

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RESIDEO TECHNOLOGIES, INC.,
Petitioner,

v.

UBIQUITOUS CONNECTIVITY, LP,
Patent Owner.

IPR2019-01335
Patent 8,064,935 B2

Before JEAN R. HOMERE, JOHN F. HORVATH, and
MELISSA A. HAAPALA, *Administrative Patent Judges*.

HORVATH, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

Resideo Technologies, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–22 (“the challenged claims”) of U.S. Patent No. 8,064,935 B2 (Ex. 1001, “the ’935 patent”). Paper 2 (“Pet.”), 3–4. Ubiquitous Connectivity, LP (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 6.

Upon consideration of the Petition and Preliminary Response, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing the unpatentability of at least one challenged claim of the ’935 patent. Accordingly, we institute *inter partes* review of all challenged claims on all grounds raised.

B. *Real Parties-in-Interest*

Petitioner identifies itself, the City of San Antonio, Texas, the City Public Service Board of San Antonio, Texas d/b/a CPS Energy, Ademco, Inc., and Honeywell International, Inc. as real parties-in-interest.¹ Pet., 1. Patent Owner identifies itself as the real party-in-interest. Paper 3, 2.

C. *Related Matters*

Petitioner and Patent Owner identify *Ubiquitous Connectivity, LP v. City of San Antonio d/b/a CPS Energy*, 5:18-cv-00718 (W.D. Tex.), as a district court proceeding that can affect or be affected by this proceeding, and Patent Owner further identifies *Ubiquitous Connectivity, LP v. TXU Energy Retail Co.*, 3:18-cv-02084 (N.D. Tex.), and *Ubiquitous Connectivity, LP v. Central Security Group – Nationwide, Inc.*, 4:18-cv-00368 (N.D.

¹ Honeywell disputes its identification as a real party-in-interest. Pet. 1, n. 1.

Okla.), as district court proceedings that can affect or be affected by this proceeding. Pet. 1; Paper 3, 2. Petitioner and Patent Owner also identify IPR2019-01336, challenging related U.S. Patent No. 9,602,655 B2, as an *inter partes* review that can affect or be affected by this proceeding. *Id.* Patent Owner further identifies Application No. 16/503,883 as a pending application that can affect or be affected by this proceeding. Paper 3, 3.

D. The '935 Patent

The '935 patent relates to “a remote monitoring and control system for an environment.” Ex. 1001, 1:18–19. Such a system is shown in Figure 1 of the '935 patent, which is reproduced below.

