

**UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

ROSEN TECHNOLOGIES LLC,

Plaintiff,

v.

ECOBEE TECHNOLOGIES ULC d/b/a  
ECOBEE.

Defendant.

Civil Action No. 2:23-cv-0033

**COMPLAINT FOR PATENT  
INFRINGEMENT**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Rosen Technologies LLC (“Rosen” or “Plaintiff”) hereby asserts the following claims for patent infringement against Defendant ecobee Technologies ULC b/d/a ecobee (“ecobee” or “Defendant”), and alleges as follows:

**SUMMARY**

1. Rosen owns by assignment all right, title and interest in numerous United States and foreign patents and applications including United States Patent Nos. 7,232,075; 7,152,806; 7,156,318; 7,185,825; 7,145,110; 7,058,477; 7,028,912; 7,050,026; 6,902,117; 6,789,739; 6,786,421; 6,619,555; 6,578,770; 6,581,846; 7,841,542; 7,838,803; and RE40,437.

2. Defendant infringes the U.S. Patent No. RE40,437 (“ ’437 Patent” or “Asserted Patents”) by at least selling, without authorization, Rosen’s proprietary technologies in a number of its products including, various versions of the Ecobee SmartThermostat along with SmartSensor(s), and other substantially similar products (collectively, the “Accused Products”). These Accused Products are marketed, offered, and distributed throughout the United States, including in this District.

3. By this action, Rosen seeks to obtain compensation for the harm it has suffered as a result of Defendant's infringement of the Asserted Patents.

### **NATURE OF THE ACTION**

4. This is a civil action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

5. Defendant has infringed and continues to infringe, and at least as early as the filing and/or service of this Complaint, has induced and continues to induce infringement of, and has contributed to and continues to contribute to infringement of, one or more claims of Rosen's Asserted Patents at least by making, using, selling, and/or offering to sell its products and services in the United States, including in this District, and/or by importing the Accused Products into the United States.

6. Rosen is the legal owner by assignment of the Asserted Patents, which were duly and legally issued by the United States Patent and Trademark Office ("USPTO"). Rosen seeks monetary damages for Defendant's infringement of the Asserted Patents.

### **THE PARTIES**

7. Plaintiff Rosen Technologies LLC is a Texas limited liability company with its principal place of business at 17330 Preston Road, Suite 200D, Dallas, Texas 75252. Rosen is the owner of intellectual property rights at issue in this action.

8. On information and belief, Defendant ecobee Technologies ULC d/b/a ecobee is a British Columbia Unlimited Liability Company with its principal place of business at 25 Dockside Drive, Suite 700, Toronto, ON, Canada, M5A 0B5.

9. On information and belief, Defendant directly and/or indirectly develops, designs, manufactures, distributes, markets, offers to sell and/or sells infringing products and services in

the United States, including in the Eastern District of Texas, and otherwise directs infringing activities to this District in connection with its products and services.

### **JURISDICTION AND VENUE**

10. As this is a civil action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, this Court has subject matter jurisdiction over the matters asserted herein under 28 U.S.C. §§ 1331 and 1338(a).

11. This Court has personal jurisdiction over Defendant, in part because Defendant does continuous and systematic business in this District, including by providing infringing products and services to the residents of the Eastern District of Texas that Defendant knew would be used within this District, and by soliciting business from the residents of the Eastern District of Texas. For example, Defendant is subject to personal jurisdiction in this Court because, *inter alia*, Defendant directly and through agents regularly does, solicits, and transacts business in the Eastern District of Texas.

12. In particular, Defendant has committed and continues to commit acts of infringement in violation of 35 U.S.C. § 271, and has made, used, marketed, distributed, offered for sale, sold, and/or imported infringing products in the State of Texas, and engaged in infringing conduct within and directed at or from this District. For example, Defendant has purposefully and voluntarily placed the Accused Products into the stream of commerce with the expectation that the Accused Products will be used in this District. The Accused Products have been and continue to be distributed to and used in this District. Defendant's acts cause and have caused injury to Rosen, including within this District.

13. Venue is proper in this District under 28 U.S.C. §§ 1391 and 1400(b). *ecobee* is a foreign corporation subject to suit in any district. See 28 U.S.C. § 1391(c)(3); *In re HTC Corp.*,

889 F.3d 1349 (Fed. Cir. 2018). Upon information and belief, ecobee has transacted business in this District and has committed acts of direct infringement in this District by, among other things, making, using, offering to sell, selling, and importing products that infringe the Asserted Patent.

### **BACKGROUND**

14. The Asserted Patent stems from inventions from Howard Rosen. Mr. Rosen has been a dedicated Inventor in the field of electronics for decades. In 1977, he created the first solid state radio frequency epilation equipment.

15. In 1982, Mr. Rosen developed many improvements to the home satellite TV market including the block-down frequency converter to allow for multiple receiver/program viewing from one satellite to a plurality of satellite home receivers.

16. In 1994, Mr. Rosen continued work in communications by inventing automatic caller-id phone number blocking which was represented by U.S. Patent No. 5,309,508 which was subsequently acquired by Motorola.

17. In 1998, among other things, Mr. Rosen developed computerized automatic telephone recorders as well as diagnostic tools for accessing the efficacy of the optic nerve after laser treatment. Mr. Rosen has been referred to many times at trade shows by many peers and companies including Honeywell as a prolific inventor.

18. Around 1999, Mr. Rosen recognized a large void in the thermostat market and a definite need to make thermostats and their controls more user friendly. In or around 2000, he began filing patents on methods for making thermostats with touchscreens which were more intuitive and user friendly and he continued by additionally adding features which would turn out to help make homes more comfortable, efficient, and informative by acting on external stimulus. Further, the thermostats would incorporate more information and display important messages on

a thermostat screen while maintaining the principle of user friendliness in working with virtual touchscreen thermostats which would subliminally teach a user how to control the HVAC system in a complex way without any burden on the user.

