the computer readable instructions are further programmed to:
communicate all of the stored sensor data corresponding to the
received status information to the second automation
component.
12. The automation component of claim 7, wherein all of the stored sensor data is communicated at a regular interval.
13. An automation component configured for wireless communication within a building automation system, the automation component comprising:
a multi-sensor package;
a wireless communications component;
a processor in communication with the wireless communications component and the sensor package;
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:
receive a wake-up command from a second automation component;
communicate stored sensor data related to the sensor data in control at a second automation component; and
receive a power-down command from the second automation component.

14. The automation component of claim 13, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.
15. The automation component of claim 13, wherein the computer readable instructions are further programmed to:
identify sensor values within the sensor data that exceed a
corresponding change-of-value threshold.
16. The automation component of claim 13, wherein the computer readable instructions are further programmed to:
set an identification flag for each identified sensor value.
17. The automation component of claim 13, wherein the computer readable instructions are further programmed to:
communicate all of the stored sensor data corresponding to the
received status information to the second automation
component.
18. The automation component of claim 17, wherein all of the stored sensor data is communicated at a regular interval.
19. The automation component of claim 13, wherein the computer readable instructions are further programmed to:
receive status information related to sensor data in control at a second
automation component

20. A method for providing power saving wireless communication within a building automation system, the method comprising:
scanning sensor data associated with a multi-sensor package of a first automation component;
identifying changed sensor values within the sensor data;
receiving a first communication from a second automation component in communication with the first automation component and the building automation system; and
communicating a portion of the identified changed sensor values associated with the first communication received from the second automation component.
21. The method of claim 20, wherein identifying changed sensor values includes identifying changed sensor values as a function of a change-of-value threshold.
22. The method of claim 20 further comprising:
determining a primary sensor routine within the second component based on the first communication.
23. The method of claim 22, wherein the first communication includes sensor control information.
24. The method of claim 22, wherein the first communication includes sensor status information for all of the sensor routines operating within the second automation component.
25. The method of claim 22, wherein the first communication identifies a primary sensor routine operating within the second automation component.

ABSTRACT

An automation component configured for wireless communication within a building automation system is disclosed. The automation component includes a multi-sensor package, a wireless communications component, a processor in communication with the wireless communications component and the sensor package, and a memory in communication with the processor. 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 receive status information related to sensor data in control at a second automation component in communication with the building automation system, and communicate a portion of the stored sensor data corresponding to the received status information to the second automation component.

Filing Date: 03/18/09

Approved for use through 7/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number

12/406,799**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

SMALL ENTITY

OR

OTHER THAN
SMALL ENTITY

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(i))	25 minus 20 =	5
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	* 1
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

RATE (\$)	FEE (\$)
N/A	
N/A	
N/A	
x\$26	
x\$110	
195	
TOTAL	

RATE (\$)	FEE (\$)
N/A	330
N/A	540
N/A	220
x\$52	260
x\$220	220
390	
TOTAL	1570

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

SMALL ENTITY

OR

OTHER THAN
SMALL ENTITY

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total (37 CFR 1.16(i))	*	Minus **	=
Independent (37 CFR 1.16(h))	*	Minus ***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDI- TIONAL FEE (\$)
X =	
X =	
N/A	
TOTAL ADD'T FEE	

RATE (\$)	ADDI- TIONAL FEE (\$)
X =	
X =	
N/A	
TOTAL ADD'T FEE	

(Column 1)

(Column 2)

(Column 3)

AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total (37 CFR 1.16(i))	*	Minus **	=
Independent (37 CFR 1.16(h))	*	Minus ***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDI- TIONAL FEE (\$)
X =	
X =	
N/A	
TOTAL ADD'T FEE	

RATE (\$)	ADDI- TIONAL FEE (\$)
X =	
X =	
N/A	
TOTAL ADD'T FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/406,799	03/18/2009	Pornsak Songkakul	2008P05081US01

CONFIRMATION NO. 6102

FORMALITIES LETTER



OC000000035238013

28524
SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

Date Mailed: 04/01/2009

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is unsigned.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of \$130 for a non-small entity, must be submitted with the missing items identified in this notice.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is \$130 for a non-small entity

- \$130 Surcharge.

Items Required To Avoid Processing Delays:

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A new oath or declaration, identifying this application number is required. The oath or declaration does not comply with 37 CFR 1.63 in that it:
- does not identify the complete mailing or post office address of each inventor.

Replies should be mailed to:

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Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
12/406,799	03/18/2009	2612	1570	2008P05081US01	25	4

CONFIRMATION NO. 6102

28524
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FILING RECEIPT



OC000000035238012

Date Mailed: 04/01/2009

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

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Power of Attorney: None

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/037,739 03/19/2008

Foreign Applications

If Required, Foreign Filing License Granted: 03/30/2009

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/406,799**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

Title

METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES

Preliminary Class

340

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

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For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER**Title 35, United States Code, Section 184****Title 37, Code of Federal Regulations, 5.11 & 5.15****GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as

set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

Electronic Patent Application Fee Transmittal

Application Number:	12406799			
Filing Date:	18-Mar-2009			
Title of Invention:	METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES			
First Named Inventor/Applicant Name:	Pornsak Songkakul			
Filer:	Rashmi S. Raj/Connie Buscemi			
Attorney Docket Number:	2008P05081US01			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Late filing fee for oath or declaration	1051	1	130	130
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				130

Electronic Acknowledgement Receipt

EFS ID:	5316944
Application Number:	12406799
International Application Number:	
Confirmation Number:	6102
Title of Invention:	METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES
First Named Inventor/Applicant Name:	Pornsak Songkakul
Customer Number:	28524
Filer:	Rashmi S. Raj/Connie Buscemi
Filer Authorized By:	Rashmi S. Raj
Attorney Docket Number:	2008P05081US01
Receipt Date:	12-MAY-2009
Filing Date:	18-MAR-2009
Time Stamp:	11:25:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 130
RAM confirmation Number	7983
Deposit Account	192179
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2008P05081US01MPandDecl.pdf	190741 78e0bc83caba1b90cc678da125e74bbd3747a63c	yes	7

Multipart Description/PDF files in .zip description

Document Description	Start	End
Miscellaneous Incoming Letter	1	1
Oath or Declaration filed	2	7

Warnings:

The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing

Information:

2	Fee Worksheet (PTO-875)	fee-info.pdf	30446 fd10c04bd1c1fc7cfd9e825388f7bcc2ead865ca	no	2
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Warnings:

Information:

Total Files Size (in bytes): 221187

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Applicant: Songkakul (et al)

Serial No.: 12/406,799

Filed: 03.18.09

Title: Methods and Device To Manage Power Of Wireless Multi-Sensor Devices

Docket No.: 2008P05081 US01

Examiner: UNKNOWN

Group Art Unit: 2612

05.12.09

RESPONSE TO NOTICE TO FILE MISSING PARTS OF APPLICATION --
FILING DATE GRANTED

Mail Stop Missing Parts
Commissioner for Patents
P.O.Box 1450
Alexandria, VA 22313-1450

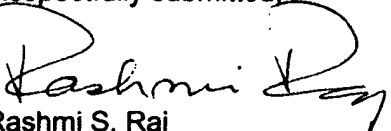
Sir:

This is a response to the Notice to File Missing Parts of Application having a mailing date of 04-01-2009 and for which a period for response of two (2) months from the mailing date of said Notice is set to expire on 06.01.09.

Enclosed is a combined Declaration and Power of Attorney as executed by the present inventors. Also enclosed is a copy of the Notice to File Missing Parts of Application.

Please charge Deposit Account No. 19-2179 for the surcharge of \$ 130.00 in accordance with 37 CFR 1.16(f). Issuance of a formal Filing Receipt is respectfully solicited.