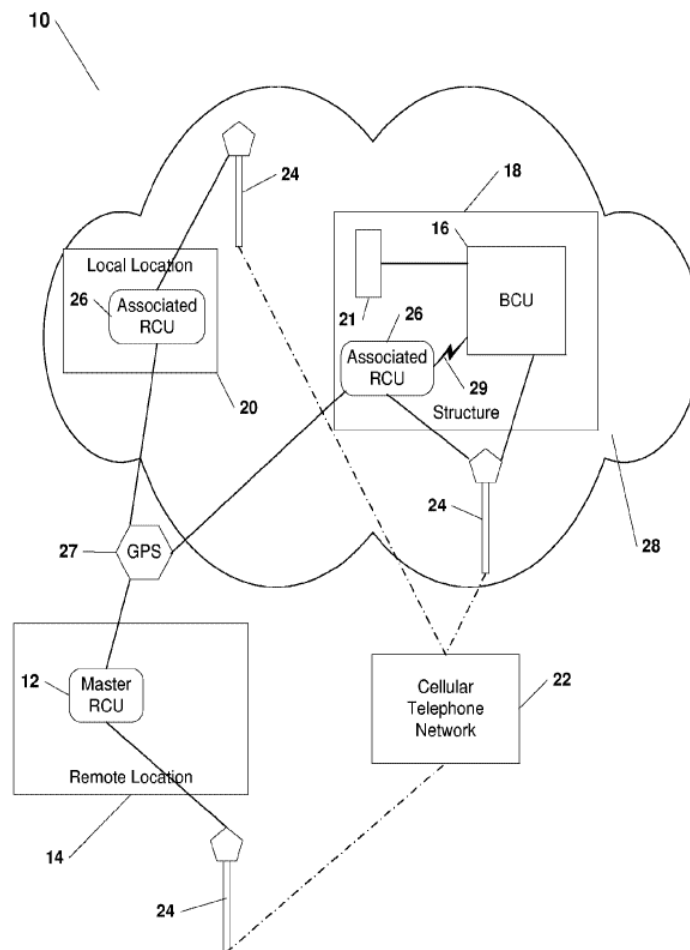


Figure 1 is a block diagram illustrating an environmental connectivity and control system. *Id.* at 3:36–38. The system includes base control unit 16, environmental devices 21, master remote control unit 12, associated remote control units 26, and cellular telephone network 22. *Id.* at 3:51–60, Fig. 1. Master remote control unit 12 interfaces with base control unit 16 to monitor and control devices 21 via “a short message and/or the data bearer cellular telephone network 22.” *Id.* at 3:51–57. Associated remote control units 26 also interface with base control unit 16 to monitor and control devices 21 when in proximity of base control unit 16. *Id.* at 3:57–60.

Controlled devices 21 may include HVAC (heating, ventilation, and air conditioning) units, refrigerators, water heaters, security systems, cameras, lights and other devices. *Id.* at 11:46–53, 12:1–6. Environmental conditions monitored by the system may include utility and power status, humidity, door and window condition, temperature, smoke or toxic gas presence, structural and security integrity, and others. *Id.* at 11:32–39, 12:6–12. Base control unit 16 “consists [of] a wireless module 70 communicating with a microcontroller 106 for operating a number of separate subsystems” and “communicates status information to the remote control unit either on a periodic or event-driven basis.” *Id.* at 4:46–48, 9:1–3. For example, base control unit 16 communicates various alarms to remote control unit 12, such as burglar and fire alarms, or temperature threshold alarms for an HVAC or freezer. *Id.* at 9:6–12.

Remote control unit 12 can be a “conventional cellular telephone handset[] . . . equipped with a programming kernel, such as Java or J2ME.” *Id.* at 6:65–7:1. Remote control unit 12 “communicates with the base control unit 16 to affect the operational aspects thereof and peripheral equipment operatively attached thereto.” *Id.* at 6:50–52. Remote control

unit 12 executes application software to “communicate[] . . . command[s] to the base control unit 16 through the cellular network 22.” *Id.* at 6:58–60.

“The data path between the remote control unit and the base control unit is SMS (‘simple message service’).” *Id.* at 7:9–11. SMS messages are “processed within the cellular telephone’s application software” and “by the base control unit applications software.” *Id.* at 7:39–41, 11:7–9.

E. Illustrative Claims

Claims 1, 11, and 18–22 are independent and, though directed to different systems and system components, are substantially similar in scope. Claims 1, 11, 19, and 20 are directed to a wireless system having a wireless base unit (e.g., a base unit and wireless module) configured to exchange SMS messages with a remote unit to monitor and control an environmental device. *Compare* Ex. 1001, 13:37–58, *with id.* at 14:19–38, *id.* at 15:9–27, and *id.* at 15:28–16:4. Claims 19 and 20 further require the base unit to include a transmitter, receiver, and controller. *Id.* at 15:9–27, 15:28–16:4. Claims 18, 21, and 22 are directed to a base unit having a communication interface, a wireless module, and a microcontroller that is configured to exchange SMS messages with a remote unit to monitor and control an environmental device. *Compare id.* at 14:59–15:8, *with id.* at 16:5–22 and *id.* at 16:23–38. The remaining challenged claims depend directly or indirectly from claim 1 or claim 11. Claim 1 is illustrative of the challenged claims and is reproduced below.

1. A wireless system comprising:
 - an environmental device;
 - a base unit operatively interfaced with the environmental device and configured to control an operation of the environmental device;

a remote unit having wireless connectivity and being configured to send and receive short message service (SMS) messages; and

a wireless module operatively interfaced with the base unit and configured to provide wireless connectivity between the base unit and the remote unit,

wherein the base unit is configured to send a first SMS message, including current environmental information, to the remote unit through the wireless module,

wherein the remote unit is configured to send a second SMS message, including a command for the environmental device, to the base unit through the wireless module, and

wherein the base unit is configured to receive the second SMS message, including the command, and to send the command to the environmental device to control the operation of the environmental device.

Id. at 13:37–58.

F. Evidence²

Reference		Effective Date	Exhibit
Oinonen	US 6,275,710 B1	Aug. 14, 2001	1016
Bielski ³	EP 1391861 A2	Feb. 25, 2004	1017
Chi-Hsiang Wu and Rong-Hong Jan, <i>System integration of WAP and SMS for home network system</i> , 42 Computer Networks 493–502 (2003) (“Wu”)		July 15, 2003 ⁴	1018
Sears	US 2002/0069263 A1	June 6, 2002	1019
Menard	US 2002/0177428 A1	Nov. 28, 2002	1020

² Petitioner also relies upon the Declaration of Kevin Jeffay (Ex.1003) and Rupert Lee (Ex. 1028).

³ Bielski is a certified translation of a European Patent Application originally published in German. *See* Ex. 1017, 20–39.

⁴ Petitioner relies upon the Lee Declaration to establish the public availability of Wu on the effective date. *See* Pet. 12–13.

Reference		Effective Date	Exhibit
Antila	US 6,583,770 B1	June 24, 2003	1021
Ehlers	US 2004/0117330 A1	July 28, 2003 ⁵	1022
Whitley	WO 99/49680	Sept. 30, 1999	1023

G. Asserted Grounds

Petitioner asserts the challenged claims would have been unpatentable on the following grounds:

Ground	Claims	35 U.S.C. §	References
1A	1–3, 7, 11–15, 17–19, 21	103(a)	Oinonen, Whitley
1B	4–6, 16	103(a)	Oinonen, Whitley, Sears
1C	8	103(a)	Oinonen, Whitley, Antila
1D	9, 10	103(a)	Oinonen, Whitley, Antila, Ehlers
1E	20, 22	103(a)	Oinonen, Whitley, Menard
2A	1–4, 7–9, 11–15, 17–19, 21	103(a)	Bielski, Wu
2B	5, 6, 16	103(a)	Bielski, Wu, Sears
2C	10	103(a)	Bielski, Wu, Ehlers
2D	20, 22	103(a)	Bielski, Wu, Menard

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner does not identify the level of skill of a person of ordinary skill in the art (“POSITA”). *See* Pet.. However, Petitioner’s declarant, Dr. Jeffay, identifies a person of skill in the art as someone with “at least a bachelor’s degree in electrical engineering or computer science and at least two years of industry experience in the field of embedded systems and/or process control.” Ex. 1003 ¶ 10. Patent Owner provides a similar

⁵ Petitioner relies on the filing date of Ehlers to establish its availability as prior art under 35 U.S.C. § 102(e). *See* Pet. 14.

definition, arguing that such a person would have had “at least a bachelor’s degree in electrical engineering or computer science, and at least two years of industry experience in the fields of computers and communications.”

Prelim. Resp. 6–7 (citing Ex. 1014, 50).

“[T]he level of skill in the art is a prism or lens through which a judge, jury, or the Board views the prior art and the claimed invention.” *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). At this stage of the proceeding, for purposes of this Decision, we find little difference between Dr. Jeffay’s and Patent Owner’s assessment of the level of skill in the art, and find both to be commensurate with the problems and solutions disclosed in the prior art. *See In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Accordingly, we adopt Patent Owner’s definition for purposes of this Decision. *Id.*

B. Claim Construction

In *inter partes* reviews, we interpret a claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b) (2019). Under this standard, a claim is construed “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.* Only claim terms which are in controversy need to be construed and only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

Petitioner argues the terms “environmental device,” “base unit,” “cellular/remote unit,” and “communication interface” should be construed to have their plain and ordinary meaning, and provides express constructions for these terms “[i]f necessary.” Pet. 7–10. Patent Owner does not argue

that any of the terms proposed by Petitioner require express construction, does not propose any express construction, and does not dispute any of Petitioner's conditionally proposed constructions. Prelim. Resp. 6–8. Instead, Patent Owner conditionally proposes a construction for the term “environmental information” should that term need construction. *Id.* at 7–8.

At this stage of the proceeding, the parties appear to agree that all terms should be construed to have their plain and ordinary meaning as understood by one of ordinary skill in the art in view of the patent and its prosecution history. *See* Pet. 7–10; Prelim. Resp. 6–8. Accordingly, because there is no apparent controversy as to the meaning of any claim term, we decline to expressly construe any claim term at this stage of the proceeding. *See Nidec Motor*, 868 F.3d at 1017.

C. Ground 1A

Petitioner argues claims 1–3, 7, 11–15, 17–19, and 21 are unpatentable as obvious over Oinonen and Whitley. Pet. 3, 15–35. Patent Owner disagrees. Prelim. Resp. 15–32, 38–47. For the reasons discussed below, at this stage of the proceeding, Petitioner has established a reasonable likelihood of showing at least claim 1 is unpatentable as obvious over Oinonen and Whitley.

1. Oinonen

Oinonen discloses telemetric “applications in which the state of a peripheral device is monitored and the peripheral device is controlled via a telecommunication network, preferably at least partly via a mobile communication network.” Ex. 1016, 3:22–26. Examples of telemetric applications include “a real estate alarm system for monitoring real estate for fire, leakage, [or] burglary,” and a heating system “in which the heating of an apartment can be set by telephone . . . so that the heating can be switched

from a lower output to a higher output, or vice versa, by calling a certain telephone number.” *Id.* at 3:27–29, 3:66–4:3.

Oinonen describes the invention as follows:

The invention is based on the idea that the telecommunication terminal, preferably a mobile station coupled with a peripheral device via a connecting interface, transmits short messages or the like to another telecommunication terminal preferably via a mobile communication network. In a corresponding manner, control signals can be transmitted as short messages from the second telecommunication terminal to the first telecommunication terminal, where the device coupled therewith is controlled on the basis of the short messages via the connection interface.

The present invention gives considerable advantages to the systems and methods of prior art. The method of the invention can be applied by using conventional mobile stations equipped with the option for transmitting short messages or the like, preferably messages to be transmitted in text form. Thus, the state of the peripheral device coupled with the mobile station is monitored on the basis of changes in the state of lines in the connection interface, whereby upon a change in the state, a short message is arranged to be transmitted and received by a second mobile station, possibly informing the user of the mobile station preferably as a message displayed on the display of the mobile station. In a corresponding manner, the control of the peripheral device can be arranged easily by means of short messages, wherein the user selects or writes a message which corresponds to the desired control operation and is transmitted to the mobile station coupled with the peripheral device, whereby the state of the corresponding connection line is changed at the connection interface on the basis of this short message. As a result, the peripheral device conducts the desired operation.

Id. at 4:52–5:15.

Oinonen provides an example of such a system in Figure 4, which is reproduced below.

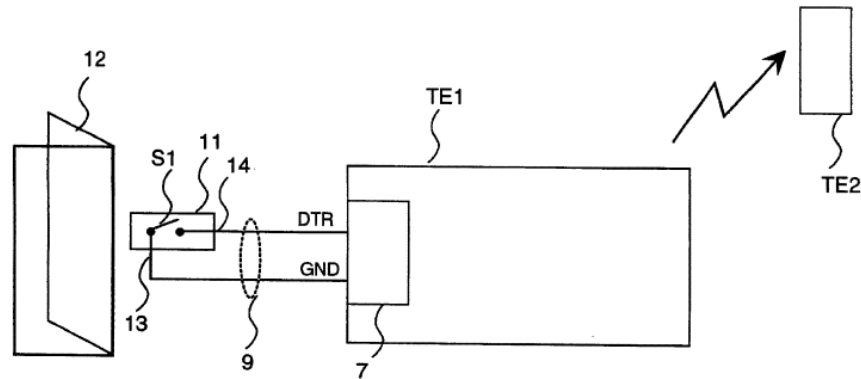


Figure 4 of Oinonen is a block diagram illustrating the monitoring of a peripheral device 11, i.e., switch S1 connected to door 12 to indicate whether door 12 is open or closed. *Id.* at 9:26–28. As shown in Figure 4, mobile terminal TE1 is connected to switch S1 via ground (GND) and data terminal ready (DTR) lines of connection interface 7. *Id.* at 9:28–34. When door 12 is open, 5V appears between DTR and GND, and when door 12 is closed, 0V appears between DTR and GND. *Id.* at 9:38–44.

Mobile terminal TE1 includes microprocessor 1 running application software for “examining the logical states of the input lines of th[e] connection interface 7 and for setting the logical states of the different output lines to the value (0/1) required at the time.” *Id.* at 7:12–26, 9:44–49, Fig. 3.⁶ The application software transmits “the states of all input lines at the moment of examination, advantageously as a short message to the second telecommunication terminal TE2.” *Id.* at 10:38–42. The application software includes a message interpreter that allows TE1 and TE2 to interpret received messages. *Id.* at 8:33–37. Thus, TE1 can send standard texts to TE2 such as “door is closed” or “door is open” instead of logical states 0 or 1, respectively. *Id.* at 10:48–54. When a mobile terminal is unable to interpret such a message, it transmits an error message “as a short message

⁶ Mobile station TE2 has a similar structure. *See* Ex. 1016, 7:52–54.

to the telecommunication terminal TE1, TE2 that sent the control message.”
Id. at 8:50–55.

In addition to monitoring the open/closed status of door 12, Oinonen discloses telemetric applications that monitor the status of a real estate alarm system or the luminosity in a room, that lock/unlock a door, and that control the speed posted to a variable speed traffic sign. *Id.* at 10:63–66, 11:12–14, 11:46–57, 12:13–15, Figs. 5–8.

2. Whitley

Whitley discloses “a system and method for gathering and sending data over an existing wireless network remotely to control and monitor various gateways and the devices coupled to those gateways.” Ex. 1023, 2:19–21. Such a system is shown in Figure 1 of Whitley, which is reproduced below.

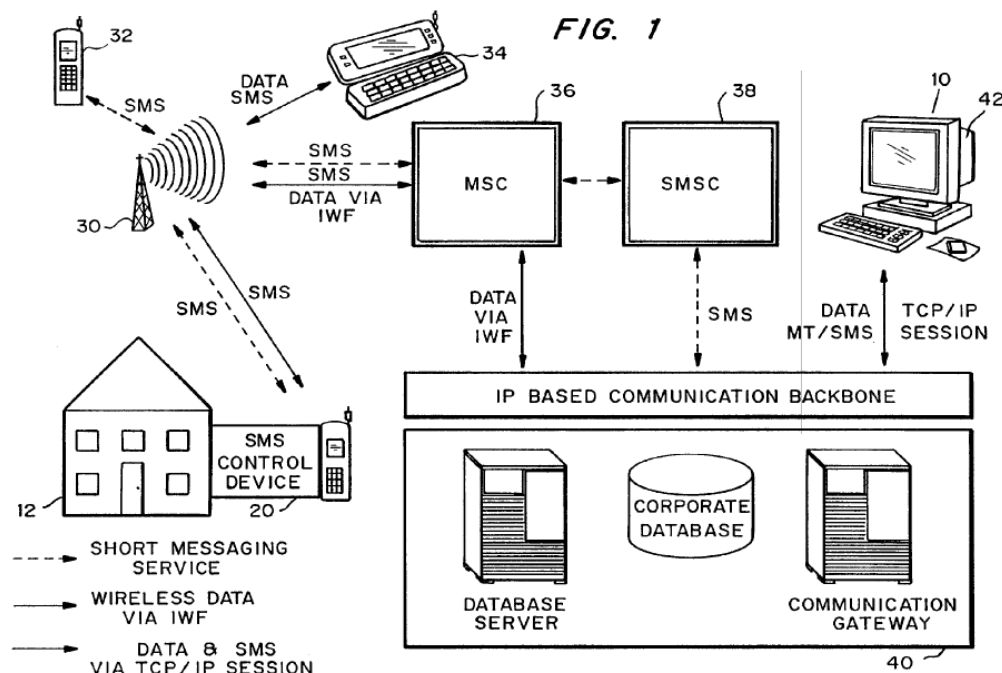


Figure 1 of Whitley is a block diagram of a system that “implements various methods for receiving and sending data from and to a selected gateway.” *Id.*

at 7:13–15. The system includes facility 12, gateway 20 (e.g., an SMS control device), and cellular handset 32. *Id.* at 7:26–8:10.

Gateway 20 provides a physical interface between devices internal to facility 12 and external networks, and “may monitor, control, or both monitor and control various devices within the facility 12, such as lights, security sensors, an answering machine, [or] a home computer.” *Id.* at 8:27–9:3. Gateway 20 is uniquely addressable, and includes a processor and “a wireless transceiver for sending and receiving communications via a digital wireless network.” *Id.* at 8:3–8. The digital network allows gateway 20 “to send data [to] and receive commands directly from [a] customer, which could own or manage the facility.” *Id.* at 2:23–25. This allows the customer to “control lights within a facility according to a pre-programmed pattern that the user may change by communicating new commands” and to have “remote control over the devices (e.g., home appliances or electronics) with which the gateway may communicate.” *Id.* at 3:9–13.

In one implementation, gateway 20 “formulates messages to other terminals into a short message format” (i.e., SMS), and “transmit[s] the message . . . to a network element” such as a customer’s mobile terminal. *Id.* at 5:18–28. Because gateway 20 is uniquely addressable (e.g., via its phone number), “the customer can formulate messages or commands that will be routed directly from the customer’s mobile station . . . to the gateway.” *Id.* at 6:10–14. Thus, Whitley “provide[s] a method for allowing customers to remotely monitor and control devices located in the customer’s facility.” *Id.* at 6:19–21. In particular, customers can “receive monitoring information about activities at their facility via a mobile station” and “control the gateway and devices coupled to the gateway from their mobile station.” *Id.* at 6:22–26. For example, customers can “monitor[] facility 12

for energy usage data or alarms indicating a security breach,” and control “various electronic devices, such as an electronic thermostat or lights.” *Id.* at 12:21–25. “Other types of devices that can be monitored and controlled include a “refrigerator, water heater, and [a] washer/dryer.” *Id.* at 16:21–23. Monitoring the energy usage of facility 12 allows a remote customer “to adjust the thermostat, or turn off one of the devices (such as the washer/dryer or water heater) coupled to the gateway 20 in order to save energy.” *Id.* at 17:2–4.

3. Reasons to Combine

Petitioner argues Oinonen “does not expressly articulate how its telecommunications device would be configured to monitor and/or control multiple devices,” whereas Whitley “specifically discloses a data collection and control device (a ‘gateway’) that is connected to multiple devices.” Pet. 15–16 (citing Ex. 1003 ¶¶ 184–187). Therefore, Petitioner argues a person skilled in the art would have combined the teachings of Oinonen and Whitley “to ‘provide a method for allowing customers to receive monitoring information about activities at their facility,’ and to ‘provide a method that allows customers to control the gateway and devices coupled to the gateway from their mobile station.’” *Id.* at 17 (quoting Ex. 1023, 6:22–26). Petitioner argues a person of ordinary skill in the art would have been motivated to rely on Whitley because Whitley teaches “remote monitoring and control of multiple distributed gateways,” remote “monitor and control [of] multiple devices,” and “monitoring . . . activities over time, which allows the user to control devices *and* save energy.” *Id.* at 16 (citing Ex. 1003 ¶¶ 186–188).

Patent Owner argues Petitioner’s primary rationale for combining the teachings of Oinonen and Whitley (monitoring multiple devices) is improper

because “none of the challenged claims recites multiple devices—they only require ‘an environmental device.’” Prelim. Resp. 30. Patent Owner argues Petitioner’s additional rationale (monitoring activities over time) is also improper because “Petitioner does not explain how this relates to the challenged claim language.” *Id.* at 31.

At this stage of the proceeding, Petitioner has set forth sufficient reasoning with rational underpinning to combine the teachings of Oinonen and Whitley. Oinonen teaches monitoring and controlling a single device, and Whitley teaches an improvement that would allow Oinonen to monitor and control multiple devices via a gateway. *Compare* Ex. 1016, 4:41–61 (monitoring and controlling a peripheral device), *with* Ex. 1023, 6:19–21 (monitoring and controlling multiple devices via a gateway).

Although we agree with Patent Owner that the challenged claims do not require monitoring and controlling multiple devices, we are not persuaded that Petitioner’s reasoning for combining the teachings of Oinonen and Whitley is improper for that reason. *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007) (An obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim.”); *id.* at 419 (“In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls.”); *id.* at 420 (“[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.”).

4. Claim 1

Claim 1 recites a wireless system comprising an environmental device. Ex. 1001, 13:37–38. Notwithstanding Patent Owner’s arguments to

the contrary, discussed *infra*, we are persuaded at this stage of the proceeding that Petitioner is likely to show Oinonen teaches a wireless system for monitoring and/or controlling an environmental device such a door monitor, an electronic door lock, or a security system. Pet. 17; *see also* Ex. 1016, 1:16–22, 11:62–12:4 (using SMS (text) messages to remotely lock/unlock a door). Petitioner is also likely to show Whitley teaches a wireless system for monitoring and/or controlling various environmental devices, such as a thermostat. Pet. 17–18; *see also* Ex. 1023, 12:21–23 (using SMS messages to monitor/control an electronic thermostat).

Patent Owner argues Petitioner’s analysis of this limitation is deficient because Petitioner fails to explain how Whitley’s “thermostat” or “any component of Oinonen satisfies any proposed construction of environmental device.” Prelim. Resp. 17–18.⁷ At this stage of the proceeding, we are not persuaded by this argument. As discussed in § II.B, *supra*, Petitioner proposes the term “‘environmental device’ should be given its plain meaning,” and conditionally offers an express construction “[i]f necessary.” Pet. 8. Patent Owner does not expressly construe the term, does not dispute the term should be given its plain and ordinary meaning, and does not argue that the plain and ordinary meaning excludes the types of devices Petitioner

⁷ Patent Owner makes similar arguments for other terms recited in claim 1 and independent claims 11 and 18–21, including the terms “base unit,” “remote unit,” and “communications interface.” Prelim. Resp. 18–19. Patent Owner also makes similar argument for these terms when used in the claims challenged under Grounds 1B–1E and 2A–2D. *Id.* at 19. We address Patent Owner’s arguments regarding the term “environmental device” here. However, our analysis equally applies to the arguments Patent Owner raises regarding this and other claim terms in all of the claims challenged under all of the grounds raised.

has identified. *See* Prelim. Resp. 7–45. Indeed, the '935 patent expressly discloses monitoring and controlling these types of devices, i.e., thermostats, security alarm systems, and door monitor and locking systems. *See* Ex. 1001, 6:19–26, 8:32–34, 11:29–53.

Patent Owner also argues that Petitioner's analysis of this limitation is deficient because "Petitioner contends that Oinonen and Whitley each discloses a wireless system" and each discloses a wirelessly controlled environmental device. Prelim. Resp. 22.⁸ Patent Owner argues that by "simultaneously contending that Oinonen and Whitley individually disclose each element of each claim challenged in Ground 1A, Petitioner fails to identify any differences between the claimed subject matter and the asserted prior art, as required to support a finding of obviousness." *Id.* at 23–24. Patent Owner further argues that Petitioner's analysis is deficient for failing to adhere to "the Offices rules and the statutory requirements for the content of IPR petitions." *Id.* at 27 (citing 35 U.S.C. § 312(a)(3); 37 C.F.R. §§ 42.104(b)(2)–(4)).

At this stage of the proceeding, we are not persuaded by Patent Owner's arguments. Although Petitioner cites to disclosures in both

⁸ Patent Owner makes the same argument regarding the remaining limitations of claim 1 and the remaining claims challenged under Grounds 1A–1E. *See* Prelim. Resp. 22, 27. Patent Owner also makes the same argument regarding all of the limitations of the claims challenged under Grounds 2A–2C, i.e., that Petitioner improperly maps disclosures in both Bielski and Wu to those limitations. *Id.* at 25, 27. We address Patent Owner's argument regarding the "environmental device" limitation here. However, our analysis equally applies to the arguments Patent Owner raises regarding this and other limitations in all of the claims challenged under all grounds raised.

Oinonen and Whitley for each limitation recited in claim 1, including the “environmental device” limitation, Petitioner relies primarily on Oinonen for disclosing the limitation and on Whitley for confirming the limitation was well known to persons skilled in the art. *See* Pet 17–18 (identifying Oinonen’s door sensing, locking, and security system as the “environmental device,” and arguing “Whitley confirms that a POSITA would have known of other ‘environmental devices’ such as a thermostat”).⁹ “[W]hen a petition sets forth a ground with multiple references, but the petitioner’s primary arguments rely on a single reference, the Board should consider those arguments” *Polygroup Ltd MCO v. Willis Elec. Co.*, 759 Fed. Appx. 934, 943 n.3 (Fed. Cir. 2019). Indeed, when a petitioner sets forth a ground with multiple references, and argues that a single reference “teaches every element of the challenged claims,” the “Board err[s] when it refuse[s] to consider these arguments.” *Id.* at 942–43; *see also Realtime Data, LLC v. Iancu*, 912 F.3d 1368 (Fed. Cir. 2019) (finding the Board “did not err when it concluded that claim 1 was invalid under § 103,” and “did not violate 35 U.S.C. § 312(a)(3) or other notice requirements” when it relied on the teachings of a single reference in a combination of references).

Claim 1 requires the wireless system to include a base unit interfaced with and configured to control the environmental device. Ex. 1001, 13:29–

⁹ *See also* Pet. 18 (identifying Oinonen’s first telecommunication terminal connected to a peripheral device as a “base unit,” and arguing Whitley “confirms that the POSITA would have known one could control *various* household devices through a gateway base unit”), *id.* at 19 (identifying Oinonen’s second telecommunication terminal as a “remote unit” that sends and receives SMS messages, and arguing Whitley “confirms that remote units allow users to ‘receive monitoring information’” and that “SMS messages allow users . . . to send and receive packets of data.”).

41. Notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*,¹⁰ Petitioner is likely to show Oinonen’s first telecommunication terminal (TE1), having a V.24 interface to a peripheral device (e.g., an electronic door lock), is a base unit interfaced with and configured to control the door lock. