UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

ECOFACTOR, INC, Plaintiff, v. VIVINT, INC., Defendant.	Case No. 6:20-cv-00080 **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

This is an action for patent infringement arising under the Patent Laws of the United States of America, 35 U.S.C. § 1 *et seq.*, in which Plaintiff EcoFactor, Inc. ("Plaintiff" or "EcoFactor") makes the following allegations against Defendant Vivint, Inc. ("Defendant"):

INTRODUCTION

1. This complaint arises from Defendant's unlawful infringement of the following United States patents owned by EcoFactor: U.S. Patent No. 8,180,492 ("'492 Patent"); U.S. Patent No. 8,412,488 ("'488 Patent"); U.S. Patent No. 8,738,327 ("'327 Patent"); and U.S. Patent No. 10,534,382 ("'382 Patent") (collectively the "Asserted Patents").

PARTIES

2. EcoFactor is a privately held company, having its principal place of business at 441 California Avenue, Number 2, Palo Alto, CA 94301.[1] EcoFactor was founded in 2006 and is headquartered in Palo Alto, California. EcoFactor is a leader in smart home energy management

[1] Prior to October 2019, EcoFactor's principal place of business was at 1450 Veterans Blvd., Suite 100, Redwood City, CA 94063.

services. EcoFactor delivers smart home energy management services that improve energy efficiency, reduce energy bills and vastly increase demand response efficacy – all while maintaining consumer comfort. EcoFactor's patented big-data analytics and machine learning algorithms collect and process massive amounts of residential data – including home thermodynamics, family comfort preferences and schedules, plus external data such as weather – to continually monitor, adapt and learn for optimum energy savings. The company provides homeowners significant cost savings and energy usage benefits. EcoFactor's award-winning service has been offered through channel partners such as utilities, energy retailers, broadband service providers and HVAC companies.

3. EcoFactor has transformed how homes use energy by applying advanced analytics to connected devices in the home. EcoFactor's platform actively manages thermostats on occupants' behalf in intelligent ways that improve comfort while helping them save time, energy and money. Utilities, home service providers and homeowners rely on EcoFactor for demand response, energy efficiency, and HVAC performance monitoring services.

4. The HVAC industry and researchers in the field recognize the technological and commercial impact of EcoFactor's patented technologies and innovations. For example, EcoFactor's demand response solution has been recognized multiple times from the Association of Energy Services Professionals (AESP) for outstanding achievement in pricing and demand response. EcoFactor was also named "Innovator of the Year" by San Mateo County Economic Development Association for EcoFactor's automated approach to energy efficiency and demand response services, and has also been named Owler HOT in Redwood City, CA. Moreover, EcoFactor received Powergrid International's Demand Response/Energy Efficiency Project of the Year award, and was assessed as one of the top innovators with some of the most commercially

important smart home patents.

5. Vivint, Inc. ("Vivint") is a Utah corporation with its principal place of business at 4931 North 300 West, Provo, Utah 84604.

JURISDICTION AND VENUE

6. This action arises under the patent laws of the United States, Title 35 of the United States Code. This Court has original subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over Defendant in this action because Defendant has committed acts within this District giving rise to this action, and has established minimum contacts with this forum such that the exercise of jurisdiction over Defendant would not offend traditional notions of fair play and substantial justice. Defendant, directly and through subsidiaries or intermediaries, has committed and continue to commit acts of infringement in this District by, among other things, importing, offering to sell, and selling products that infringe the asserted patents.

8. Venue is proper in this District under 28 U.S.C. § 1400(b). Upon information and belief, Defendant has transacted business in this District and has committed acts of direct and indirect infringement in this District by, among other things, making, using, offering to sell, selling, and importing products that infringe the asserted patents. Defendant has at least one regular and established place of business in the District, including, e.g., a sales and retail location at the address 6001 West Waco Drive Space #314, Waco, Texas 76710.

COUNT I

INFRINGEMENT OF U.S. PATENT NO. 8,180,492

9. Plaintiff realleges and incorporates by reference the foregoing paragraphs as if fully

set forth herein.

10. Plaintiff is the owner and assignee of United States Patent No. 8,180,492 titled "System and method for using a networked electronic device as an occupancy sensor for an energy management system." The '492 Patent was duly and legally issued by the United States Patent and Trademark Office on May 15, 2012. Plaintiff is the owner and assignee, possessing all substantial rights, to the '492 Patent. A true and correct copy of the '492 Patent is attached as Exhibit 1.

11. Defendants make, use, offer for sale, sell, and/or import into the United States certain products and services that directly infringe, literally and/or under the doctrine of equivalents, one or more claims of the '492 Patent, and continue to do so. By way of illustrative example, these infringing products and services include, without limitation, Defendant's products and services, *e.g.*, Vivint Element, CT200, CT100, and SkyControl and all versions and variations thereof since the issuance of the '492 Patent ("Accused Instrumentalities").

12. Defendant has had knowledge of the '492 patent from a date no later than the date of filing of this complaint. Defendant has known how the Accused Products are made and has known, or has been willfully blind to the fact, that making, using, offering to sell, and selling the accused products within the United States, or importing the Accused Products into the United States, would constitute infringement.

13. Defendant has induced, and continues to induce, infringement of the '492 patent by actively encouraging others (including distributors and end customers) to use, offer to sell, sell, and import the Accused Products. On information and belief, these acts include providing information and instructions on the use of the Accused Products; providing information,

education and instructions supporting sales by distributors; providing the Accused Products to distributors; and indemnifying patent infringement within the United States.

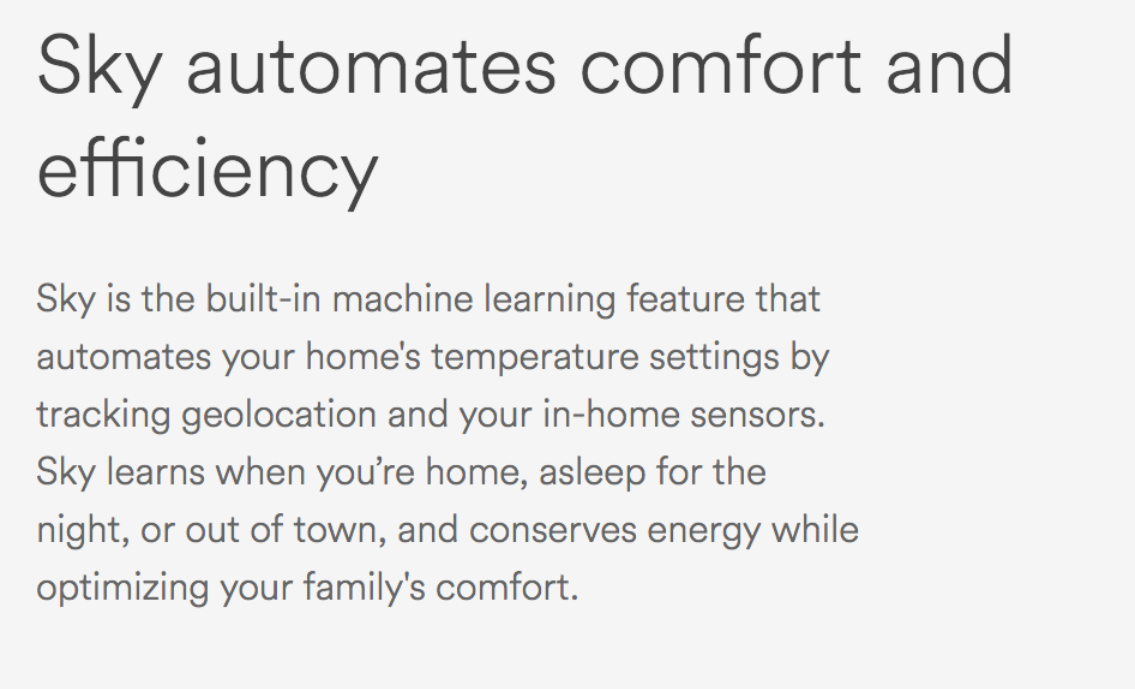
14. Defendant has also infringed, and continue to infringe, claims of the ‘492 patent by offering to commercially distribute, commercially distributing, making, and/or importing the Accused Products, which are used in practicing the process, or using the systems, of the patent, and constitute a material part of the invention. Defendant knows the components in the Accused Products to be especially made or especially adapted for use in infringement of the patent, not a staple article, and not a commodity of commerce suitable for substantial noninfringing use. Accordingly, Defendant has been, and currently are, contributorily infringing the ’492 patent, in violation of 35 U.S.C. § 271(c).

15. The Accused Products satisfy all claim limitations of one or more claims of the ’492 Patent. For example the Accused Instrumentalities infringe claim 10 of the ’492 Patent. One, non-limiting, example of the Accused Instrumentalities’ infringement is presented below.

16. The Accused Instrumentalities include: “A system for altering the setpoint on a thermostat for space conditioning of a structure comprising: at least one thermostat having at least a first temperature setpoint associated with a non-occupied structure, and at least a second temperature setpoint associated with the existence of occupants in said structure.” For example, the Accused Instrumentalities control whether or not a thermostat is at a desire temperature based on, among other things, whether the user is at home.”