Respectfully submitted,


Rashmi S. Raj
Reg. No.: 50,500

Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830
Tel.: +1 732 321 3872

CMB

**DECLARATION FOR PATENT APPLICATION, POWER OF
ATTORNEY & DESIGNATION OF CORRESPONDENCE ADDRESS**

As below named inventor, I hereby declare that I believe I am an original inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

METHODS TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICE

the specification of which (check one)

 X is attached hereto.

 was filed on as Application Serial No. .

I hereby state that I have reviewed and understand the contents of the above-identified specification including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with 37 CFR §1.56(a).

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS (6 MONTHS
FOR DESIGN) PRIOR TO THIS APPLICATION AND ANY PRIORITY CLAIMS
UNDER 35 U.S.C. § 119(a)-(d)**

I hereby claim foreign priority benefits under 35 USC §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
Number	Country	Day/Month/Year Filed	Yes	No

**CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(34 U.S.C. § 119(e))**

I hereby claim the benefit under Title 35, United States Code, § 119(3) of any United States provisional application(s) listed below:

Provisional Application Number	Filing Date
61/037,739	March 19, 2008

**CLAIM FOR BENEFIT OF EARLIER US/PCT APPLICATION(S)
UNDER 35 U.S.C. 120**

I hereby claim the benefits under 35 USC §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 USC §112, I acknowledge the duty to disclose material information as defined in 37 CFR §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Appl. No.	Filing Date	Patented, Pending, Abandoned

Power of Attorney: I hereby appoint practitioners associated with customer number 28524 to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

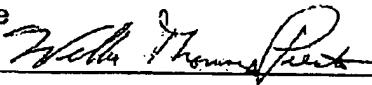
Send Correspondence to:

**Customer No. 28524
Siemens Corporation**

Direct Inquiries to:
Elsa Keller, Legal Assistant
Tel. No. (732) 321-3026
Fax No. (732) 321-3014

I hereby declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under 18 USC §1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Full Name of First Inventor: Pomsak Songkakul	
Inventor's Signature 	Date: 04/20/2009
Residence: Mequon, WI	
Citizenship: United States	
Post Office Address: 2113 West Lilac Lane, Mequon, WI 53092	

Full Name of Second Inventor:	
William Thomas Pienta	
Inventor's Signature	Date:
	APRIL 16, 2009
Residence: Prospect Heights, IL	
Citizenship: United States	
Post Office Address: 414 West Olive Avenue . Prospect Heights, IL 60070	

Full Name of Third Inventor:	
James J. Coogan	
Inventor's Signature	Date:
<i>James J. Coogan</i>	<i>April 20, 2009</i>
Residence: Des Plaines, IL , UNITED STATES OF AMERICA	
Citizenship: US	
Post Office Address: 513 Cornell Avenue, Des Plaines, IL, 60016, UNITED STATES OF AMERICA	

Full Name of Fourth Inventor:	
Randall J. Amerson	
Inventor's Signature	Date: 4/3/09
Residence: Spring Grove, IL	
Citizenship: United States	
Post Office Address: 8612 Marie Drive , Spring Grove, IL 60081	



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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
12/406,799	03/18/2009	2612	1700	2008P05081 US01	25	4

CONFIRMATION NO. 6102

28524
SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

UPDATED FILING RECEIPT



Date Mailed: 05/29/2009

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Pornsak Songkakul, Mequon, WI;
William Thomas Pienta, Prospect Heights, IL;
James J. Coogan, Des Plaines, IL;
Randall J. Amerson, Spring Grove, IL;

Power of Attorney: The patent practitioners associated with Customer Number 28524

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/037,739 03/19/2008

Foreign Applications

If Required, Foreign Filing License Granted: 03/30/2009

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/406,799**

Projected Publication Date: 09/24/2009

Non-Publication Request: No

Early Publication Request: No

Title

METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES

Preliminary Class

340

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

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NOT GRANTED

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UNITED STATES DEPARTMENT OF COMMERCE
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/406,799	03/18/2009	Pornsak Songkakul	2008P05081 US01

CONFIRMATION NO. 6102

PUBLICATION NOTICE



OC000000037959554

28524
SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

Title:METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES

Publication No.US-2009-0240353-A1

Publication Date:09/24/2009

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/406,799	03/18/2009	Pornsak Songkakul	2008P05081 US01	6102

28524 7590 09/14/2011
SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

EXAMINER

CHANG, DANIEL D

ART UNIT	PAPER NUMBER
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2819

MAIL DATE	DELIVERY MODE
-----------	---------------

09/14/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/406,799	Applicant(s) SONGKAKUL ET AL.	
	Examiner DANIEL D. CHANG	Art Unit 2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-25 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-25 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 18 March 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) ☐ Other: ____. |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Petite et al. (US 6,437,692 B1, hereinafter “Petite”).

Regarding claim 1, Petite discloses at least in Figs. 2, 3D, and 4, an automation component configured for wireless communication within a building automation system, the automation component comprising:

a multi-sensor package (310; see col. 10, lines 35+);

a wireless communications component (350, 323; col. 10, lines 42+);

a processor (324) in communication (via 321 and 350) with the wireless communications component and the sensor package;

a memory (memory having look up table 325) 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 (see col. 10, lines 30-53) to:

receive sensor control information related to sensor data in control at a second automation component in communication with the building automation system; and

communicate a portion of the stored sensor data corresponding to the received sensor control information to the second automation component (see 212, 214, 216, 222, 224 in Fig. 2).

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Regarding claim 2, Petite discloses that wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor (col. 9, lines 56+); a humidity sensor; a carbon monoxide sensor (col. 9, lines 43+); a carbon dioxide sensor and a volatile organic compound sensor.

Regarding claim 3, Petite discloses that wherein the computer readable instructions are further programmed to:

identify sensor values within the sensor data that exceed a corresponding change-of-value threshold (e.g. temperature; see col. 9, lines 58+).

Regarding claim 4, Petite discloses that wherein the computer readable instructions are further programmed to:

set an identification flag (326, 330) for each identified sensor value.

Regarding claim 5, Petite discloses that wherein the computer readable instructions are further programmed to:

communicate all of the stored sensor data corresponding to the received sensor control information to the second automation component (see 212, 214, 216, 222, 224 in Fig. 2; col. 5, lines 65+).

Regarding claim 6, Petite discloses that wherein all of the stored sensor data is communicated at a regular interval (see col. 5, lines 60+; and abstract).

Claims 7-25 are similarly rejected as claims 1-6 as discussed above.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL D. CHANG whose telephone number is (571)272-1801. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shawki Ismail can be reached on (571) 272-3985. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DANIEL D. CHANG
Primary Examiner
Art Unit 2819

/DANIEL D. CHANG/
Primary Examiner, Art Unit 2819

Notice of References Cited	Application/Control No. 12/406,799		Applicant(s)/Patent Under Reexamination SONGKAKUL ET AL.	
	Examiner DANIEL D. CHANG		Art Unit 2819	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,437,692	08-2002	Petite et al.	340/540
*	B	US-7,053,767	05-2006	Petite et al.	340/531
*	C	US-2002/0125998	09-2002	Petite et al.	340/286.01
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



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BIB DATA SHEET

CONFIRMATION NO. 6102

SERIAL NUMBER 12/406,799	FILING or 371(c) DATE 03/18/2009 RULE	CLASS 455	GROUP ART UNIT 2819	ATTORNEY DOCKET NO. 2008P05081 US01		
APPLICANTS Pornsak Songkakul, Mequon, WI; William Thomas Pienta, Prospect Heights, IL; James J. Coogan, Des Plaines, IL; Randall J. Amerson, Spring Grove, IL; ** CONTINUING DATA ***** This appln claims benefit of 61/037,739 03/19/2008 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 03/30/2009						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/DANIEL D CHANG/</u> Examiner's Signature		☐ Met after Allowance <u>/DC/</u> Initials	STATE OR COUNTRY WI	SHEETS DRAWINGS 7	TOTAL CLAIMS 25	INDEPENDENT CLAIMS 4
ADDRESS SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830 UNITED STATES						
TITLE METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES						
FILING FEE RECEIVED 1700	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit			