19. Furthermore, Mr. Rosen developed thermostats that could change their user interface to adapt to the HVAC systems specifically in a particular equipment environment. AED Electronics Inc., owned by Mr. Rosen, set out to make headways into the HVAC market at the turn of the century.

20. AED Electronics thermostats were beginning to be produced by AED Electronics and were marketed under the OEM names of Carrier Corporation such as “Totaline” as well as private labeling for other companies. Most of the AED products included dot matrix liquid crystal displays similar to the way today’s LCD television screen work with dots and the ability to have a virtual touchscreen thermostat allowed thermostat screen greatly improved user interface which could even include changes in contrast and look to accommodate for décor and dark rooms. The list of improvements in the thermostat field that developed by Mr. Rosen, were vast and covered multiple options for user screens including but not limited to making buttons that were only necessary to the user appear on each individual thermostat thus eliminating unused buttons which was the old conventional way of developing thermostats.

21. In 2004, Mr. Rosen developed a remote wireless device that included a temperature sensor and an occupancy sensor that could be placed in many rooms in a building or home so that a thermostat would control temperature more accurately in occupied rooms in commercial buildings or homes.

22. At that point, Mr. Rosen created a company, Verdant Environmental Technologies, which used various methods to wirelessly control large building energy consumption and reduce

electrical and fossil fuel demand by as much as 48%. The results were more successful than anyone dreamed of and as a result within approximately 8 years the company was sold to a large multinational group and evolved into products today manufactured as a subsidiary under Emerson Electric. On or around May 4, 2010, Verdant Environmental Technologies filed suit against Ecobee, Inc., the predecessor to Defendant alleging infringement of 4 U.S. Patents now owned by Plaintiff. On or around February 7, 2022, Plaintiff sent a letter to Ecobee enclosing claim charts for 8 of the Rosen patents including a claim chart for the '437 Patent. Ecobee, thru its outside counsel, subsequently responded to Rosen's letter and engaged in phone discussions with Rosen. Ecobee requested additional information on the '437 Patent and Rosen provided an updated chart on the '437 Patent on November 15, 2022.

23. Mr. Rosen's contributions to the technology now incorporated into today's HVAC systems are immeasurable.

**U.S. Patent No. RE40,437**

24. U.S. Patent No. RE40,437 ("the '437 Patent") is entitled "Thermostat System with Remote Data Averaging" and was reissued on July 15, 2008. A true and correct copy of the '437 Patent is attached as Exhibit A.

25. The '437 Patent is a reissue of U.S. Patent No. 7,058,477. U.S. Patent No. 7,058,477 was filed on November 23, 2004, as U.S. Patent Application No. 10/995,574. The reissue was filed May 16, 2007, as U.S. Application No. 11/804,324.

26. Rosen is the owner of all rights, title, and interest in and to the '437 Patent, with the full and exclusive right to bring suit to enforce the '437 Patent, including the right to recover for past infringement.

27. The '437 Patent is valid and enforceable under United States Patent Laws.

28. The '437 Patent recognized several problems with existing thermostat systems. Exhibit A, 1:45-2:13. Specifically, in the prior art, “thermostat systems also may act to control temperature in Some rooms of out of all those in a conditioned space as a "Zone". Unfortunately, Zone control requires dedicated equipment for the Zone or duct dampers or deflectors to direct conditioned air to the Zone rooms.” *Id.* at 1:65-2:2. Additionally, “the control value established by prior art thermostat systems can easily over or under-condition a room where a user most desires environmental control.” *Id.* at 2:8-13.

29. To address one or more shortcomings of these existing thermostats, the '437 Patent discloses, *inter alia*, a “thermostat system where remote sensor values are averaged for occupied rooms at a central control device.” *Id.* at 2:14-16. “The averaged sensor data establish a Zone control value [and] [t]his Zone control value more accurately reflects environmental conditions of rooms where the user most desires control of those environmental conditions.” *Id.* at 2:16-19.

**COUNT I: INFRINGEMENT OF U.S. PATENT NO. RE40,437**

30. Rosen incorporates by reference and re-alleges paragraphs 1-29 of this Complaint as if fully set forth herein

31. Defendant has infringed and is infringing, either literally or under the doctrine of equivalents, the '437 Patent in violation of 35 U.S.C. § 271 *et seq.*, directly and/or indirectly, by making, using, offering for sale, or selling in the United States, and/or importing into the United States without authority or license, among other things, various versions of the Ecobee Smart Thermostat along with SmartSensor(s), and other substantially similar products (“the '437 Accused Product”)

32. As just one non-limiting example, set forth below (with claim language in bold and italics) is exemplary evidence of infringement of Claim 1 of the '437 Patent in connection with the


Accused Products. This description is based on publicly available information. Rosen reserves the right to modify this description, including, for example, on the basis of information about the Accused Products that it obtains during discovery.

***1: An occupancy response system with a central control device adapted to control space conditioning equipment affecting a conditioned space, the central control device located at a single physical location in one of multiple rooms comprising the conditioned space, where remote sensors are located in physical locations substantially apart from the central control device, the improvement comprising:*** - For instance, the ‘437 Accused Product works with remote room sensors for occupancy detection and controlling the heating and cooling system in a home (conditioning space). The ‘437 Accused Product includes an “occupancy response system with a central control device adapted to control space conditioning equipment affecting a conditioned space, the central control device located at a single physical location in one of multiple rooms comprising the conditioned space, where remote sensors are located in physical locations substantially apart from the central control device,”



<https://www.ecobee.com/en-us/smart-thermostats/smart-wifi-thermostat-with-voice-control/>





**SmartSensor included for enhanced comfort.**

**SmartSensor keeps you comfortable where you are, not just where your thermostat is.** Simply place SmartSensor in the bedroom, office, or child's room for total comfort and control.