> For instance, Vivint’s automatic HVAC control will take cues from homeowners’ daily patterns and make guided decisions to help increase the home’s energy efficiency. The Vivint SkyControl panel serves as the hub of the experience, orchestrating a variety of home automation products, such as door locks, window and door sensors, motion detectors, connected power outlets and more. Using data from its sensors and communication from its powerful cloud technology, Vivint Sky is able to learn from homeowners’ behaviors and make intelligent suggestions in a conversational, helpful tone. These suggestions add new levels of convenience and control over the home, helping provide improved protection and monitoring.

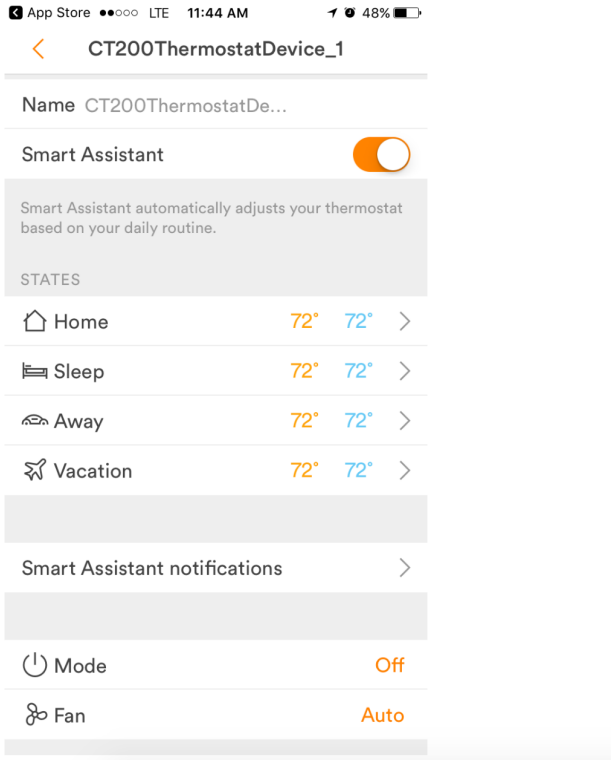
See https://www.vivint.com/company/newsroom/press/vivint-humanizes-the-smart-home-with-vivint-sky



See https://smarthome.vivint.com//products/app?&opid=207102

17. The Accused Instrumentalities include "one or more electronic devices having at least a graphic user interface comprising a display wherein said electronic devices receive input from one or more users and wherein use of said electronic devices comprises at least one of cursor movement, keystrokes or other user interface actions intended to alter a state of one or more of said electronic devices by one or more users wherein activity of one or more networked electronic devices indicates whether said thermostat should be changed from said first temperature setpoint to said second temperature setpoint." For example, the Accused Instrumentalities are designed to work the Vivant SkyMobile Application, that includes a graphic user interface that allows to alter the setpoints with a networked device.

3. Select the desired thermostat and customize as desired.
- Note: From here, adjust the Mode, Fan, States, and Notifications.



See Vivint Sky Mobile App and https://support.vivint.com/s/article/Smart-Home-App-Adjust-Thermostat-Settings

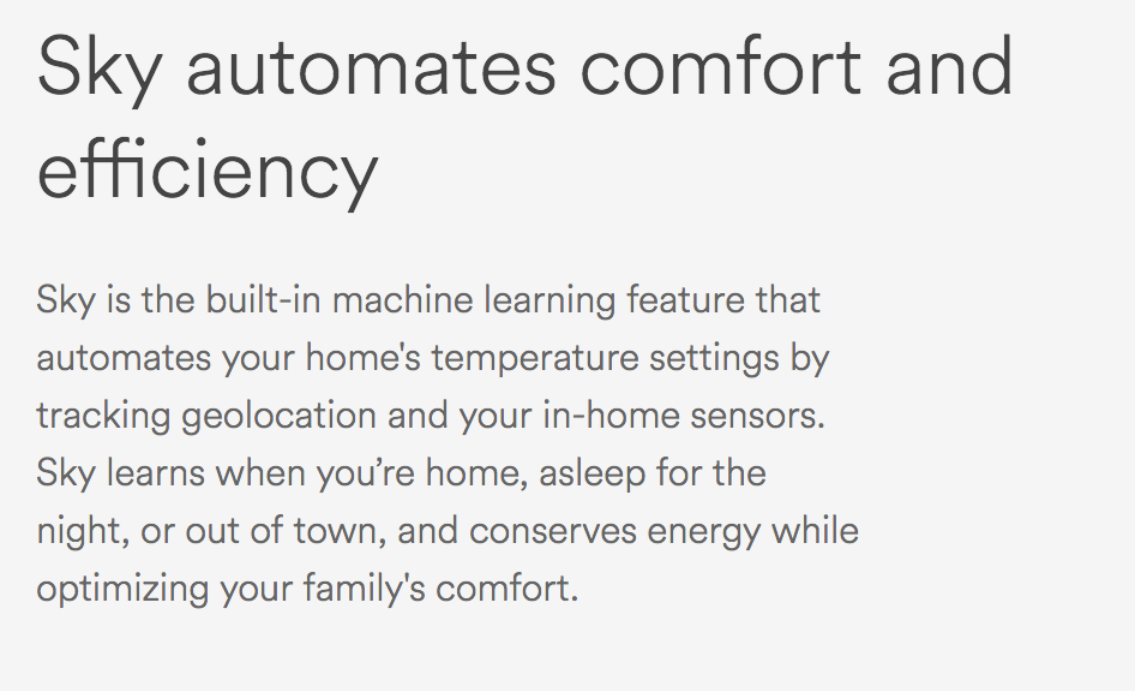
18. The Accused Instrumentalities include "wherein said electronic devices and said thermostat are connected to a network; an application comprising one or more computer processors in communication with said network, wherein said application determines whether said one or more electronic devices are in use and in response, whether said thermostat is set to said first temperature setpoint that indicates said structure is not occupied." For example, the thermostat and mobile device are connected to a network that can determine whether or not the house is at a setpoint indicating the structure is occupied.

- **Platform and machine learning**. None of this would work without a state of the art IoT platform. We've built systems to centrally control device provisioning, firmware updates, property updates, state synchronization and third party integrations. We collect and process telemetry, rules triggers and commands. We do data analytics, data warehousing and real-time data science models. We have built a massive distributed pipeline processing system that handles tens of thousands of events per second. If you're interested in working on a large cloud platform at scale, we have it.

See https://innovation.vivint.com/inside-the-vivint-innovation-center-building-a-smarter-home-4fbf4450bc0a

> While smart thermostats are incredibly convenient, the latest innovation is a smart *learning* thermostat, which utilizes artificial intelligence (AI) technology to learn preferences and patterns to automatically adjust the temperature.
>
> Instead of relying on you to adjust the temperature, a smart learning thermostat adjusts automatically based on your temperature preferences and occupancy patterns—when you come and go.
>
> So how does it know? Smart learning thermostats use geolocation, information about your local climate and household temperature, and in-home sensors (when integrated with a smart home system) to determine your preferences, and then adjust the temperature accordingly.

See https://www.vivint.com/resources/article/how-do-smart-thermostats-work



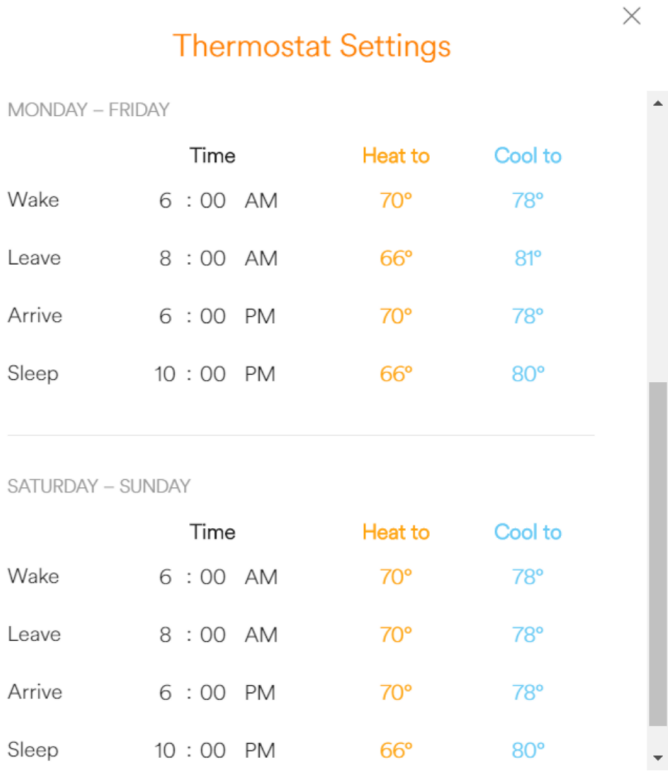
See https://smarthome.vivint.com//products/app?&opid=207102

> • **Sky adapts to your routine** – Sky can take a wide range of actions based on an understanding of your daily routines such as waking up, leaving, returning and going to bed. For example, Sky can predict when you go to bed and automatically manage temperature and security settings. Sky learns not only your routines, but also your preferences, based on your interactions with it. As a result, Sky can automatically transition from making a suggestion to just taking an action once it has enough confidence in your preferences.