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	178646	wireless and communication and sens\$3 and (processor or controller or microprocessor) and memory	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 14:53
S2	85841	(wireless adj communication) and sens\$3 and (processor or controller or microprocessor) and (memory or RAM or ROM)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 14:54
S3	40274	S2 and automat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 14:54
S4	376	S3 and (building adj automation)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 14:56
S5	133	S4 and (sensor near data)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 14:57
S6	23	("20030151513" "20030152041" "20040008651" "20040088082" "20040144849" "20050122231" "5841360" "5844888" "6134303" "6182130" "6208905" "6414968" "6437692" "6493739" "6580950" "6727816" "6741174" "6741571" "6891838" "7012524" "7012534" "7042352" "7339957").PN. OR ("7860495").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/08/30 15:22
S7	47	("20020006788" "20020042274" "20020143935" "20030007473" "20030012168" "20030020595" "20030035342" "20030051032" "20030122677" "20030137968" "20030142587" "20030206115"	US-PGPUB; USPAT; USOCR	OR	OFF	2011/08/30 15:23

		"20040100394" "20040104841" "20040144849" "20040212500" "20050040943" "20050135292" "20060004664" "20060044152" "20060071782" "20060074494" "4751689" "4894810" "5266944" "5300875" "5491670" "5638046" "5953368" "5987058" "6078269" "6369710" "6560462" "6700533" "6735630" "6745038" "6774797" "6856236" "6990335" "7002470" "7035650" "7064660" "7076211" "7081693" "7142107" "7148803").PN. OR ("7408839").URPN.				
S8	2072	(building adj automation)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 16:15
S9	265	S8 and (sensor near data)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 16:15
S10	164846	wireless and communication and sens\$3 and (processor or microprocessor) and memory	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 16:15
S11	171	S9 and S10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 16:16
S12	45	S11 not S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 16:16

9/ 10/ 2011 9:55:07 AM
C:\Users\dchang\Documents\EAST\Workspaces\12406799.wsp

Search Notes 	Application/Control No. 12406799	Applicant(s)/Patent Under Reexamination SONGKAKUL ET AL.
	Examiner DANIEL D CHANG	Art Unit 2819

SEARCHED			
Class	Subclass	Date	Examiner
455	343.1	8/30/2011	dc
340	286.01, 540, 521, 539.17, 539.22, 683, 870.01	8/30/2011	dc

SEARCH NOTES		
Search Notes	Date	Examiner
See search history printout	8/30/2011	dc

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: SONGKAKUL ET AL.

Appl. No.: 12/406,799

Title: METHOD AND DEVICE TO MANAGE
POWER OF WIRELESS MULTI-SENSOR
DEVICES

Filed: MARCH 18, 2009

Docket No.: 2008P05081US01

Conf. No.: 6102

Art Unit: 2819

Examiner: CHANG, DANIEL D.

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE UNDER 37 C.F.R. §1.111

Sir:

In response to the Office Action dated September 14, 2011, please amend the above-identified patent application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 8 of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An automation component configured for wireless communication within a building automation system, the automation component comprising:
 - a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable;
 - a wireless communications component;
 - a processor in communication with the wireless communications component and the sensor package;
 - 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:
 - receive sensor control information related to sensor data in control at a second automation component in communication with the building automation system; and
 - communicate a portion of the stored sensor data corresponding to the received sensor control information to the second automation component.
2. (Original) The automation component of claim 1, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.

3. (Original) The automation component of claim 1, wherein the computer readable instructions are further programmed to:
identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.
4. (Original) The automation component of claim 1, wherein the computer readable instructions are further programmed to:
set an identification flag for each identified sensor value.
5. (Original) The automation component of claim 1, wherein the computer readable instructions are further programmed to:
communicate all of the stored sensor data corresponding to the received sensor control information to the second automation component.
6. (Original) The automation component of claim 1, wherein all of the stored sensor data is communicated at a regular interval.

7. (Currently Amended) An automation component configured for wireless communication within a building automation system, the automation component comprising:
 - a multi-sensor package configured to generate a plurality of sensor data for each sensor within the multi-sensor package;
 - a wireless communications component;
 - a processor in communication with the wireless communications component and the sensor package;
 - 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:
 - receive status data related to sensor data in control at a second automation component in communication with the building automation system;
 - determine the sensor data in control at the second automation component based on the received status data; and
 - communicate the stored sensor data corresponding the sensor data in control to the second automation component.
8. (Original) The automation component of claim 7, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.
9. (Original) The automation component of claim 7, wherein the computer readable instructions are further programmed to:
 - identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.

10. (Original) The automation component of claim 7, wherein the computer readable instructions are further programmed to:
set an identification flag for each identified sensor value.
11. (Original) The automation component of claim 7, wherein the computer readable instructions are further programmed to:
communicate all of the stored sensor data corresponding to the received status information to the second automation component.
12. (Original) The automation component of claim 7, wherein all of the stored sensor data is communicated at a regular interval.
13. (Currently Amended) An automation component configured for wireless communication within a building automation system, the automation component comprising:
a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable;
a wireless communications component;
a processor in communication with the wireless communications component and the sensor package;
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:
receive a wake-up command from a second automation component;
communicate stored sensor data related to the sensor data in control at a second automation component; and
receive a power-down command from the second automation component.

14. (Original) The automation component of claim 13, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.
15. (Original) The automation component of claim 13, wherein the computer readable instructions are further programmed to:
identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.
16. (Original) The automation component of claim 13, wherein the computer readable instructions are further programmed to:
set an identification flag for each identified sensor value.
17. (Original) The automation component of claim 13, wherein the computer readable instructions are further programmed to:
communicate all of the stored sensor data corresponding to the received status information to the second automation component.
18. (Original) The automation component of claim 17, wherein all of the stored sensor data is communicated at a regular interval.
19. (Original) The automation component of claim 13, wherein the computer readable instructions are further programmed to:
receive status information related to sensor data in control at a second automation component

20. (Currently Amended) A method for providing power saving wireless communication within a building automation system, the method comprising:
scanning sensor data associated with each of a plurality of sensors contained within a multi-sensor package of a first automation component;
identifying changed sensor values within the sensor data;
receiving a first communication from a second automation component in communication with the first automation component and the building automation system; and
communicating a portion of the identified changed sensor values associated with the first communication received from the second automation component.
21. (Original) The method of claim 20, wherein identifying changed sensor values includes identifying changed sensor values as a function of a change-of-value threshold.
22. (Original) The method of claim 20 further comprising:
determining a primary sensor routine within the second component based on the first communication.
23. (Original) The method of claim 22, wherein the first communication includes sensor control information.
24. (Original) The method of claim 22, wherein the first communication includes sensor status information for all of the sensor routines operating within the second automation component.
25. (Original) The method of claim 22, wherein the first communication identifies a primary sensor routine operating within the second automation component.

REMARKS

This paper is submitted in response to the pending Office Action mailed on September 14, 2011. Because this Response is accompanied by a certificate of electronic submission in compliance with 37 C.F.R. §1.8 on or before the shortened period for reply set to expire on **December 14, 2011**, this Response is timely filed.

I. STATUS OF THE CLAIMS

Prior to this Response, claims 1 to 25 were pending and at issue. By this Response, independent claims 1, 7, 13 and 20 have been amended, none of the remaining pending claims have been canceled, no new claims have been added. Support for the amendments presented herein may be found at least at paragraph **[0030]** of the as-filed specification. Thus, claims 1 to 25 remain pending and at issue in this application.