- ✓ Occupancy detection manages temperature automatically.
- ✓ Helps balance your home's temperature.
- ✓ Control straight from the app or your smart home assistant.

[Explore more](#) [Chat](#)

**Seamless setup**

**Compatible with most HVAC systems**  
ecobee thermostats work with radiant heating systems, multistage, and dual-fuel heat pumps. [Use the Thermostat Compatibility Checker](#) or reach out to our support team at 1-877-932-6233.

**Industry-leading reliability**  
ecobee thermostats are powered by a dedicated 24VAC power supply using a Common wire (or C wire) for consistent performance, even in the coldest weather. The included Power Extender Kit allows for installation in most homes without a C wire.

**Supports HVAC accessories**  
Compatible with HVAC accessories, including humidifiers, dehumidifiers, HRVs, and ERVs to give you ultimate control over your home's comfort.

*1(A): two or more environmental sensors adapted to measure a local environmental condition and generate signals indicating its value;*— For instance, the '437 Accused Product includes multiple environmental sensors (i.e., thermostat Humidity, Occupancy, and Proximity sensors), as outlined below, which provides an electrical signal indicative of the temperature of the conditioned space.

Thermostat sensors	Temperature
	Humidity
	Occupancy
	Proximity

**eco+ features**

**What is eco+?**  
eco+ is a free upgrade for SmartThermostat with voice control. It works in the background to deliver maximum energy efficiency and comfort with minimal effort. [Learn more about eco+.](#)

**Schedule Assistant**  
Learns your routine and recommends changes to your thermostat schedule to better match it.

**Smart Home & Away**  
Uses SmartThermostat's built-in occupancy sensor to automatically adjust the temperature for energy savings when you leave home and restore your comfort settings when you return.

**Follow Me**  
Detects which rooms are in use and adjusts the temperature accordingly for comfort in those spaces.

**Feels Like**  
Takes indoor humidity levels into account to ensure your home is energy efficient and always feels like the temperature you've set, no matter the humidity.

**Time of Use**  
Intelligently preheats or precools your home when electricity is cheaper and reduces usage when it's expensive, saving you money and using cleaner energy.<sup>2</sup>

*1(B): two or more occupancy sensors adapted to detect occupancy of space around an environmental sensor and generate signals indicating occupancy; and; - For instance, the '437 Accused Products includes a central device (i.e., thermostat) and a remote sensor, each of which comprises an occupancy sensor which detects occupancy in the space where the sensors are located.*



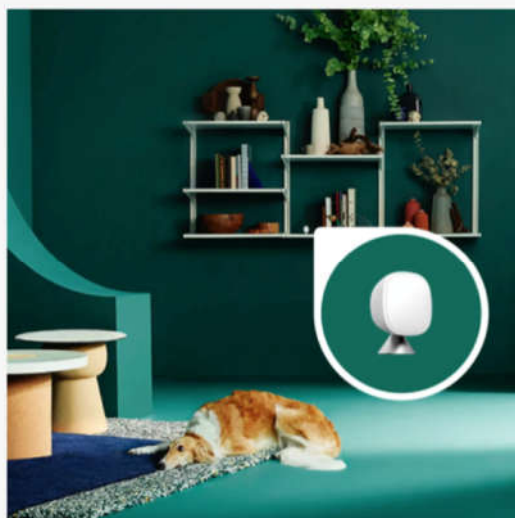
### What thermostats are compatible with these smart features?

- Smart Home and Away is available on Smart Thermostat Premium, Smart Thermostat Enhanced, SmartThermostat with voice control, ecobee4, and ecobee3 out of the box, as these thermostats have a built-in occupancy sensor. With the ecobee3 lite, Smart Home and Away can be used once a [SmartSensor](#) or [Room Sensor](#) is paired with the thermostat.
- Follow Me can be enabled once you pair a SmartSensor or Room Sensor with your ecobee thermostat. For the ecobee3 Lite, two sensors must be paired to enable this feature.

### Smart Home and Away

By using the occupancy information reported by your ecobee thermostat's built-in occupancy sensor and the sensors paired with your ecobee, Smart Home and Away tracks your household's comings and goings to set the temperature for comfort or energy savings.

<https://support.ecobee.com/s/articles/Smart-Home-Smart-Away-and-Follow-Me-Features>



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SmartSensor keeps you comfortable where you are, not just where your thermostat is. Simply place SmartSensor in the bedroom, office, or child's room for total comfort and control.

- ✓ Occupancy detection manages temperature automatically.
- ✓ Helps balance your home's temperature.
- ✓ Control straight from the app or your smart home assistant.

Explore more

Chat

**For ecobee3, ecobee3 lite, ecobee4**

These thermostats are compatible with our [ecobee Room Sensors](#). You can pair up to 32 wireless Room Sensors to each thermostat.

Our Room Sensors will measure **temperature** and **occupancy** in the space where it is located. Our thermostats themselves have built-in sensors to measure **temperature, humidity and occupancy** (ecobee3 and ecobee4 only).


You can view these sensors values by device. For example, thermostat RTU333 has 3 wireless ecobee Room Sensors paired as shown below:

<https://support.ecobee.com/s/articles/Viewing-remote-sensors-connected-to-a-thermostat>

*1(C): either the central control device and one or more of the remote sensors or two or more of the remote sensors each comprise an environmental sensor and an occupancy sensor;-*

For instance, the '437 Accused Products includes a central device (i.e. thermostat) and a remote sensor, each of which comprise an environmental sensor and an occupancy sensor as outlined below.





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<https://support.ecobee.com/s/articles/Viewing-remote-sensors-connected-to-a-thermostat>

***1(D): a central processor for the central control device including;***-For instance, the '437

Accused Products include a 1.5GHz quad-core Cortex A35 processor.

Processor & memory	1.5GHz quad-core Cortex A35 processor 4GB Flash (eMMC) 512MB DDR4 RAM
Thermostat sensors	Temperature Humidity Occupancy Proximity



**1(D)1): a central processing unit;**-For instance, the '437 Accused Products include a 1.5GHz quad-core Cortex A35 processor as outlined below.

Processor & memory	1.5GHz quad-core Cortex A35 processor 4GB Flash (eMMC) 512MB DDR4 RAM
Thermostat sensors	Temperature Humidity Occupancy Proximity

**1(D)2): a real time clock;**-For instance, the '437 Accused Products include a real time clock.

**How Do Date & Time Settings Work on My ecobee Smart Thermostat?**

Your ecobee Smart Thermostat's date and time settings were automatically configured when your thermostat was installed and set up for the first time. During the initial registration process, you will be asked to select the country/region in which you reside. This information allows your Smart Thermostat to use its internet connection to determine the date and time settings for the particular country/region you've selected. For this reason, there are no manual date and time adjustments needed or offered on your ecobee Smart Thermostat.

**What Changes to Date & Time Settings Can I Make?**

The date and time settings that your ecobee Smart Thermostat use are automatically set via the internet. As such, there are a limited set of date and time options available to you. These include:

- **Time Format:** Choose to display the time in a 12 hour or 24 hour format.
- **Country/Region:** Specify the country/region where you reside, so your ecobee device can determine the proper date & time via the internet.

Because date and time settings are tied to your ecobee account, the settings you will have access to will depend on where you are attempting to make changes from:

<https://www.techsolutions.support.com/how-to/how-to-set-the-date-and-time-on-an-ecobee-thermostat-12344>

**1(D)3): a memory coupled to said central processing unit for storing a central control program and data, said data including at least one of the values of the environmental conditions sensed by the environmental sensors; and;**-For instance, the '437 Accused Products have memory coupled to the central processing and is used to store program data information gained from the environmental sensors (i.e. temperature and occupancy).

Processor & memory	1.5GHz quad-core Cortex A35 processor 4GB Flash (eMMC) 512MB DDR4 RAM
Thermostat sensors	Temperature Humidity Occupancy Proximity

You can view these sensors values by device. For example, thermostat RTU333 has 3 wireless ecobee Room Sensors paired as shown below:

The screenshot displays four panels of sensor data from the ecobee app:

- RTU 333** (Thermostat (participating)): Temperature 70°, Occupancy **Occupied**, Humidity 42%.
- Hallway** (Control (participating)): Temperature 64°, Occupancy **Unoccupied**.
- Foyer** (Control (not participating)): Temperature 64°, Occupancy **Unoccupied**.
- Garage** (Control (not participating)): Temperature 72°, Occupancy **Unoccupied**.

<https://support.ecobee.com/s/articles/Viewing-remote-sensors-connected-to-a-thermostat>

***1(D)4): an input/output unit coupled to the central processing unit, to the space conditioning equipment for issuing control signals thereto, and to a reception interface adapted to receive signals representing environmental conditions at a remote sensor;*** For instance, the '437 Accused Products include a central control device comprising an I/O unit coupled to the processor. On information and belief, the I/O receives and sends data from the variety of thermostat sensors, the LCD interface screen, the remote wireless sensors, and the space condition equipment.

## Touch Screen

Your ecobee3 has a touch screen, similar to that used in smartphones and tablets.



Touch items to select or activate them. For menus with a >, this will expand the menu to display additional options or submenus.





Swipe up and down to display additional information. Swiping on a temperature bar will also adjust the settings up or down.



Swipe left and right to scroll horizontal lists that contain multiple items to choose from.

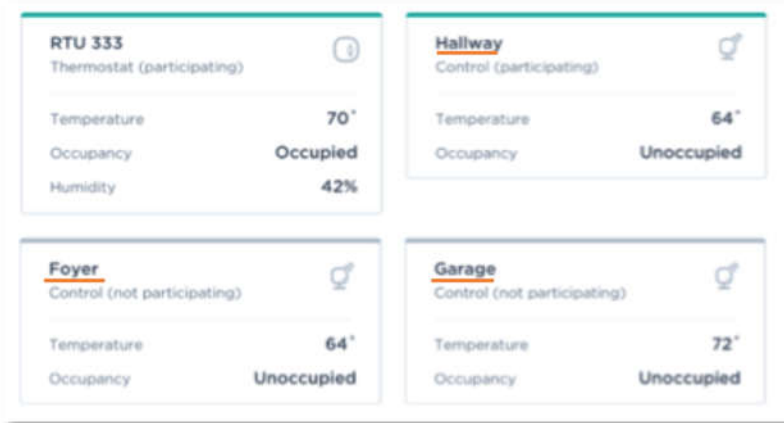
Exit or go back

To exit a submenu, touch .  
To close the main menu, touch .

Display	3.5 in. full-color LCD touchscreen 320 x 480 pixel display	
Dimensions	<b>Thermostat</b>	<b>SmartSensor</b>
	Height: 109 mm (4.29 in.)	Height: 40 mm (1.6 in.)
	Width: 109 mm (4.29 in.)	With stand: 50 mm (2 in.)
	Depth: 25.6 mm (1 in.)	Width: 40 mm (1.6 in.) Depth: 26 mm (1 in.)
Trim plate	<b>Power Extender Kit*</b>	
	Height: 158.6 mm (6.2 in.)	Length: 62 mm (2.4 in.)
	Width: 158.6 mm (6.2 in.)	Width: 62 mm (2.4 in.)
	Depth: 8.7 mm (0.3 in.)	Depth: 23 mm (0.9 in.)
	*Optional for installation	
Colors	Black front, white sides and back	
Processor & memory	1.5GHz quad-core Cortex A35 processor 4GB Flash (eMMC) 512MB DDR4 RAM	
Thermostat sensors	Temperature Humidity Occupancy Proximity	
Voice & audio	Built-in Alexa Voice Service Built-in microphones Built-in speaker Far-field voice recognition	

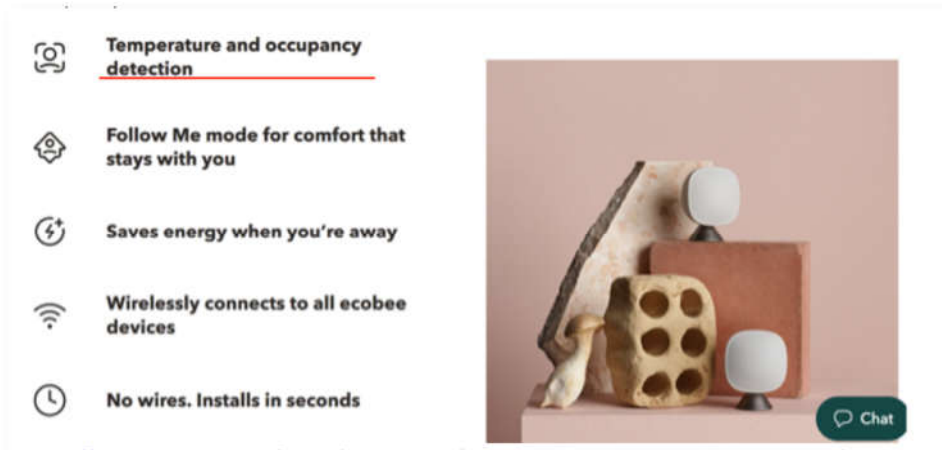
<https://www.ecobee.com/en-us/smart-thermostats/smart-wifi-thermostat-with-voice-control/>





<https://support.ecobee.com/s/articles/Viewing-remote-sensors-connected-to-a-thermostat>

*1(E): a remote processor for each of the remote sensors including a central processing unit, a clock, a memory coupled to said central processing unit for storing a transmission control program, and an input/output unit coupled to the central processing unit and to a transmissions interface adapted to send to the central control device signals representing environmental conditions from a coupled environmental sensor; and; For instance, the '437 Accused Products have remote sensors, which on information and belief, comprises a remote processor including a CPU, real time clock, a memory coupled to the CPU, and an I/O coupled to the central processing unit (i.e. thermostat) and to a transmission interface adapted to send out the central control device signals representing environmental conditions from a coupled environmental sensor (i.e. temperature and occupancy).*



<https://www.ecobee.com/en-us/accessories/smart-temperature-occupancy-sensor/>

#### Occupancy and Temperature detection

- Detects both temperature and occupancy and communicates those readings to the thermostat.
- Occupancy detection uses infrared technology to detect body heat signatures.
- Occupancy is based on a person's continued presence within a SmartSensor's viewing angle –not merely motion detection. The more time you spend in front of a particular sensor, the more weight you ecobee assigns to that sensor's readings.
- [Enhanced occupancy sensor "pet immunity"](#) to prevent false occupancy readings triggered by our furry friends.

#### Communication

- SmartSensor uses 915MHz radio waves—not Wi-Fi—for secure, energy-efficient communication with your ecobee thermostat.

#### Range and Viewing Angle

- Range: SmartSensor can communicate with thermostat to a range of 60 ft (barriers and obstacles such as thick walls or different floors, and other devices operating on the same 915MHz frequency, such as a baby monitor, cordless phones, etc., may lower range).

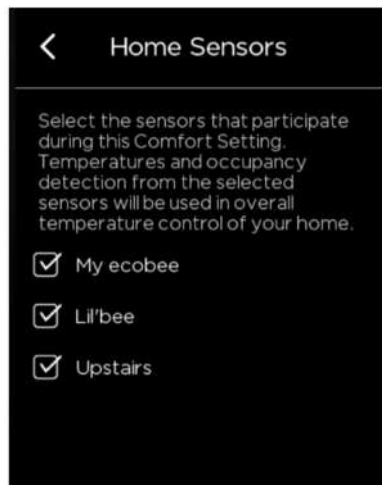
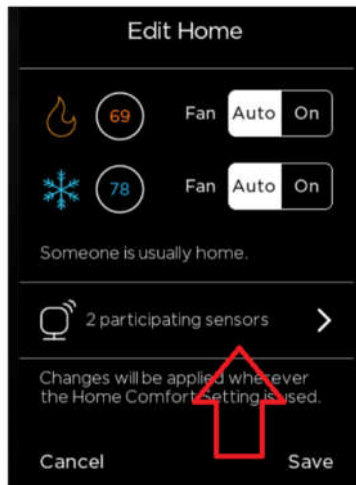
<https://support.ecobee.com/s/articles/SmartSensors-FAQs-Setup-Guide-and-Troubleshooting>



<https://fccid.io/WR91881541520/Internal-Photos/Internal-Photos-5797502.pdf>

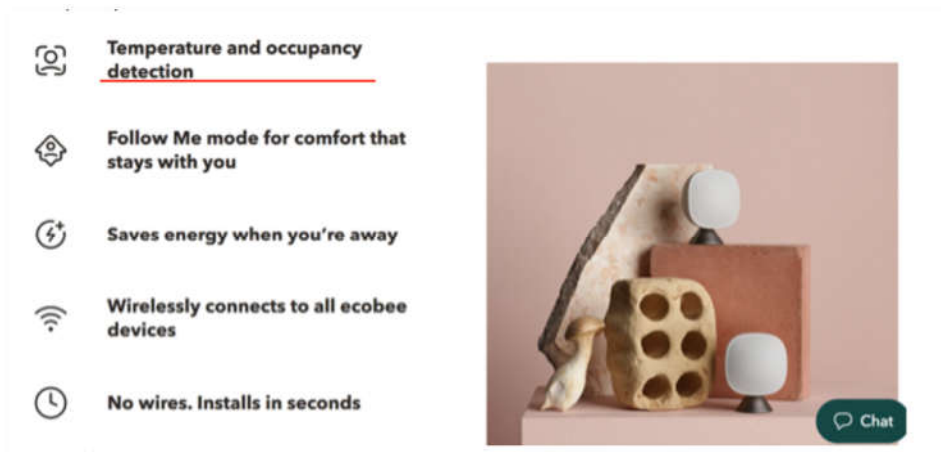
Compatibility	SmartThermostat with voice control ecobee4 ecobee3 lite ecobee3 ecobee SmartCamera*  *To support ecobee home monitoring (subscription required)
Sensors	Temperature Occupancy
Range & connectivity	Place sensors up to 60 ft from ecobee thermostat or camera. 915MHz radio
Occupancy sensor	140° horizontal, 100° vertical