See https://www.vivint.com/company/newsroom/press/Vivint-Smart-Home-Delivers-on-the-Promise-of-Artificial-Intelligence-for-the-Home

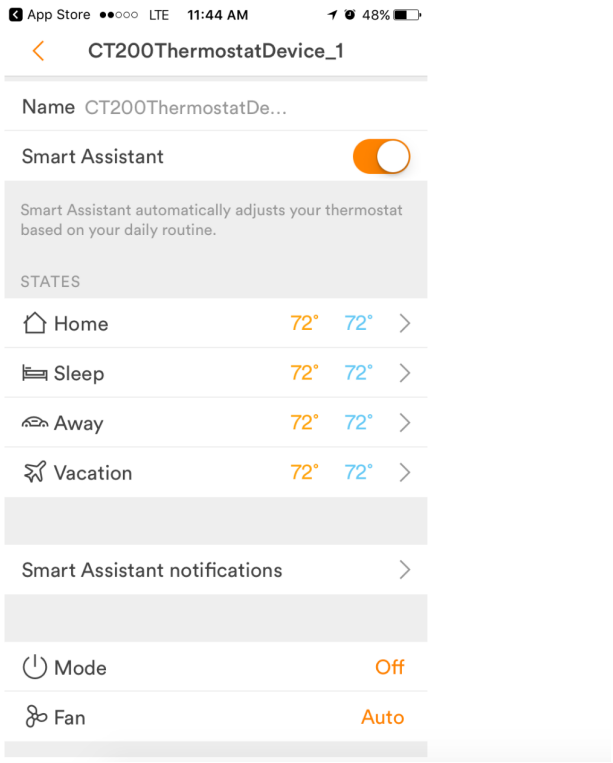
19. The Accused Instrumentalities include "said application determining that said one or more users has previously indicated a preference that said user's input be obtained before automatically changing said first HVAC temperature setpoint to said second HVAC temperature setpoint indicating that said structure is deemed to be occupied; said application prompting said one or more users based on said determining that said one or more of said user's input should be obtained, wherein said application provides electronic notice to one or more of said users of said electronic devices that said thermostat is set for a non-occupied structure and whether to keep said first temperature setpoint or change to said second temperature setpoint; and wherein said

application in response to said prompting, receives input from said one or more users to keep said first HVAC temperature setpoint; and wherein said thermostat is kept at said first temperature setpoint based upon said input from said one or more users." For example, the Accused Instrumentalities will store schedules set by a user as to at what temperature to begin and stop heating and/or cooling. The user can access these settings and modify the settings by use of the mobile application.



See https://support.vivint.com/s/article/SkyControl-Online-Access-How-To-Manage-Thermostat-Schedules

3. Select the desired thermostat and customize as desired.
- Note: From here, adjust the Mode, Fan, States, and Notifications.



See Vivint Sky Mobile App and https://support.vivint.com/s/article/Smart-Home-App-Adjust-Thermostat-Settings

20. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendant has injured Plaintiff and is liable for infringement of the '492 Patent pursuant to 35 U.S.C. § 271.

21. As a result of Defendant's infringement of the '492 Patent, Plaintiff is entitled to monetary damages in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendant, together with interest and costs as fixed by the Court.

22. Defendant's infringing activities have injured and will continue to injure Plaintiff, unless and until this Court enters an injunction prohibiting further infringement of the '492 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that

come within the scope of the patent claims.

COUNT II

INFRINGEMENT OF U.S. PATENT NO. 8,412,488

23. Plaintiff realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

24. Plaintiff is the owner and assignee of United States Patent No. 8,412,488 titled "System and method for using a network of thermostats as tool to verify peak demand reduction." The '488 patent was duly and legally issued by the United States Patent and Trademark Office on April 2, 2013. Plaintiff is the owner and assignee, possessing all substantial rights, to the '488 Patent. A true and correct copy of the '488 Patent is attached as Exhibit 2.

25. Defendants make, use, offer for sale, sell, and/or import into the United States certain products and services that directly infringe, literally and/or under the doctrine of equivalents, one or more claims of the '488 Patent, and continue to do so. By way of illustrative example, these infringing products and services include, without limitation, Defendant's products and services, *e.g.*, such as the Vivint Element, CT200, CT100, and SkyControl and all versions and variations thereof since the issuance of the '488 Patent ("Accused Instrumentalities").

26. Defendant has had knowledge of the '488 patent from a date no later than the date of filing of this complaint. Defendant has known how the Accused Products are made and has known, or has been willfully blind to the fact, that making, using, offering to sell, and selling the accused products within the United States, or importing the Accused Products into the United States, would constitute infringement.

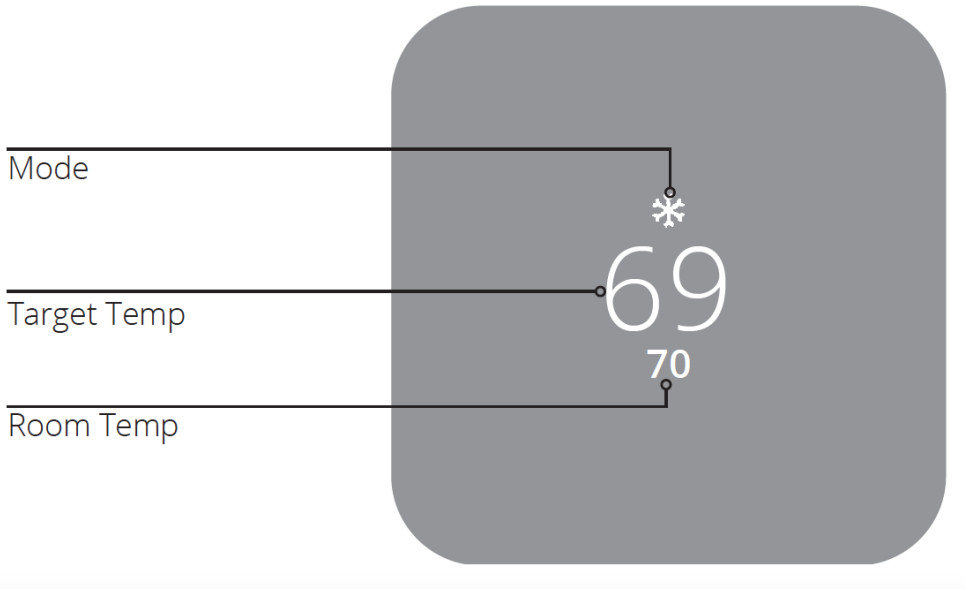
27. Defendant has induced, and continues to induce, infringement of the '488 patent by actively encouraging others (including distributors and end customers) to use, offer to sell,

sell, and import the Accused Products. On information and belief, these acts include providing information and instructions on the use of the Accused Products; providing information, education and instructions supporting sales by distributors; providing the Accused Products to distributors; and indemnifying patent infringement within the United States.

28. Defendant has also infringed, and continue to infringe, claims of the '488 patent by offering to commercially distribute, commercially distributing, making, and/or importing the Accused Products, which are used in practicing the process, or using the systems, of the patent, and constitute a material part of the invention. Defendant knows the components in the Accused Products to be especially made or especially adapted for use in infringement of the patent, not a staple article, and not a commodity of commerce suitable for substantial noninfringing use. Accordingly, Defendant has been, and currently are, contributorily infringing the '488 patent, in violation of 35 U.S.C. § 271(c).

29. The Accused Products satisfy all claim limitations of one or more claims of the '488 Patent. For example the Accused Instrumentalities infringe claim 1 of the '488 Patent. One, non-limiting, example of the Accused Instrumentalities' infringement is presented below.

30. The Accused Instrumentalities include "[a] system for monitoring the operational status of an HVAC system comprising: at least one HVAC control system associated with a first structure that receives temperature measurements from at least a first structure conditioned by at least one HVAC system." For example, Accused Instrumentalities receive temperature measurements from inside the building that it is servicing.



See VIVINT ELEMENT THERMOSTAT USER GUIDE.

Color: White
Size: 4.5″ h x 4.5″ w x 0.9″ d
Weight: 10.1 oz (with batteries)
Power: 4 AA batteries or 24V AC wired from HVAC system
Screen: On-screen control
Sensors: Temperature, humidity, proximity, and ambient light
Supported Fuels: Natural gas, propane, electric, fuel oil, and geothermal
Compatibility: Works with conventional forced air, radiant, and heat pump, with up to 3 stages of heating and up to 2 stages of cooling
Connectivity: Z-Wave

See https://support.vivint.com/s/article/Smart-Properties-Element-Thermostat

31. The Accused Instrumentalities include "one or more processors that receive measurements of outside temperatures from at least one source other than said HVAC system." For example, the Accused Instrumentalities receive measurements of outside temperature from the internet.

Outside Temp Screen

This screen displays the outside temperature and inside humidity (in %).

To see this screen, press the SIDE button twice.

See VIVINT ELEMENT THERMOSTAT USER GUIDE.

While smart thermostats are incredibly convenient, the latest innovation is a smart *learning* thermostat, which utilizes artificial intelligence (AI) technology to learn preferences and patterns to automatically adjust the temperature.

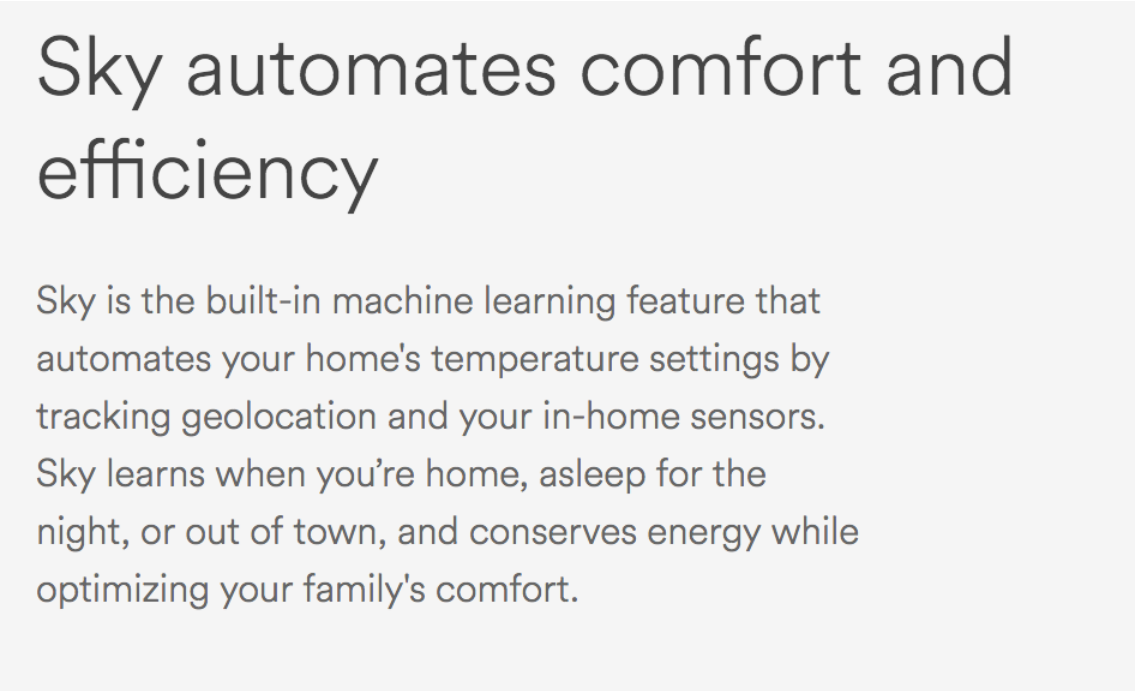
Instead of relying on you to adjust the temperature, a smart learning thermostat adjusts automatically based on your temperature preferences and occupancy patterns—when you come and go.

So how does it know? Smart learning thermostats use geolocation, information about your local climate and household temperature, and in-home sensors (when integrated with a smart home system) to determine your preferences, and then adjust the temperature accordingly.

See https://www.vivint.com/resources/article/how-do-smart-thermostats-work

32. The Accused Instrumentalities include "wherein said one or more processors compares the inside temperature of said first structure and the outside temperature over time to derive an estimation for the rate of change in inside temperature of said first structure in response to outside temperature, and wherein said one or more processors compare an inside temperature recorded inside the first structure with said estimation for the rate of change in inside temperature

of said first structure to determine whether the first HVAC system is on or off." For example, the Accused Instrumentalities will compare internal temperature and external temperature and, other factors, to calculate the rate of change of inside temperature, and use this calculation to determine when to turn the HVAC system on or off.



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See https://innovation.vivint.com/inside-the-vivint-innovation-center-building-a-smarter-home-4fbf4450bc0a

33. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendant has injured Plaintiff and is liable for infringement of the '488 Patent pursuant to 35 U.S.C. § 271.

34. As a result of Defendant's infringement of the '488 Patent, Plaintiff is entitled to monetary damages in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendant, together with interest and costs as fixed by the Court.

35. Defendant's infringing activities have injured and will continue to injure Plaintiff, unless and until this Court enters an injunction prohibiting further infringement of the '488 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

COUNT III

INFRINGEMENT OF U.S. PATENT NO. 8,738,327

36. Plaintiff realleges and incorporates by reference the foregoing paragraphs as if fully

set forth herein.

37. Plaintiff is the owner and assignee of United States Patent No. 8,738,327 titled "System and method for using a network of thermostats as tool to verify peak demand reduction." The '327 patent was duly and legally issued by the United States Patent and Trademark Office on May 27, 2014. Plaintiff is the owner and assignee, possessing all substantial rights, to the '327 Patent. A true and correct copy of the '327 Patent is attached as Exhibit 3.

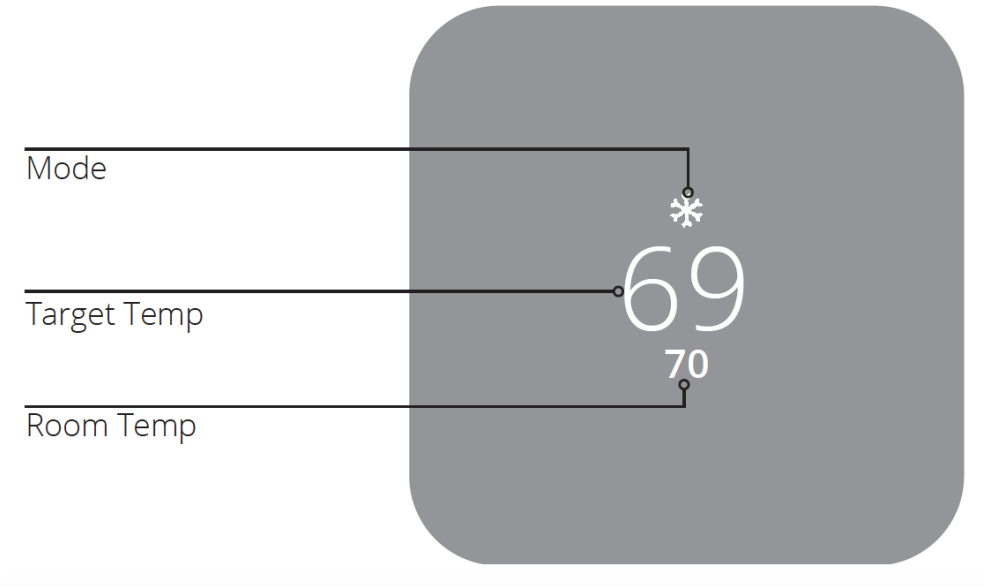
38. Defendants make, use, offer for sale, sell, and/or import into the United States certain products and services that directly infringe, literally and/or under the doctrine of equivalents, one or more claims of the '327 Patent, and continue to do so. By way of illustrative example, these infringing products and services include, without limitation, Defendant's products and services, *e.g.*, such as the Vivint Element, CT200, CT100, and SkyControl, and all versions and variations thereof since the issuance of the '327 Patent ("Accused Instrumentalities").

39. Defendant has had knowledge of the '327 patent from a date no later than the date of filing of this complaint. Defendant has known how the Accused Products are made and have known, or have been willfully blind to the fact, that making, using, offering to sell, and selling the accused products within the United States, or importing the Accused Products into the United States, would constitute infringement.

40. Defendant has induced, and continue to induce, infringement of the '327 patent by actively encouraging others (including distributors and end customers) to use, offer to sell, sell, and import the Accused Products. On information and belief, these acts include providing information and instructions on the use of the Accused Products; providing information, education and instructions supporting sales by distributors; providing the Accused Products to distributors; and indemnifying patent infringement within the United States.

41. Defendant has also infringed, and continue to infringe, claims of the '327 patent by offering to commercially distribute, commercially distributing, making, and/or importing the Accused Products, which are used in practicing the process, or using the systems, of the patent, and constitute a material part of the invention. Defendant knows the components in the Accused Products to be especially made or especially adapted for use in infringement of the patent, not a staple article, and not a commodity of commerce suitable for substantial noninfringing use. Accordingly, Defendant has been, and currently are, contributorily infringing the '327 patent, in violation of 35 U.S.C. § 271(c).

42. The Accused Products satisfy all claim limitations of one or more claims of the '327 Patent. One, non-limiting, example of the Accused Instrumentalities' infringement is presented below. For example, the Accused Instrumentalities include "[a] system for controlling the operational status of an HVAC system comprising: at least one thermostat associated with a structure that receives temperature measurements from inside the structure, the structure conditioned by at least one HVAC system, the thermostat having at least a first setting stored therein." For example, the Accused Instrumentalities have a thermostat that receives temperature settings from inside the structure which can store settings, including a schedule for heating and cooling.



See VIVINT ELEMENT THERMOSTAT USER GUIDE.

Color: White
Size: 4.5″ h x 4.5″ w x 0.9″ d
Weight: 10.1 oz (with batteries)
Power: 4 AA batteries or 24V AC wired from HVAC system
Screen: On-screen control
Sensors: Temperature, humidity, proximity, and ambient light
Supported Fuels: Natural gas, propane, electric, fuel oil, and geothermal
Compatibility: Works with conventional forced air, radiant, and heat pump, with up to 3 stages of heating and up to 2 stages of cooling
Connectivity: Z-Wave

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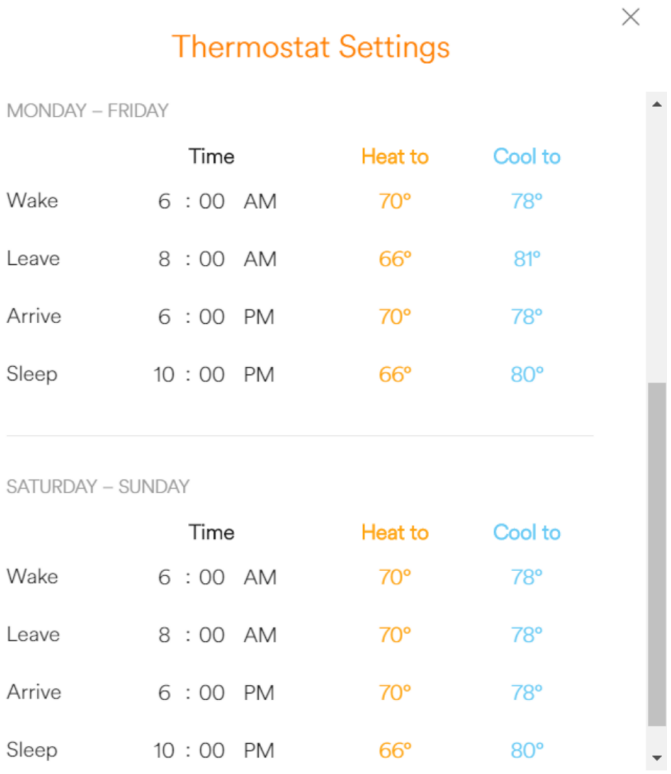


Thermostat Settings

MONDAY – FRIDAY

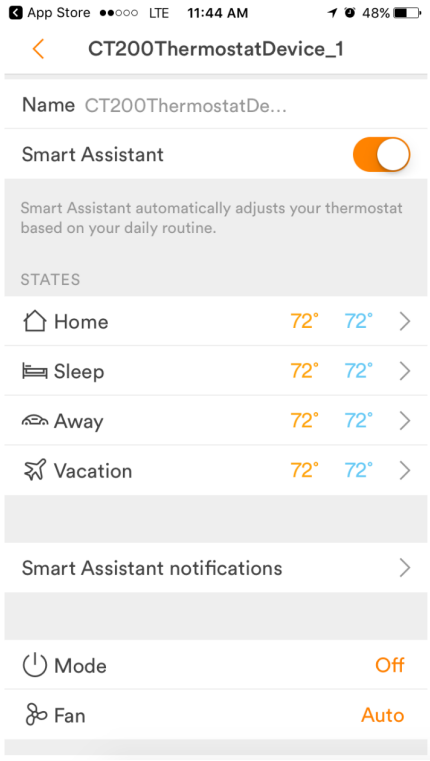
	Time	Heat to	Cool to
Wake	6 : 00 AM	70°	78°
Leave	8 : 00 AM	66°	81°
Arrive	6 : 00 PM	70°	78°
Sleep	10 : 00 PM	66°	80°

SATURDAY – SUNDAY

	Time	Heat to	Cool to
Wake	6 : 00 AM	70°	78°
Leave	8 : 00 AM	70°	78°
Arrive	6 : 00 PM	70°	78°
Sleep	10 : 00 PM	66°	80°

See https://support.vivint.com/s/article/SkyControl-Online-Access-How-To-Manage-Thermostat-Schedules

3. Select the desired thermostat and customize as desired.
- Note: From here, adjust the Mode, Fan, States, and Notifications.



See Vivint Sky Mobile App and https://support.vivint.com/s/article/Smart-Home-App-Adjust-Thermostat-Settings

43. For example, the Accused Instrumentalities include "one or more servers located remotely from the structure, the one or more servers configured to receive measurements of outside temperatures from at least one source other than the HVAC system." For example, the Accused Instrumentalities receive measurements of outside temperature from the internet.

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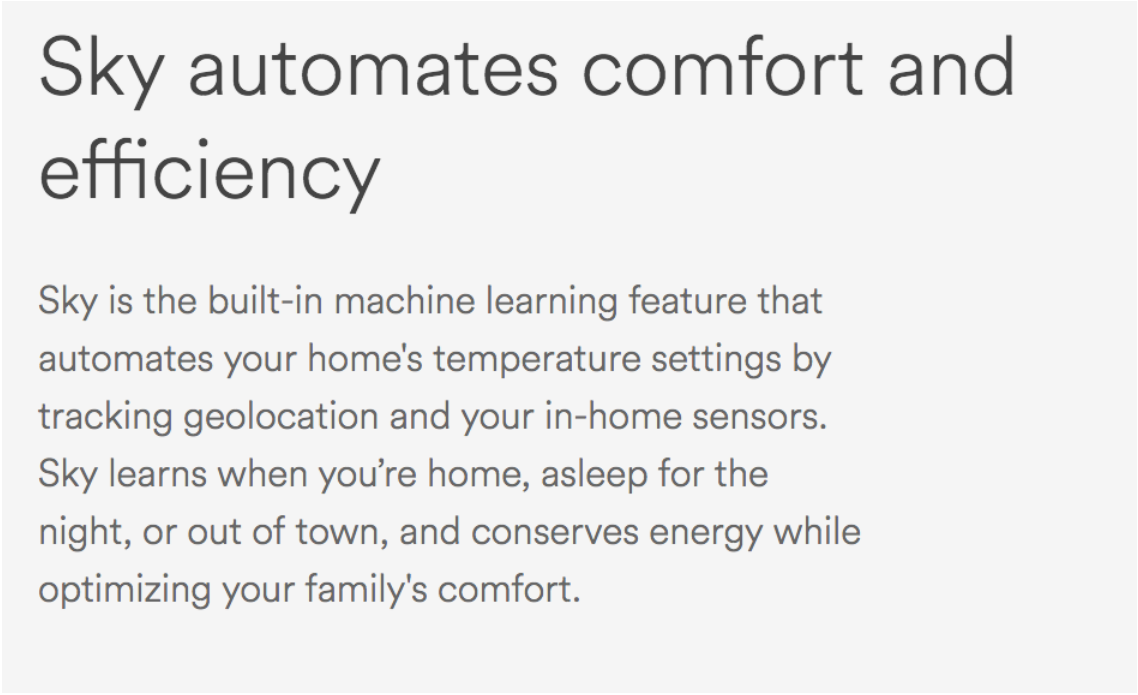
See https://www.vivint.com/resources/article/how-do-smart-thermostats-work

44. For example, Accused Instrumentalities include "the one or more servers are further configured to communicate with the thermostat via a network, wherein the one or more servers receive inside temperatures from the thermostat and compares the inside temperatures of the structure and the outside temperatures over time to derive an estimation for the rate of change in inside temperature of the structure in response to outside temperature." For example, the Accused Instrumentalities will compare internal temperature and external temperature and, other factors, to

calculate the rate of change of inside temperature.



See https://smarthome.vivint.com//products/app?&opid=207102

• **Sky adapts to your routine** – Sky can take a wide range of actions based on an understanding of your daily routines such as waking up, leaving, returning and going to bed. For example, Sky can predict when you go to bed and automatically manage temperature and security settings. Sky learns not only your routines, but also your preferences, based on your interactions with it. As a result, Sky can automatically transition from making a suggestion to just taking an action once it has enough confidence in your preferences.

See https://www.vivint.com/company/newsroom/press/Vivint-Smart-Home-Delivers-on-the-Promise-of-Artificial-Intelligence-for-the-Home

- **Platform and machine learning**. None of this would work without a state of the art IoT platform. We've built systems to centrally control device provisioning, firmware updates, property updates, state synchronization and third party integrations. We collect and process telemetry, rules triggers and commands. We do data analytics, data warehousing and real-time data science models. We have built a massive distributed pipeline processing system that handles tens of thousands of events per second. If you're interested in working on a large cloud platform at scale, we have it.

See https://innovation.vivint.com/inside-the-vivint-innovation-center-building-a-smarter-home-4fbf4450bc0a

45. The Accused Instrumentalities further include "the one or more servers are further configured to receive a demand reduction request and determine whether the structure is associated with demand rejection request, and based on the determination that the structure is associated with the demand reduction request, the one or more servers are further configured to send a signal to the thermostat to change the setting to a second setting to reduce electricity demand by the HVAC system." For example, using the mobile application users of the Accused Instrumentalities can instruct the Accused Instrumentalities to reduce the amount of usage of the devices.

2. **From a smart phone app.** The thing that sets a smart thermostat apart is the ability to control it remotely from a smartphone app. On your way home from work and want the house to be warm when you get there? Adjust the thermostat's temperature from your app. Left for vacation and forgot to turn off your thermostat? No problem. With the ability to change your temperature from your phone, you have greater control and convenience than ever.

https://www.vivint.com/resources/article/how-do-smart-thermostats-work

46. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendant has injured Plaintiff and are liable for infringement of the '327 Patent pursuant to 35 U.S.C. § 271.

47. As a result of Defendant's infringement of the '327 Patent, Plaintiff is entitled to monetary damages in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendant, together with interest and costs as fixed by the Court.

48. Defendant's infringing activities have injured and will continue to injure Plaintiff, unless and until this Court enters an injunction prohibiting further infringement of the '327 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

COUNT IV

INFRINGEMENT OF U.S. PATENT NO. 10,534,382

49. Plaintiff realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

50. Plaintiff is the owner and assignee of United States Patent No. 10,534,382 titled "System and method for using a wireless device as a sensor for an energy management system." The '382 patent was duly and legally issued by the United States Patent and Trademark Office on January 14, 2020. Plaintiff is the owner and assignee, possessing all substantial rights, to the '382 Patent. A true and correct copy of the '382 Patent is attached as Exhibit 4.

51. Defendants make, use, offer for sale, sell, and/or import into the United States certain products and services that directly infringe, literally and/or under the doctrine of equivalents, one or more claims of the '382 Patent, and continue to do so. By way of illustrative example, these infringing products and services include, without limitation, Defendant's products and services, *e.g.*, the Vivint Element, CT200, CT100, and SkyControl and all versions and variations thereof since the issuance of the '382 Patent ("Accused Instrumentalities").

52. Defendant has had knowledge of the ’382 patent from a date no later than the date of filing of this complaint. Defendant has known how the Accused Products are made and have known, or have been willfully blind to the fact, that making, using, offering to sell, and selling the accused products within the United States, or importing the Accused Products into the United States, would constitute infringement.

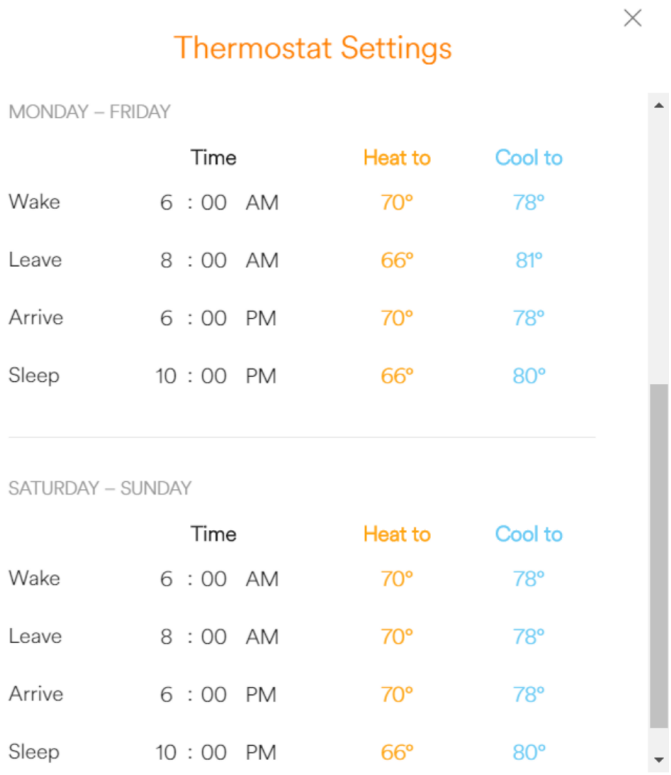
53. Defendant has induced, and continue to induce, infringement of the ’382 patent by actively encouraging others (including distributors and end customers) to use, offer to sell, sell, and import the Accused Products. On information and belief, these acts include providing information and instructions on the use of the Accused Products; providing information, education and instructions supporting sales by distributors; providing the Accused Products to distributors; and indemnifying patent infringement within the United States.

54. Defendant has also infringed, and continue to infringe, claims of the ‘382 patent by offering to commercially distribute, commercially distributing, making, and/or importing the Accused Products, which are used in practicing the process, or using the systems, of the patent, and constitute a material part of the invention. Defendant knows the components in the Accused Products to be especially made or especially adapted for use in infringement of the patent, not a staple article, and not a commodity of commerce suitable for substantial noninfringing use. Accordingly, Defendant has been, and currently are, contributorily infringing the ’382 patent, in violation of 35 U.S.C. § 271(c).

55. The Accused Products satisfy all claim limitations of one or more claims of the ’327 Patent. One, non-limiting, example of the Accused Instrumentalities’ infringement is presented below.

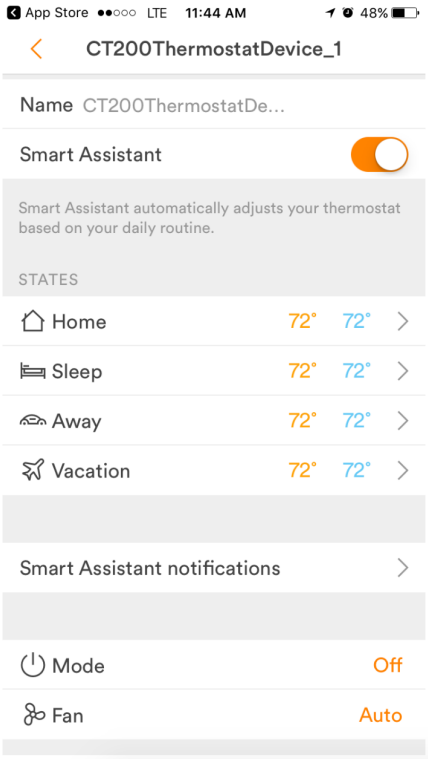
56. The Accused Instrumentalities include: “[a] system for controlling an HVAC

system at a user's building, the system comprising: a memory; and one or more processors with circuitry and code designed to execute instructions." For example, the Accused Instrumentalities includes memory, processors and circuity and code, to allow a user to set a schedule of heating and cooling.



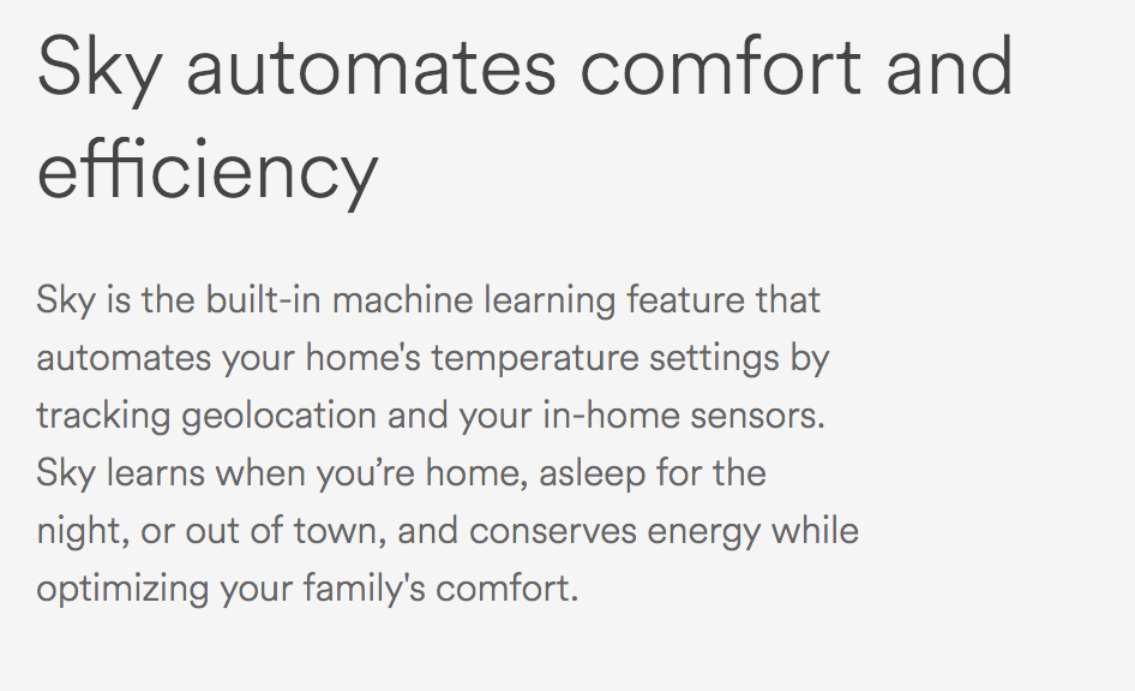
See https://support.vivint.com/s/article/SkyControl-Online-Access-How-To-Manage-Thermostat-Schedules

3. Select the desired thermostat and customize as desired.
- Note: From here, adjust the Mode, Fan, States, and Notifications.



See Vivint Sky Mobile App and https://support.vivint.com/s/article/Smart-Home-App-Adjust-Thermostat-Settings

57. The Accused Instrumentalities include "the one or more processors with circuitry and code designed to execute instructions to receive a first data from at least one sensor, wherein the first data from the at least one sensor includes a measurement of at least one characteristic of the building." For example, the Accused Instrumentalities can determine whether or not the user is at home.



See https://smarthome.vivint.com//products/app?&opid=207102

• **Intelligent energy management** – Using its advanced occupancy detection and prediction engine, Sky automatically adjusts the temperature to be comfortable when you are home and to conserve energy when you are gone. Intelligent energy management can help save 10 to 15 percent on your monthly heating and cooling costs.

• **Sky adapts to your routine** – Sky can take a wide range of actions based on an understanding of your daily routines such as waking up, leaving, returning and going to bed. For example, Sky can predict when you go to bed and automatically manage temperature and security settings. Sky learns not only your routines, but also your preferences, based on your interactions with it. As a result, Sky can automatically transition from making a suggestion to just taking an action once it has enough confidence in your preferences.

Sky communicates with you via the Vivint Smart Home app and the Vivint SkyControl panel in your home. Sky also takes voice commands through Amazon's Alexa. You control how Sky works for your home, including if and when to send notifications, ask permission or automatically take action.

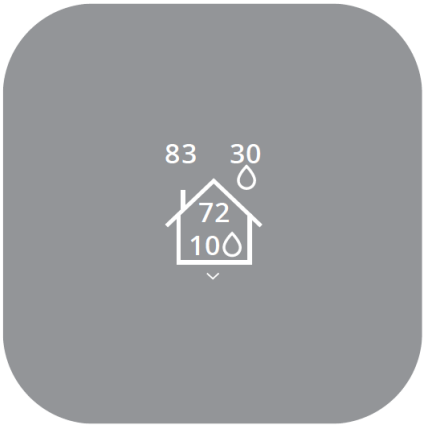
See https://www.vivint.com/company/newsroom/press/Vivint-Smart-Home-Delivers-on-the-Promise-of-Artificial-Intelligence-for-the-Home

58. The Accused Instrumentalities include "the one or more processors with circuitry and code designed to execute instructions to receive a second data from a network connection, wherein the second data from the network connection is collected from a source external to the building, wherein the second data from the network connection is received via the Internet." For example, the Accused Instrumentalities receive information concerning outdoor temperature which, on information and belief is received from the internet.

Outside Temp Screen

This screen displays the outside temperature and inside humidity (in %).

To see this screen, press the SIDE button twice.



See VIVINT ELEMENT THERMOSTAT USER GUIDE.

While smart thermostats are incredibly convenient, the latest innovation is a smart *learning* thermostat, which utilizes artificial intelligence (AI) technology to learn preferences and patterns to automatically adjust the temperature.

Instead of relying on you to adjust the temperature, a smart learning thermostat adjusts automatically based on your temperature preferences and occupancy patterns—when you come and go.

So how does it know? Smart learning thermostats use geolocation, information about your local climate and household temperature, and in-home sensors (when integrated with a smart home system) to determine your preferences, and then adjust the temperature accordingly.

See https://www.vivint.com/resources/article/how-do-smart-thermostats-work

59. The Accused Instrumentalities include "the one or more processors with circuitry and code designed to execute instructions to receive a first temperature setpoint for the building corresponding to a desired temperature setting when the building is occupied, and a second temperature setpoint for the building corresponding to a desired temperature setting when the building is unoccupied." For example, the Accused Instrumentalities will adjust the temperature of a room to a desired temperature based on whether or not the occupancy sensor detects that the room is occupied.

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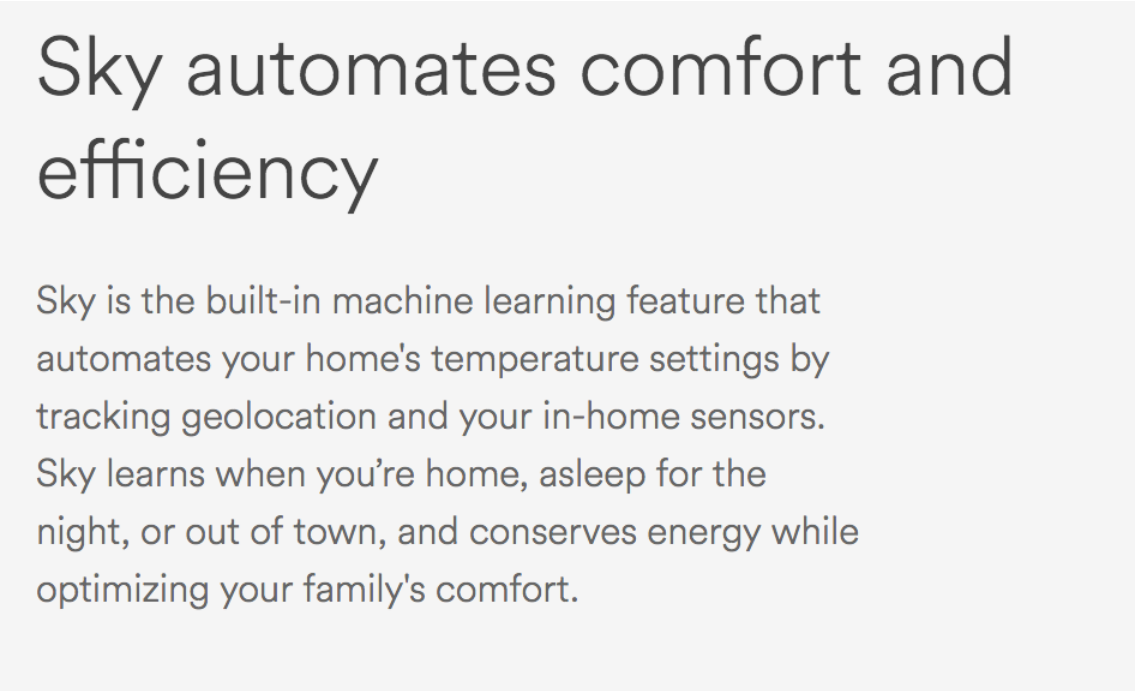
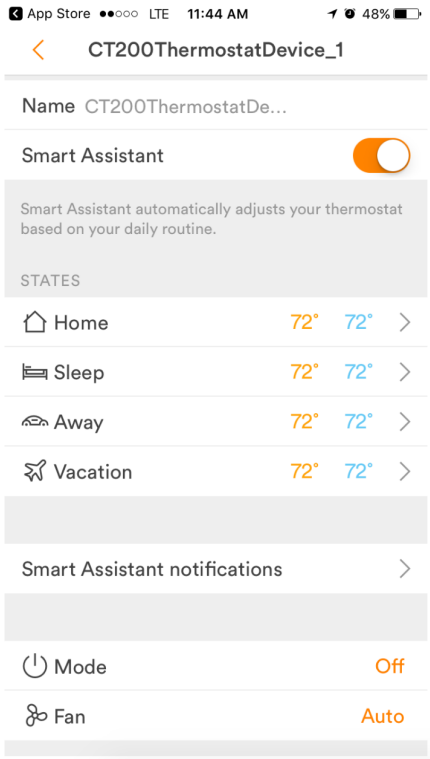


See https://smarthome.vivint.com//products/app?&opid=207102

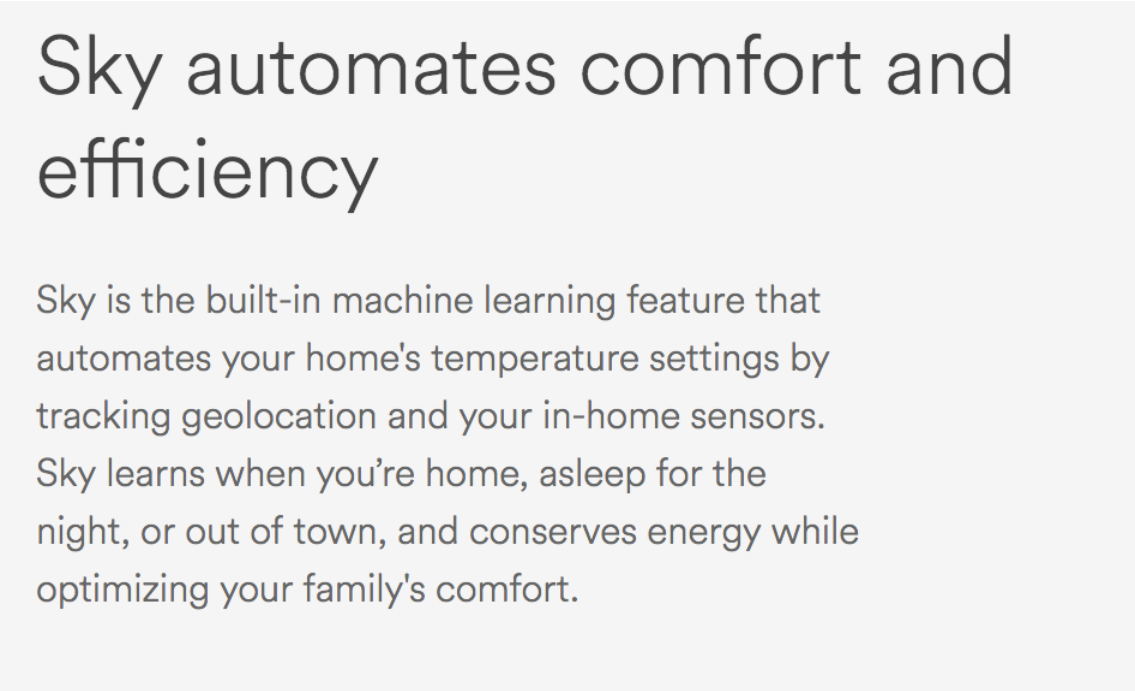
60. The Accused Instrumentalities include "the one or more processors with circuitry and code designed to execute instructions to receive commands through the Internet by way of a remote interface on a mobile, wireless device running software application code; wherein the interface is configured to allow the user to adjust temperature setpoints for the HVAC system; the one or more processors with circuitry and code designed to execute instructions to send user-specific data through the Internet, wherein user-specific information about the building and HVAC system is generated based at least in part on the user-specific data, wherein the user-specific information is configured to be presented on a user interface on a mobile, wireless device running software application code via the Internet." For example, using the Sky Mobile Application a user can change the set points at which heating and cooling commence.

3. Select the desired thermostat and customize as desired.
- Note: From here, adjust the Mode, Fan, States, and Notifications.



See Vivint Sky Mobile App and https://support.vivint.com/s/article/Smart-Home-App-Adjust-Thermostat-Settings

61. The Accused Instrumentalities include "the one or more processors with circuitry and code designed to execute instructions to determine whether the building is occupied or unoccupied, and based on that determination, to control the HVAC system to provide heating or cooling to the building at an operational temperature." For example, the Accused Instrumentalities will provide heating or cooling based on whether a building is occupied or unoccupied.



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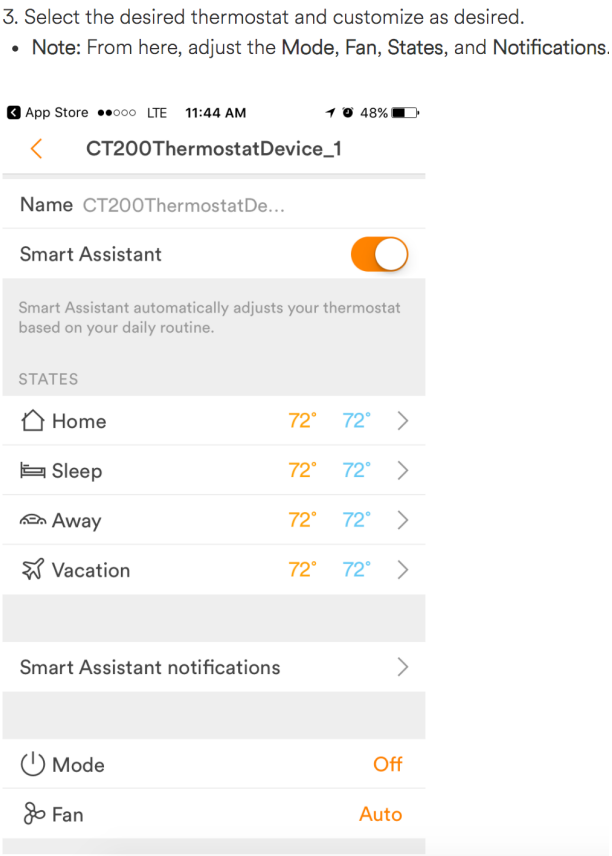
See https://www.vivint.com/company/newsroom/press/Vivint-Smart-Home-Delivers-on-the-Promise-of-Artificial-Intelligence-for-the-Home

62. The Accused Instrumentalities include "wherein the one or more processors comprises a first processor with circuitry and code designed to execute instructions, which is located remotely from the memory and is not electrically connected to the memory; the first processor with circuitry and code designed to execute instructions to communicate with the memory." For example, using a mobile device with the Sky mobile application, which is not connected to the memory on the Accused Instrumentalities, a user can change the setpoints of the thermostat at which heating and cooling begins.



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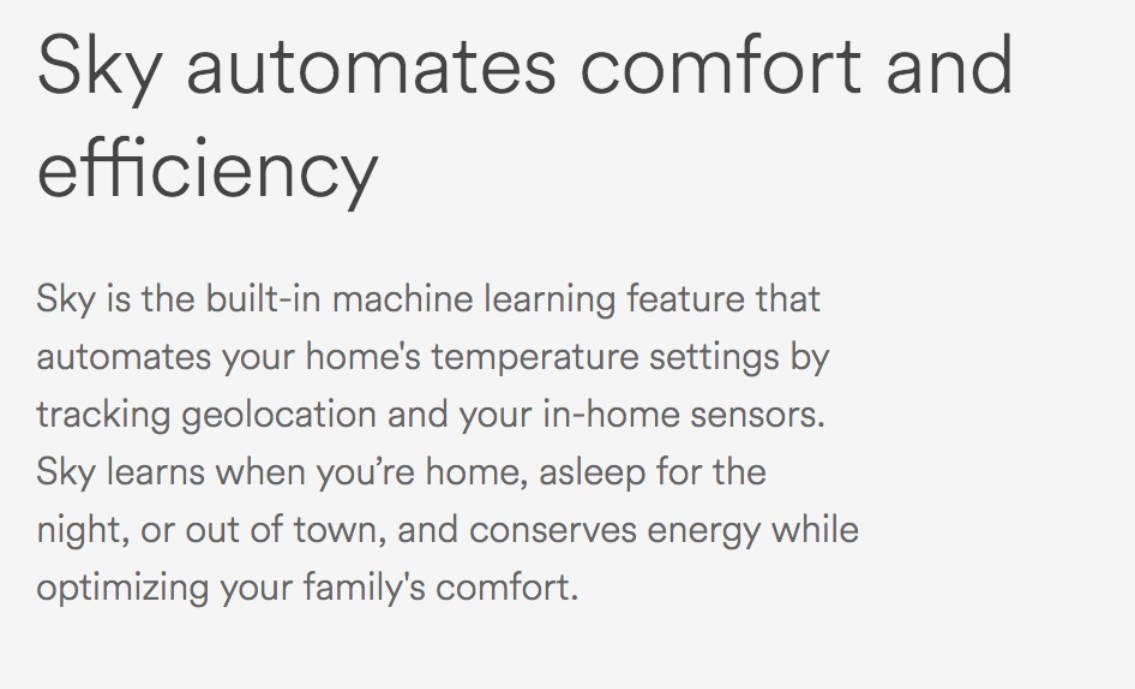
63. The Accused Instrumentalities include "wherein the memory is configured to store historical values of the first data and second data." For example, on information and belief, the Accused Instrumentalities store historical information about when the room was occupied and the

external temperature, among other things.



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See https://www.vivint.com/resources/article/how-do-smart-thermostats-work

64. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendant has injured Plaintiff and are liable for infringement of the '382 Patent pursuant to 35 U.S.C. § 271.

65. As a result of Defendant's infringement of the '382 Patent, Plaintiff is entitled to monetary damages in an amount adequate to compensate for Defendant's infringement, but in no

event less than a reasonable royalty for the use made of the invention by Defendant, together with interest and costs as fixed by the Court.

66. Defendant's infringing activities have injured and will continue to injure Plaintiff, unless and until this Court enters an injunction prohibiting further infringement of the '382 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests that this Court enter:

a. A judgment in favor of Plaintiff that Defendant has infringed, either literally and/or under the doctrine of equivalents, the '492 Patent, the '488 Patent, the '327 Patent, and the '382 Patent;

b. A permanent injunction prohibiting Defendant from further acts of infringement of the '492 Patent, the '488 Patent, the '327 Patent, and the '382 Patent;

c. A judgment and order requiring Defendant to pay Plaintiff its damages, enhanced damages, costs, expenses, and pre-judgment and post-judgment interest for Defendant's infringement of the '492 Patent, the '488 Patent, the '327 Patent, and the '382 Patent;

d. A judgment and order requiring Defendant to provide an accounting and to pay supplemental damages to Plaintiff, including without limitation, pre-judgment and post-judgment interest;

e. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Plaintiff its reasonable attorneys' fees against Defendant; and

f. Any and all other relief as the Court may deem appropriate and just under the circumstances.

DEMAND FOR JURY TRIAL

Plaintiff, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable by right.

Dated: January 31, 2020

Respectfully submitted,

/s/ Reza Mirzaie
Reza Mirzaie
Marc A. Fenster
Paul A. Kroeger
C. Jay Chung
RUSS AUGUST & KABAT
12424 Wilshire Boulevard 12th Floor
Los Angeles, California 90025
Tel: 310-826-7474
Fax: 310-826-6991
rmirzaie@raklaw.com
mfenster@raklaw.com
prkoeger@raklaw.com
jchung@raklaw.com

Attorneys for Plaintiff EcoFactor, Inc.