II. CLAIM REJECTIONS

The Office Action rejects claims 1 to 25 under 35 U.S.C. §102 as anticipated by U.S. Patent No. 6,437,692 to Petite et al. ("*Petite*").

A. CLAIM REJECTIONS UNDER 35 U.S.C. §102

Applicants respectfully traverse the pending anticipation rejections based on *Petite*. In particular, Applicants submit that *Petite* does not contemplate, much less disclose, an automation component that comprises a multi-sensor package as recited by each of the rejected claims 1 to 25. A multi-sensor package, by way of contrast to a simple sensor, is described in the as-filed specification at least at paragraph **[0030]** as a device that includes:

a sensor package 220 in communication with the sub-components 202, 204 and 210 via the communication bus 218. **The sensor package 220 may be configured to sense or detect a variety of variables such as, for example, temperature, humidity, carbon dioxide, carbon monoxide, volatile organic compounds, etc. Sensed values, signals and other data may be stored within the memory 204 and accessible to the processor 202.** Moreover, the signal or indication may be flagged to indicate that a change-of-value has occurred within the automation component 200. In other words, the detection or reception of the signal or indication may operate as a change-of-value flag which denotes

that the information, setting, signals and/or indications stored within the memory 204 have been altered, updated or otherwise changed. Alternatively, a separate change-of-value flag may be set and/or correspond to each detected or received signal or indication. *Emphasis added.*

From provided description, it is clear that a multi-sensor package is configured to detect values and variables related to multiple sensed properties.

Petite, contrary to the relied upon characterization does not disclose or even suggest a multi-sensor package. *Petite* simply discloses that:

[the] sensor 310 in its simplest form could be a two-state device such as a smoke alarm. Alternatively, the sensor 310 may output a continuous range of values to the data interface 321. If the signal output from the sensor 310 is an analog signal, the data interface 321 may include an analog-to-digital converter (not shown) to convert signals output to the actuator 340.

From the disclosure of *Petite*, it is clear that the sensor 310 is configured to provide a variety of output formats related to a single sensed property (e.g., temperature, humidity, carbon dioxide, carbon monoxide, volatile organic compounds, etc.)

Applicants respectfully submit that no construction of the singular term “sensor” could encompass an automation component that includes a multi-sensor package. While Applicants acknowledge the propriety of affording claim terms their broadest reasonable interpretation; Applicants submit that any proposed construction that alleges that a disclosure of a singular item encompasses and teaches multiple items would impermissibly vitiate the claimed “multi-sensor” term. Moreover, any overly broad interpretation would be inconsistent with the “specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 [70 USPQ2d 1827] (Fed. Cir. 2004).

Because *Petite* simply discloses a single sensor and not the claimed multi-sensor package as recited by claims 1 to 25, *Petite* cannot anticipate or render obvious any of the pending claims. Applicants further submit that while the originally filed claims have been shown to be patentable over *Petite*; independent claims 1, 7, 13 and 20 have been amended and revised to expedite prosecution of this application. The amendments to claims 1, 7, 13 and 20 highlight that the recited multi-sensor package contains and

includes multiple sensors configured to detect a variety of sensor data. These amendments are not presented to overcome or distinguish the claims over *Petite*; rather, these amendments are presented to prevent the Office from maintaining the current rejections.

III. CONCLUSION

For the foregoing reasons, Applicant respectfully requests withdrawal of the pending rejections and submits that the above-identified patent application is now in condition for allowance and earnestly solicits reconsideration of same. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting prosecution of this application.

Respectfully submitted,

Dated: Dec 12, 2011

BY: Thomas J. Burton
Thomas J. Burton
Registration No. 47,464
Attorney for the Applicants

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Buffalo Grove, IL 60089
Tel.: 847-941-6823
Email: tom.burton@siemens.com

Electronic Acknowledgement Receipt

EFS ID:	11593020
Application Number:	12406799
International Application Number:	
Confirmation Number:	6102
Title of Invention:	METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES
First Named Inventor/Applicant Name:	Pornsak Songkakul
Customer Number:	28524
Filer:	Thomas Joseph Burton/Susan Henderson
Filer Authorized By:	Thomas Joseph Burton
Attorney Docket Number:	2008P05081 US01
Receipt Date:	12-DEC-2011
Filing Date:	18-MAR-2009
Time Stamp:	13:58:35
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2008P05081US01_Resp_12-12-2011.pdf	517922 264d8ed0e95191dba674eb789ce435fdb6ed0fa8	yes	10

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	7
	Applicant Arguments/Remarks Made in an Amendment	8	10
Warnings:			
Information:			
Total Files Size (in bytes):		517922	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.			

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/406,799		Filing Date 03/18/2009		☐ To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY ☐ OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=		X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	12/12/2011	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 25	Minus	** 25	= 0	X \$	=		X \$60=	0
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X \$	=		X \$250=	0
☐ Application Size Fee (37 CFR 1.16(s))										
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=		X \$	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=		X \$	=
☐ Application Size Fee (37 CFR 1.16(s))										
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

Legal Instrument Examiner:
/FREDERICK BRISCOE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/406,799	03/18/2009	Pornsak Songkakul	2008P05081 US01	6102

28524 7590 12/22/2011
SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

EXAMINER

CHANG, DANIEL D

ART UNIT	PAPER NUMBER
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2819

MAIL DATE	DELIVERY MODE
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12/22/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/406,799	Applicant(s) SONGKAKUL ET AL.	
	Examiner DANIEL D. CHANG	Art Unit 2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-25 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-25 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☐ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) ☐ Other: ____. |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Petite et al. (US 6,437,692 B1, hereinafter “Petite”).

Regarding claim 1, Petite discloses at least in Figs. 2, 3D, and 4, an automation component configured for wireless communication within a building automation system, the automation component comprising:

a multi-sensor package (310) configured to detect a plurality of variables and generate sensor data for each detected variable (see col. 10, lines 33+);

a wireless communications component (350, 323; col. 10, lines 42+);

a processor (324) in communication (via 321 and 350) with the wireless communications component and the sensor package;

a memory (memory having look up table 325) 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 (see col. 10, lines 30-53) to:

receive sensor control information related to sensor data in control at a second automation component in communication with the building automation system; and

Art Unit: 2819

communicate a portion of the stored sensor data corresponding to the received sensor control information to the second automation component (see 212, 214, 216, 222, 224 in Fig. 2).

Regarding claim 2, Petite discloses that wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor (col. 9, lines 56+); a humidity sensor; a carbon monoxide sensor (col. 9, lines 43+); a carbon dioxide sensor and a volatile organic compound sensor.

Regarding claim 3, Petite discloses that wherein the computer readable instructions are further programmed to:

identify sensor values within the sensor data that exceed a corresponding change-of-value threshold (e.g. temperature; see col. 9, lines 58+).

Regarding claim 4, Petite discloses that wherein the computer readable instructions are further programmed to:

set an identification flag (326, 330) for each identified sensor value.

Regarding claim 5, Petite discloses that wherein the computer readable instructions are further programmed to:

communicate all of the stored sensor data corresponding to the received sensor control information to the second automation component (see 212, 214, 216, 222, 224 in Fig. 2; col. 5, lines 65+).

Regarding claim 6, Petite discloses that wherein all of the stored sensor data is communicated at a regular interval (see col. 5, lines 60+; and abstract).

Claims 7-25 are similarly rejected as claims 1-6 as discussed above.