<https://www.ecobee.com/en-us/accessories/smart-temperature-occupancy-sensor/> (smartsensor 2-pack specs)



<https://support.ecobee.com/s/articles/Room-Sensors-FAQs-Setup-Guide-and-Troubleshooting>

*1(F): for the central control device or remote sensors having environmental sensors and occupancy sensors, their input/output units further including a sensor input coupled to an environmental sensor and an occupancy input coupled to an occupancy sensor;* - For instance, the '437 Accused Products including the thermostat (i.e. central control device) and the remote sensor have environmental and occupancy sensors, including a sensor input coupled to the environmental (temperature) sensor and an occupancy input coupled to the occupancy sensor as shown below.



#### Occupancy and Temperature detection

- Detects both temperature and occupancy and communicates those readings to the thermostat.
- Occupancy detection uses infrared technology to detect body heat signatures.
- Occupancy is based on a person's continued presence within a SmartSensor's viewing angle –not merely motion detection. The more time you spend in front of a particular sensor, the more weight your ecobee assigns to that sensor's readings.
- [Enhanced occupancy sensor "pet immunity"](#) to prevent false occupancy readings triggered by our furry friends.

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#### Range and Viewing Angle

- Range: SmartSensor can communicate with thermostat to a range of 60 ft (barriers and obstacles such as thick walls or different floors, and other devices operating on the same 915MHz frequency, such as a baby monitor, cordless phones, etc., may lower range).

<https://support.ecobee.com/s/articles/SmartSensors-FAQs-Setup-Guide-and-Troubleshooting>

Compatibility	SmartThermostat with voice control ecobee4 ecobee3 lite ecobee3 ecobee SmartCamera* *To support ecobee home monitoring (subscription required)
Sensors	Temperature Occupancy
Range & connectivity	Place sensors up to 60 ft from ecobee thermostat or camera. 915MHz radio
Occupancy sensor	140° horizontal, 100° vertical

<https://www.ecobee.com/en-us/accessories/smart-temperature-occupancy-sensor/>

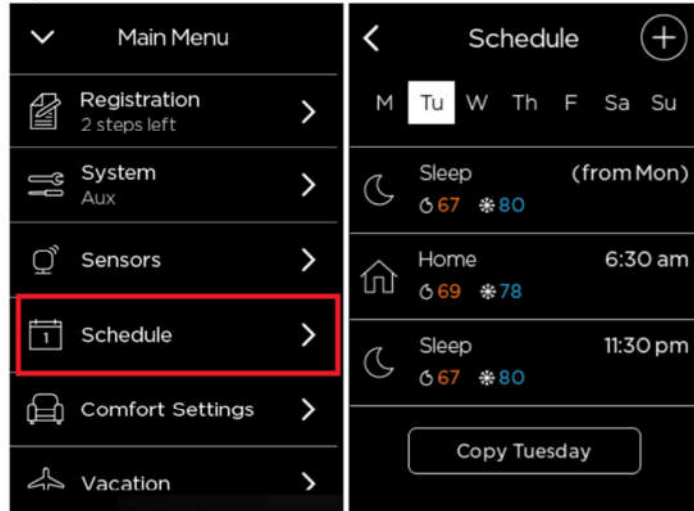
**1(G): the control programs causing a coupled central processing unit to selectively;** - For instance, the '437 Accused Products are equipped with control programs stored into the memory that cause the CPU to perform certain tasks, such as set schedules for the HVAC system.

Display	3.5 in. full-color LCD touchscreen 320 x 480 pixel display	
Dimensions	<b>Thermostat</b>	<b>SmartSensor</b>
	Height: 109 mm (4.29 in.) Width: 109 mm (4.29 in.) Depth: 25.6 mm (1 in.)  <b>Trim plate</b> Height: 158.6 mm (6.2 in.) Width: 158.6 mm (6.2 in.) Depth: 8.7 mm (0.3 in.)	Height: 40 mm (1.6 in.) With stand: 50 mm (2 in.) Width: 40 mm (1.6 in.) Depth: 26 mm (1 in.)  <b>Power Extender Kit*</b> Length: 62 mm (2.4 in.) Width: 62 mm (2.4 in.) Depth: 23 mm (0.9 in.) *Optional for installation
Colors	Black front, white sides and back	
Processor & memory	1.5GHz quad-core Cortex A35 processor 4GB Flash (eMMC) 512MB DDR4 RAM	
Thermostat sensors	Temperature Humidity Occupancy Proximity	
Voice & audio	Built-in Alexa Voice Service Built-in microphones Built-in speaker Far-field voice recognition	

<https://www.ecobee.com/en-us/smart-thermostats/smart-wifi-thermostat-with-voice-control/>

**On the thermostat/mobile app:**

Go to the schedule tab from the main menu: **MAIN MENU > SCHEDULE**. You will see your schedule for the day. Tap on any of the days listed at the top to view your schedule for that specific day.




If you wish to change the start time of a particular activity, simply tap on the activity (**Home, Away, or Sleep**) and adjust the time. The ecobee will maintain this activity/Comfort Setting until your next scheduled activity begins.

Home Start Time ⊗

<https://support.ecobee.com/s/articles/How-do-I-program-my-schedule-on-my-ecobee-thermostat>

***1(G)1): detect occupancy or vacancy of a nearby space from signals from a coupled occupancy sensor;*** - For instance, the '437 Accused Products include a central processor that can selectively detect occupancy of a nearby space from signals from the coupled occupancy sensor as shown below.





**SmartSensor included for enhanced comfort.**

**SmartSensor keeps you comfortable where you are, not just where your thermostat is. Simply place SmartSensor in the bedroom, office, or child's room for total comfort and control.**

- ✓ Occupancy detection manages temperature automatically.
- ✓ Helps balance your home's temperature.
- ✓ Control straight from the app or your smart home assistant.

[Explore more](#) [Chat](#)

<https://www.ecobee.com/en-us/smart-thermostats/smart-wifi-thermostat-with-voice-control/>

### For ecobee3, ecobee3 lite, ecobee4

These thermostats are compatible with our [ecobee Room Sensors](#). You can pair up to 32 wireless Room Sensors to each thermostat.

Our Room Sensors will measure **temperature** and **occupancy** in the space where it is located. Our thermostats themselves have built-in sensors to measure **temperature, humidity and occupancy** (ecobee3 and ecobee4 only).

You can view these sensors values by device. For example, thermostat RTU333 has 3 wireless ecobee Room Sensors paired as shown below:

<https://support.ecobee.com/s/articles/Viewing-remote-sensors-connected-to-a-thermostat>

Smart Home and Smart Away ×

**What is it?**

With Smart Home/Smart Away enabled, when your thermostat senses you're home during a scheduled Away period or away during a scheduled Home period, it will automatically override your schedule for comfort (Smart Home) or savings (Smart Away). So even when your schedule changes, your ecobee knows to adjust on its own—helping you save energy and stay comfortable. Smart Home/Away works independently of the sensor participation rules you've set up for your Comfort Settings. That's to say, it acts upon the occupancy readings from all of your sensors—not just the ones participating in the scheduled Comfort Setting. Smart Home and Smart Away cannot be triggered during a scheduled Sleep period.

**How it works**

By using the occupancy information reported by your ecobee thermostat's built-in occupancy sensor\* and the Room Sensors paired with your ecobee, Smart Home/Away tracks your household's comings and goings to set the temperature for comfort or savings.

<https://support.ecobee.com/s/articles/Smart-Home-Smart-Away-and-Follow-Me-Features>

*1(G)2): read current signals from a coupled environmental sensor and transmit them for storage in the memory of the central control device only if occupancy is detected;* For instance, the '437 Accused Products reads current signals from a coupled environmental sensor (i.e. Temperature sensor) and transmits them for storage in the memory of the central control device when occupancy is detected.



<https://www.ecobee.com/en-us/accessories/smart-temperature-occupancy-sensor/>

#### Occupancy and Temperature detection

- Detects both temperature and occupancy and communicates those readings to the thermostat.
- Occupancy detection uses infrared technology to detect body heat signatures.
- Occupancy is based on a person's continued presence within a SmartSensor's viewing angle –not merely motion detection. The more time you spend in front of a particular sensor, the more weight your ecobee assigns to that sensor's readings.
- [Enhanced occupancy sensor "pet immunity"](#) to prevent false occupancy readings triggered by our furry friends.

#### Communication

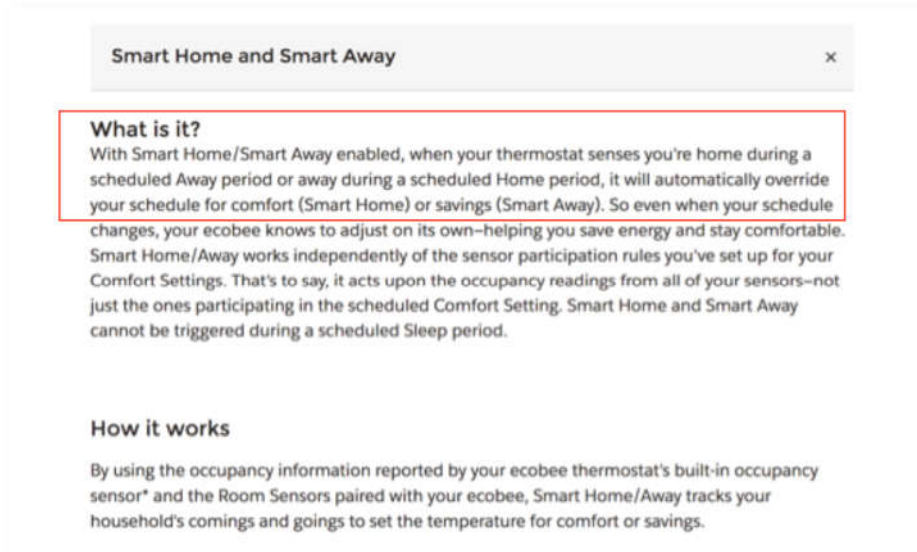
- SmartSensor uses 915MHz radio waves—not Wi-Fi—for secure, energy-efficient communication with your ecobee thermostat.

#### Range and Viewing Angle

- Range: SmartSensor can communicate with thermostat to a range of 60 ft (barriers and obstacles such as thick walls or different floors, and other devices operating on the same 915MHz frequency, such as a baby monitor, cordless phones, etc., may lower range).

<https://support.ecobee.com/s/articles/SmartSensors-FAQs-Setup-Guide-and-Troubleshooting>





<https://support.ecobee.com/s/articles/Smart-Home-Smart-Away-and-Follow-Me-Features>

***1(G)3): for the central control program, calculate an average of the received environmental sensor values and use the average result as a control value which is compared with a setpoint stored in the memory of the central control program to determine actuation of the space conditioning equipment.*** For instance, the '437 Accused Products include a central control program (system monitor reports), which can average the received environmental sensors values and use the average result as a control value which is compared to the setpoint stored in the memory to determine actuation of the space conditioning equipment.

**Follow Me**



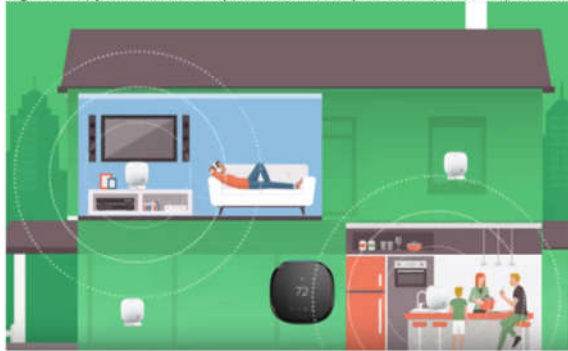
This menu allows you to view details about your thermostat's sensor readings and participation within comfort settings. Runtime data is reported and displayed in 5 minute intervals. The vertical white line on the graph indicates the currently selected interval, with the timestamp shown underneath.

In the top graph, the horizontal bars indicate the Comfort Setting at the time, as well as the occupancy readings of the sensors at the time.

In this example, the thermostat's internal sensor (Basement) was reporting a temperature of 82F. The SmartSensor was reading 77F. The calculated average at the time was 79F. At this time, only the thermostat sensor was detecting occupancy.

<https://support.ecobee.com/s/articles/Viewing-your-thermostat-s-HomeIQ-reports>

The **Follow Me** feature of your ecobee Smart Thermostat helps better manage the temperature in the rooms of your home that are occupied by utilizing your ecobee Room Sensors. Using occupancy-based algorithms, your ecobee will prioritize the temperature control in spaces where it matters most.



If more than one sensor detects motion, your ecobee uses the average of each of your sensors that you've selected to participate. To make sure your heat and cool set points don't suddenly jump the moment your sensors detect motion (and overwork your equipment in the process), Follow Me doesn't always use an equal average. Similarly, once you leave a room and your sensor stops detecting motion, your thermostat's temperature data is gradually (and not immediately) removed from the calculation of the set point.

If you'd like to continually average all the sensors equally in the network you've selected, simply disable Follow Me.

<https://www.techsolutions.support.com/how-to/balance-home-temperature-with-ecobee-room-sensors-12502>

33. At least as early as of March 2, 2022, Defendant has had actual knowledge of the '437 Patent via a letter from Plaintiff to Defendant which included claim charts for the '437 Patent.

Defendant responded on March 9, 2022 acknowledging receipt of the claim chart but did not rebut its infringement of the '437 Patent. Additionally, the '437 Patent issued in 2008 and Defendant likely knew of the '437 Patent when it was engaged in litigation with Verdant Environmental Technologies in 2010.

34. Additionally, Defendant contributorily infringes at least one or more claims of the '437 Patent by providing the Accused Products and/or software components thereof, that embody a material part of the claimed inventions of the '437 Patent, that are known by Defendant to be specially made or adapted for use in an infringing manner and are not staple articles with substantial non-infringing uses. The '437 Accused Products are specially designed to infringe at least one or more claims of the '437 Patent, and their accused components have no substantial non-infringing uses. In particular, on information and belief, the software modules and code that implement and perform the infringing functionalities identified above are specially made and adapted to carry out said functionality and do not have any substantial non-infringing uses.

35. On or around February 7, 2022, Plaintiff sent a letter to Ecobee enclosing claim charts for 8 of the Rosen patents including a claim chart for the '437 Patent. At least as early as March 2, 2022, Defendant acknowledged receipt of the letter from Plaintiff including claim charts evidencing its infringement of the '437 Patent. Defendant responded on March 9, 2022, further acknowledging receipt of the claim chart but did not rebut its infringement of the '437 Patent. Defendant's infringement of the '437 Patent was and continues to be willful and deliberate, entitling Rosen to enhanced damages.

36. Furthermore, as early as November 15, 2022, Defendant received a follow up letter from Plaintiff evidencing its infringement of the '437 Patent. Defendant again responded, this time on January 5, 2022 acknowledging receipt of the claim chart, but did not rebut its infringement

of the '437 Patent.

37. Additional allegations regarding Defendant's knowledge of the '437 Patent and willful infringement will likely have evidentiary support after a reasonable opportunity for discovery.

38. Defendant's infringement of the '437 Patent is exceptional and entitles Rosen to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

39. Rosen is in compliance with any applicable marking and/or notice provisions of 35 U.S.C. § 287 with respect to the '437 Patent.

40. Rosen is entitled to recover from Defendant all damages that Rosen has sustained as a result of Defendant's infringement of the '437 Patent, including, without limitation, a reasonable royalty.

#### **PRAYER FOR RELIEF**

WHEREFORE, Rosen respectfully requests:

A. That Judgment be entered that Defendant has infringed at least one or more claims of the Asserted Patent, directly and/or indirectly, literally and/or under the doctrine of equivalents;

B. An award of damages sufficient to compensate Rosen for Defendant's infringement under 35 U.S.C. § 284, including an enhancement of damages on account of Defendant's willful infringement;

C. That the case be found exceptional under 35 U.S.C. § 285 and that Rosen be awarded its reasonable attorneys' fees;

D. Costs and expenses in this action;

E. An award of prejudgment and post-judgment interest; and

F. Such other and further relief as the Court may deem just and proper.

**DEMAND FOR JURY TRIAL**

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Rosen respectfully demands a trial by jury on all issues triable by jury.

Respectfully submitted,

Dated: January 27, 2023

By: /s/ Hao Ni

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