Response to Arguments

Applicant's arguments filed December 12, 2011 have been fully considered but they are not persuasive. Applicant argued "Because Petite simply discloses a single sensor and not the claimed multi-sensor package as recited by claims 1 to 25, Petite cannot anticipate or render obvious any of the pending claims". However, Petite teaches more than one sensor 310 but only one sensor is shown for simplicity (see col. 10, lines 33+). Therefore, the rejection is maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL D. CHANG whose telephone number is (571)272-1801. The examiner can normally be reached on Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shawki Ismail can be reached on (571) 272-3985. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DANIEL D. CHANG
Primary Examiner
Art Unit 2819

/DANIEL D. CHANG/
Primary Examiner, Art Unit 2819

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: SONGKAKUL ET AL.

Appl. No.: 12/406,799

Title: METHOD AND DEVICE TO MANAGE
POWER OF WIRELESS MULTI-SENSOR
DEVICES

Filed: MARCH 18, 2009

Docket No.: 2008P05081US01

Conf. No.: 6102

Art Unit: 2819

Examiner: CHANG, DANIEL D.

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE UNDER 37 C.F.R. §1.116

Sir:

In response to the Office Action dated December 22, 2011, please amend the above-identified patent application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 8 of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) An automation component configured for wireless communication within a building automation system, the automation component comprising:
 - a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable;
 - a wireless communications component;
 - a processor in communication with the wireless communications component and the sensor package;
 - 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:
 - receive sensor control information related to sensor data in control at a second automation component in communication with the building automation system; and
 - communicate a portion of the stored sensor data corresponding to the received sensor control information to the second automation component.
2. (Original) The automation component of claim 1, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.

3. (Original) The automation component of claim 1, wherein the computer readable instructions are further programmed to:
identify sensor values within the sensor data that exceed a corresponding
change-of-value threshold.
4. (Original) The automation component of claim 1, wherein the computer readable instructions are further programmed to:
set an identification flag for each identified sensor value.
5. (Original) The automation component of claim 1, wherein the computer readable instructions are further programmed to:
communicate all of the stored sensor data corresponding to the received sensor
control information to the second automation component.
6. (Original) The automation component of claim 1, wherein all of the stored sensor data is communicated at a regular interval.

7. (Previously Presented) An automation component configured for wireless communication within a building automation system, the automation component comprising:
 - a multi-sensor package configured to generate a plurality of sensor data for each sensor within the multi-sensor package;
 - a wireless communications component;
 - a processor in communication with the wireless communications component and the sensor package;
 - 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:
 - receive status data related to sensor data in control at a second automation component in communication with the building automation system;
 - determine the sensor data in control at the second automation component based on the received status data; and
 - communicate the stored sensor data corresponding the sensor data in control to the second automation component.
8. (Original) The automation component of claim 7, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.

9. (Original) The automation component of claim 7, wherein the computer readable instructions are further programmed to:
identify sensor values within the sensor data that exceed a corresponding
change-of-value threshold.
10. (Original) The automation component of claim 7, wherein the computer readable instructions are further programmed to:
set an identification flag for each identified sensor value.
11. (Original) The automation component of claim 7, wherein the computer readable instructions are further programmed to:
communicate all of the stored sensor data corresponding to the received status
information to the second automation component.
12. (Original) The automation component of claim 7, wherein all of the stored sensor data is communicated at a regular interval.

13. (Previously Presented) An automation component configured for wireless communication within a building automation system, the automation component comprising:
 - a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable;
 - a wireless communications component;
 - a processor in communication with the wireless communications component and the sensor package;
 - 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:
 - receive a wake-up command from a second automation component;
 - communicate stored sensor data related to the sensor data in control at a second automation component; and
 - receive a power-down command from the second automation component.
14. (Original) The automation component of claim 13, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.
15. (Original) The automation component of claim 13, wherein the computer readable instructions are further programmed to:
 - identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.

16. (Original) The automation component of claim 13, wherein the computer readable instructions are further programmed to:
set an identification flag for each identified sensor value.
17. (Original) The automation component of claim 13, wherein the computer readable instructions are further programmed to:
communicate all of the stored sensor data corresponding to the received status information to the second automation component.
18. (Original) The automation component of claim 17, wherein all of the stored sensor data is communicated at a regular interval.
19. (Original) The automation component of claim 13, wherein the computer readable instructions are further programmed to:
receive status information related to sensor data in control at a second automation component
20. (Previously Presented) A method for providing power saving wireless communication within a building automation system, the method comprising:
scanning sensor data associated with each of a plurality of sensors contained within a multi-sensor package of a first automation component;
identifying changed sensor values within the sensor data;
receiving a first communication from a second automation component in communication with the first automation component and the building automation system; and
communicating a portion of the identified changed sensor values associated with the first communication received from the second automation component.

21. (Original) The method of claim 20, wherein identifying changed sensor values includes identifying changed sensor values as a function of a change-of-value threshold.
22. (Original) The method of claim 20 further comprising:
determining a primary sensor routine within the second component based on the first communication.
23. (Original) The method of claim 22, wherein the first communication includes sensor control information.
24. (Original) The method of claim 22, wherein the first communication includes sensor status information for all of the sensor routines operating within the second automation component.
25. (Original) The method of claim 22, wherein the first communication identifies a primary sensor routine operating within the second automation component.

REMARKS

This Response is submitted in reply to the pending final Office Action mailed on December 22, 2011. Because this Response is accompanied by a certificate of electronic submission in compliance with 37 C.F.R. §1.8 on or before the shortened period for reply set to expire on **March 22, 2012**, this Response is timely filed. Because this Response is submitted within two (2) months of the mailing date of the pending final Office Action, Applicants respectfully request issuance of an Advisory Action prior to the expiration of the shortened statutory period for reply.

I. STATUS OF THE CLAIMS

Prior to this Response, claims 1 to 25 were pending and at issue. By this Response, none of the pending claims has been amended or canceled, and no new claims have been added. Thus, claims 1 to 25 remain pending and at issue in this application.

II. RESPONSIVE TO THE OFFICE'S REMARKS

The Office maintains and makes final the prior rejections based on the reasoning that “*Petite* teaches more than one sensor 310 but only one sensor is shown for simplicity.” See *Office Action* at page 4, lines 5 to 6. In particular, the *Office Action* relies on col. 10, lines 31 to 53 of *Petite* which states that:

[r]eference is now made to FIG. 3D, which is a block diagram further illustrating the transceiver of FIG. 3C in light of the home heating system described above. Specifically, transceiver 360 is shown with four specific parameters related to four specific function codes as illustrated in look up table 325. **In this regard, sensor(s) 310 (one sensor shown for simplicity) inputs a data signal to data interface 321.** Data controller receives an input from data interface 321 that it associates with a specific function code as shown in look up table 325. Data controller 324 assembles data packet 332 by concatenating received data packet 330 with its own transceiver identification code 326 and its own specific function codes. Data packet 332 is configured by RF transceiver 350 for transmission via antenna 323 to either a stand-alone transceiver as shown in FIG. 2, or alternatively, to local gateway 210. It will be

appreciated by persons skilled in the art that data interface 321 may be uniquely configured to interface with specialized sensor(s) 310. This circuit, therefore, may differ from transceiver to transceiver, depending upon the remote system parameter that is monitored and the related actuator to be controlled. Implementation of data interface 321 will be understood by persons skilled in the art, and need not be described herein. *Emphasis added.*

From this passages and from FIGS. 3B to 3D, it 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.

Applicant further submits that the any construction or interpretation of the claimed multi-sensor package that includes a group of individual sensors such as though described by *Petite* would be inconsistent Applicants' specification. In particular, paragraph [0030] states that:

[t]he automation component 200 may be a multi-sensor wireless device that includes a sensor package 220 in communication with the sub-components 202, 204 and 210 via the communication bus 218. **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.** Sensed values, signals and other data may be stored within the memory 204 and accessible to the processor 202. Moreover, the signal or indication may be flagged to indicate that a change-of-value has occurred within the automation component 200. In other words, the detection or reception of the signal or indication may operate as a change-of-value flag which denotes that the information, setting, signals and/or indications stored within the memory 204 have been altered, updated or otherwise changed. Alternatively, a separate change-of-value flag may be set and/or correspond to each detected or received signal or indication. *Emphasis Added.*

Thus, Applicants own specification clearly describes and discusses what is meant by a "multi-sensor package" in both physical and functional terms. Based on this disclosure,

any interpretation of the claimed multi-sensor package that includes a group of individual sensors would be inconsistent with Applicants' specification and in direct conflict with rulings in both the Federal Circuit and the Board of Patent Appeals and Interferences. Specifically, in *ex Parte* Technofirst S.A., the Board noted "while giving claim terms their broadest reasonable interpretation is correct and proper, such interpretations need to be made in view of the specification." See *ex Parte* Technofirst S.A., Appeal 2009-010931, (BPAI 2010), *Philips v. AWH Corp.* 415 F.3d 1303, 1316 (Fed. Cir. 2005).

Because the claimed multi-sensor package is not disclosed or suggested by the individual sensors of *Petite*, Applicants submit that the relied upon rationale is inconsistent both factually and legally and therefore must be withdrawn. Moreover, the absence of the claimed multi-sensor package prevents *Petite* from providing a proper basis upon which a *prima facie* case of anticipation may be established over any of the pending claims.

III. CLAIM REJECTIONS

The Office Action maintains the rejections of claims 1 to 25 under 35 U.S.C. §102 as anticipated by U.S. Patent No. 6,437,692 to *Petite et al.* ("*Petite*").

A. CLAIM REJECTIONS UNDER 35 U.S.C. §102

As described above, Applicants maintain their traverse of the pending anticipation rejections based on *Petite*. As explained in Section II and previously asserted in the Applicants' Response to the Office Action mailed on September 14, 2011, Applicants maintains that *Petite* does not contemplate, much less disclose, an automation component that comprises a multi-sensor package as recited by each of the rejected claims 1 to 25. The claimed multi-sensor package differs from the individual sensor disclosed by *Petite* as described in Applicants' specification as:

a sensor package 220 in communication with the sub-components 202, 204 and 210 via the communication bus 218. **The sensor package 220 may be configured to sense or detect a variety of variables such as, for example, temperature, humidity, carbon dioxide, carbon monoxide, volatile organic compounds, etc.**

Sensed values, signals and other data may be stored within the memory 204 and accessible to the processor 202.

Moreover, the signal or indication may be flagged to indicate that a change-of-value has occurred within the automation component 200. In other words, the detection or reception of the signal or indication may operate as a change-of-value flag which denotes that the information, setting, signals and/or indications stored within the memory 204 have been altered, updated or otherwise changed. Alternatively, a separate change-of-value flag may be set and/or correspond to each detected or received signal or indication. See paragraph [0030] of Applicants' specification. *Emphasis added.*

From provided description, it is clear that a multi-sensor package is configured to detect values and variables related to **multiple sensed properties**.

Petite, contrary to the relied upon characterization does not disclose or even suggest a multi-sensor package. *Petite* simply discloses that:

[the] sensor 310 in its simplest form could be a two-state device such as a smoke alarm. Alternatively, the sensor 310 may output a continuous range of values to the data interface 321. If the signal output from the sensor 310 is an analog signal, the data interface 321 may include an analog-to-digital converter (not shown) to convert signals output to the actuator 340.

From the disclosure of *Petite*, it is clear that the sensor 310 is configured to provide a variety of output formats related to a **single sensed property** (e.g., temperature, humidity, carbon dioxide, carbon monoxide, volatile organic compounds, etc.)

Applicants respectfully submit that no construction of the singular term "sensor" could encompass an automation component that includes a multi-sensor package. While Applicants acknowledge the propriety of affording claim terms their broadest reasonable interpretation; Applicants submit that any proposed construction that alleges that a disclosure of a singular item encompasses and teaches multiple items would impermissibly vitiate the claimed "multi-sensor" term. Moreover, any overly broad interpretation would be inconsistent with the "specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 [70 USPQ2d 1827] (Fed. Cir. 2004).

Because *Petite* simply discloses one or more individual sensors and not the claimed multi-sensor package as recited by claims 1 to 25, *Petite* cannot anticipate or render obvious any of the pending claims.

IV. CONCLUSION

For the foregoing reasons, Applicant respectfully requests withdrawal of the pending rejections and submits that the above-identified patent application is now in condition for allowance and earnestly solicits reconsideration of same. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting prosecution of this application.

Respectfully submitted,

Dated: March 23, 2012

BY: /Thomas J. Burton/
Thomas Burton, Reg. No. 47,464
Customer Number: **28524**
(847) 941-6823

SIEMENS CORPORATION
ATTN: SANDY BAKER, LEGAL ADMINISTRATOR
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

Electronic Patent Application Fee Transmittal

Application Number:	12406799			
Filing Date:	18-Mar-2009			
Title of Invention:	METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES			
First Named Inventor/Applicant Name:	Pornsak Songkakul			
Filer:	Thomas Joseph Burton/Susan Henderson			
Attorney Docket Number:	2008P05081 US01			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with \$0 paid	1251	1	150	150

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				150

Electronic Acknowledgement Receipt

EFS ID:	12594846
Application Number:	12406799
International Application Number:	
Confirmation Number:	6102
Title of Invention:	METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES
First Named Inventor/Applicant Name:	Pornsak Songkakul
Customer Number:	28524
Filer:	Thomas Joseph Burton/Susan Henderson
Filer Authorized By:	Thomas Joseph Burton
Attorney Docket Number:	2008P05081 US01
Receipt Date:	20-APR-2012
Filing Date:	18-MAR-2009
Time Stamp:	16:18:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 150
RAM confirmation Number	3170
Deposit Account	192179
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2008P05081US01_Resp_FOA.pdf	110146 20f4ae62b9a0778ef4c8a121c131b64ec8950fcb	yes	13
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment After Final		1	1	
	Claims		2	7	
	Applicant Arguments/Remarks Made in an Amendment		8	13	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30578 a391ccca311d63bd1db3b44f2b6502dde5b063bc	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			140724		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/406,799		Filing Date 03/18/2009		☐ To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY ☐ OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=	OR	X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL				
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	04/20/2012	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 25	Minus	** 25	=	0	OR	X \$60=	0	
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	=	0	OR	X \$250=	0	
☐ Application Size Fee (37 CFR 1.16(s))										
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR			
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0	
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=		OR	X \$	=	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		OR	X \$	=	
☐ Application Size Fee (37 CFR 1.16(s))										
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR			
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

Legal Instrument Examiner:
/MARCUS PRIDGEN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

28524 7590 05/03/2012
SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

EXAMINER

CHANG, DANIEL D

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 05/03/2012

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

12/406,799

03/18/2009

Pornsak Songkakul

2008P05081 US01

6102

TITLE OF INVENTION: METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1740	\$300	\$0	\$2040	08/03/2012

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

28524 7590 05/03/2012
SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

12/406,799 03/18/2009 Pornsak Songkakul 2008P05081 US01 6102

TITLE OF INVENTION: METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1740	\$300	\$0	\$2040	08/03/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHANG, DANIEL D	2819	455-343100

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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UNITED STATES PATENT AND TRADEMARK OFFICE

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Address: COMMISSIONER FOR PATENTS
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/406,799	03/18/2009	Pornsak Songkakul	2008P05081 US01	6102

28524 7590 05/03/2012
SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

EXAMINER

CHANG, DANIEL D

ART UNIT	PAPER NUMBER
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2819

DATE MAILED: 05/03/2012

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 455 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 455 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability

Application No.

12/406,799

Examiner

DANIEL D. CHANG

Applicant(s)

SONGKAKUL ET AL.

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 4/20/2012.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-25.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. ☐ Notice of References Cited (PTO-892) | 5. ☐ Notice of Informal Patent Application |
| 2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____ | 7. ☐ Examiner's Amendment/Comment |
| 4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. ☐ Examiner's Statement of Reasons for Allowance |
| | 9. ☐ Other ____. |

/DANIEL D. CHANG/
Primary Examiner, Art Unit 2819

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: SONGKAKUL ET AL.

Appl. No.: 12/406,799

Title: METHOD AND DEVICE TO MANAGE
POWER OF WIRELESS MULTI-SENSOR
DEVICES

Filed: MARCH 18, 2009

Docket No.: 2008P05081US01

Conf. No.: 6102

Art Unit: 2819

Examiner: CHANG, DANIEL D.

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE UNDER 37 C.F.R. §1.116

Sir:

In response to the Office Action dated December 22, 2011, please amend the above-identified patent application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 8 of this paper.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	178646	wireless and communication and sens\$3 and (processor or controller or microprocessor) and memory	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 14:53
S2	85841	(wireless adj communication) and sens\$3 and (processor or controller or microprocessor) and (memory or RAM or ROM)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 14:54
S3	40274	S2 and automat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 14:54
S4	376	S3 and (building adj automation)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 14:56
S5	133	S4 and (sensor near data)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 14:57
S6	23	("20030151513" "20030152041" "20040008651" "20040088082" "20040144849" "20050122231" "5841360" "5844888" "6134303" "6182130" "6208905" "6414968" "6437692" "6493739" "6580950" "6727816" "6741174" "6741571" "6891838" "7012524" "7012534" "7042352" "7339957").PN. OR ("7860495").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/08/30 15:22
S7	47	("20020006788" "20020042274" "20020143935" "20030007473" "20030012168" "20030020595" "20030035342" "20030051032" "20030122677" "20030137968" "20030142587" "20030206115"	US-PGPUB; USPAT; USOCR	OR	OFF	2011/08/30 15:23

		"20040100394" "20040104841" "20040144849" "20040212500" "20050040943" "20050135292" "20060004664" "20060044152" "20060071782" "20060074494" "4751689" "4894810" "5266944" "5300875" "5491670" "5638046" "5953368" "5987058" "6078269" "6369710" "6560462" "6700533" "6735630" "6745038" "6774797" "6856236" "6990335" "7002470" "7035650" "7064660" "7076211" "7081693" "7142107" "7148803").PN. OR ("7408839").URPN.				
S8	2072	(building adj automation)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 16:15
S9	265	S8 and (sensor near data)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 16:15
S10	164846	wireless and communication and sens\$3 and (processor or microprocessor) and memory	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 16:15
S11	171	S9 and S10	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 16:16
S12	45	S11 not S5	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/30 16:16

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	((wireless adj communication) and sens\$3 and (processor or controller or microprocessor) and (memory or RAM or ROM) and automat\$4 and building and automation and (sensor near data)).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2012/05/01 17:28
L2	4	(wireless and communication and sens\$3 and (processor or controller or microprocessor) and	US- PGPUB;	OR	ON	2012/05/01 17:29

		((memory or RAM or ROM) and automat\$4 and building and automation and (sensor near data)).clm.	USPAT; UPAD			
L3	1	((multi adj sensor) and wireless and communication and sens\$3 and (processor or controller or microprocessor) and (memory or RAM or ROM) and automat\$4 and building and automation and (sensor near data)).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2012/05/01 17:29
L4	1	((scanning adj sensor) and wireless and communication and sens\$3 and (processor or controller or microprocessor) and (memory or RAM or ROM) and automat\$4 and building and automation and (sensor near data)).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2012/05/01 17:30
L5	1	((power near saving) and (scanning adj sensor) and wireless and communication and sens\$3 and (processor or controller or microprocessor) and (memory or RAM or ROM) and automat\$4 and building and automation and (sensor near data)).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2012/05/01 17:31
L6	1	((power near saving) and (scanning adj sensor) and wireless and communication and (processor or controller or microprocessor) and (memory or RAM or ROM) and automat\$4 and building and (sensor near data)).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2012/05/01 17:31
S13	1	((wireless adj communication) and sens\$3 and (processor or controller or microprocessor) and (memory or RAM or ROM) and automat\$4 and (building adj automation) and (sensor near data)).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2011/12/16 12:40
S14	10	((wireless adj communication) and sens\$3 and (processor or controller or microprocessor) and (memory or RAM or ROM) and automat\$4 and (building adj automation) and sensor).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2011/12/16 12:41

5/ 1/ 2012 5:32:14 PM
C:\ Users\ dchang\ Documents\ EAST\ Workspaces\ 12406799.wsp

Search Notes 	Application/Control No. 12406799	Applicant(s)/Patent Under Reexamination SONGKAKUL ET AL.
	Examiner DANIEL D CHANG	Art Unit 2819

SEARCHED			
Class	Subclass	Date	Examiner
455	343.1	8/30/2011	dc
340	286.01, 540, 521, 539.17, 539.22, 683, 870.01	8/30/2011	dc
search updated		5/1/2012	dc

SEARCH NOTES		
Search Notes	Date	Examiner
See search history printout	8/30/2011	dc

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
PGPUB	Text search	5/1/2012	dc

--	--

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

28524 7790 05/02/2012
SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/406,799	03/18/2009	Pornsak Songkadol	2008P05081 USG1	6102

TITLE OF INVENTION: METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES

APPL. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1740	\$300	\$0	\$2040	08/03/2012

EXAMINER	SRT UNIT	CLASS-SUBCLASS
CHANG, DANIEL D	2819	455-343100

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363)

- ☐ Change of correspondence address for Change of Correspondence Address form PTO/SB/122 attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents; OR, alternatively, 1.....
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2.....
- 3.....

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE (CITY AND STATE OR COUNTRY)

Siemens Industry, Inc.

Alpharetta, GA

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted.

- ☒ Issue Fee
- ☒ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 19-2179 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
- ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant, a registered attorney or agent, or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature: Thomas J. Burton

Typed or printed name: Thomas J. Burton

Date: June 12, 2012

Registration No. 47,464

This collection of information is required by 37 CFR 1.31. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Electronic Patent Application Fee Transmittal

Application Number:	12406799			
Filing Date:	18-Mar-2009			
Title of Invention:	METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES			
First Named Inventor/Applicant Name:	Pornsak Songkakul			
Filer:	Thomas Joseph Burton/Susan Henderson			
Attorney Docket Number:	2008P05081 US01			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	1501	1	1740	1740
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				2040

Electronic Acknowledgement Receipt

EFS ID:	12995881
Application Number:	12406799
International Application Number:	
Confirmation Number:	6102
Title of Invention:	METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES
First Named Inventor/Applicant Name:	Pornsak Songkakul
Customer Number:	28524
Filer:	Thomas Joseph Burton/Susan Henderson
Filer Authorized By:	Thomas Joseph Burton
Attorney Docket Number:	2008P05081 US01
Receipt Date:	12-JUN-2012
Filing Date:	18-MAR-2009
Time Stamp:	17:08:29
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 2040
RAM confirmation Number	4683
Deposit Account	192179
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	2008P05081US01_IssueFee. PDF	468097 cdblfe6bde7577c1e53d3da89a9f75f8279f8f0f	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32268 86e5b96b084f7cac70b46eec3fc55fd85a71b08	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			500365		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/406,799	07/17/2012	8224282	2008P05081 US01	6102

28524 7590 06/27/2012

SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 576 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Pornsak Songkakul, Mequon, WI;
William Thomas Pienta, Prospect Heights, IL;
James J. Coogan, Des Plaines, IL;
Randall J. Amerson, Spring Grove, IL;

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:



Practitioners associated with Customer Number: 146691

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:



The address associated with Customer Number: 146691

OR



Firm or individual name		
Address		
City	State	Zip
Country		
Telephone	Email	

Assignee name and address:
CF Magnus LLC
1345 Avenue of the Americas
New York, NY 10105**A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.****SIGNATURE of Assignee of Record**

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee.

Signature	Date	1/25/18
Name	Dean Dacolas	
Title	President	

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public, which is to update (and by the USPTO to process) the file of a patent or reexamination proceeding. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 18 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)Applicant/Patent Owner: CF MAGNUS LLCApplication No./Patent No.: 8,224,282Filed/Issue Date: 07-17-2012Titled: METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICESCF MAGNUS LLC, a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose one of options 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.
2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):
- ☐ The extent (by percentage) of its ownership interest is _____. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
- ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose one of options A or B below):

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: SONGKAKUL, PIANTA, COOGAN and AMERSON To: SIEMENS BUILDING TECHNOLOGIES, INC.The document was recorded in the United States Patent and Trademark Office at
Reel 022675, Frame 0346, or for which a copy thereof is attached.2. From: SIEMENS BUILDING TECHNOLOGIES, INC. To: SIEMENS INDUSTRY, INC.The document was recorded in the United States Patent and Trademark Office at
Reel 024054, Frame 0938, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: SIEMENS INDUSTRY, INC. To: SCUR-ALPHA 990 GMBH, TO BECOME MARATHON IP GMBH

The document was recorded in the United States Patent and Trademark Office at
Reel 040014, Frame 0112, or for which a copy thereof is attached.

4. From: SCUR-ALPHA 990 GMBH, TO BECOME MARATHON IP GMBH To: MARATHON IP GMBH

The document was recorded in the United States Patent and Trademark Office at
Reel 040367, Frame 0059, or for which a copy thereof is attached.

5. From: MARATHON IP GMBH To: MAGNUS IP GMBH

The document was recorded in the United States Patent and Trademark Office at
Reel 040014, Frame 0311, or for which a copy thereof is attached.

6. From: MAGNUS IP GMBH To: CF MAGNUS LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 044766, Frame 0979, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Eric Scheuerlein/

2018-02-21

Signature

Date

Eric Scheuerlein

61234

Printed or Typed Name

Title or Registration Number

Electronic Acknowledgement Receipt

EFS ID:	31842739
Application Number:	12406799
International Application Number:	
Confirmation Number:	6102
Title of Invention:	METHOD AND DEVICE TO MANAGE POWER OF WIRELESS MULTI-SENSOR DEVICES
First Named Inventor/Applicant Name:	Pornsak Songkakul
Customer Number:	28524
Filer:	Eric Roy Scheuerlein
Filer Authorized By:	
Attorney Docket Number:	2008P05081 US01
Receipt Date:	21-FEB-2018
Filing Date:	18-MAR-2009
Time Stamp:	10:04:51
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	Magnus_GPOA.PDF	285116	no	1
			1eb65c19d19ca31be26113cdec0123083269478e		

Warnings:

Information:					
2	Assignee showing of ownership per 37 CFR 3.73	20180221_MAGNP008_Statement37CFR.pdf	96723	no	2
			048935278ee8b3bb22ce430d3c9dea57352bd105		
Warnings:					
Information:					
Total Files Size (in bytes):				381839	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/406,799	03/18/2009	Pornsak Songkakul	2008P05081 US01

CONFIRMATION NO. 6102

POWER OF ATTORNEY NOTICE



OC00000097681285

28524
SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
3501 Quadrangle Blvd Ste 230
Orlando, FL 32817

Date Mailed: 02/28/2018

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/21/2018.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/ltaba/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/406,799	03/18/2009	Pornsak Songkakul	2008P05081 US01

146691
Daylight Law, P.C.
626 Jefferson Avenue
Suite 7
Redwood City, CA 94063

CONFIRMATION NO. 6102
POA ACCEPTANCE LETTER



Date Mailed: 02/28/2018

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/21/2018.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/ltaba/

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
---	---

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Eastern District of Texas` on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 2:22-cv-00072	DATE FILED 3/8/2022	U.S. DISTRICT COURT Eastern District of Texas`
PLAINTIFF OLLNOVA TECHNOLOGIES LTD.,		DEFENDANT ECOBEE, INC.,
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,224,282	7/17/2012	OLLNOVA TECHNOLOGIES LTD.
2 7,746,887	6/29/2010	OLLNOVA TECHNOLOGIES LTD.
3 7,860,495	12/28/2010	OLLNOVA TECHNOLOGIES LTD.
4 8,264,371	9/11/2012	OLLNOVA TECHNOLOGIES LTD.
5	Format m/d/yyyy	

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
-------	-------------------	------

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

IPR2023-00624 Page 00143

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AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
 filed in the U.S. District Court Western District of Texas on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:22-cv-00246	DATE FILED 3/8/2022	U.S. DISTRICT COURT Western District of Texas
PLAINTIFF OLLNOVA TECHNOLOGIES LTD.,		DEFENDANT GOOGLE LLC,
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,224,282	7/17/2012	OLLNOVA TECHNOLOGIES LTD.
2 7,746,887	6/29/2010	OLLNOVA TECHNOLOGIES LTD.
3 7,860,495	12/28/2010	OLLNOVA TECHNOLOGIES LTD.
4 8,264,371	9/11/2012	OLLNOVA TECHNOLOGIES LTD.
5 9,030,315	5/12/2015	OLLNOVA TECHNOLOGIES LTD.

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

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TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court Western District of Texas on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:22-cv-00358	DATE FILED 4/5/2022	U.S. DISTRICT COURT Western District of Texas
PLAINTIFF OLLNOVA TECHNOLOGIES LTD.,		DEFENDANT EMERSON ELECTRIC CO. and VERDANT ENVIRONMENTAL TECHNOLOGIES INC.,
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,224,282	7/17/2012	OLLNOVA TECHNOLOGIES LTD.
2 7,746,887	6/29/2010	OLLNOVA TECHNOLOGIES LTD.
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

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TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
 filed in the U.S. District Court Western District of Texas on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:22-cv-00390	DATE FILED 4/15/2022	U.S. DISTRICT COURT Western District of Texas
PLAINTIFF OLLNOVA TECHNOLOGIES LTD.,		DEFENDANT RESIDEO TECHNOLOGIES, INC.,
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,224,282	7/17/2012	OLLNOVA TECHNOLOGIES LTD.
2 7,746,887	6/29/2010	OLLNOVA TECHNOLOGIES LTD.
3 7,860,495	12/28/2010	OLLNOVA TECHNOLOGIES LTD.
4 8,264,371	9/11/2012	OLLNOVA TECHNOLOGIES LTD.
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

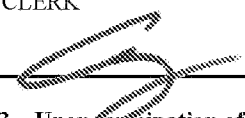
DOCKET NO. 6:22-cv-00390	DATE FILED 4/15/2022	U.S. DISTRICT COURT Western District of Texas
PLAINTIFF OLLNOVA TECHNOLOGIES LTD.,		DEFENDANT RESIDEO TECHNOLOGIES, INC.,
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,224,282	7/17/2012	OLLNOVA TECHNOLOGIES LTD.
2 7,746,887	6/29/2010	OLLNOVA TECHNOLOGIES LTD.
3 7,860,495	12/28/2010	OLLNOVA TECHNOLOGIES LTD.
4 8,264,371	9/11/2012	OLLNOVA TECHNOLOGIES LTD.
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT 10/24/2022 Doc #14 ORDER GRANTING [13] Motion to Dismiss.

CLERK PHILIP J. DEVLIN	(BY) DEPUTY CLERK 	DATE 10/24/2022
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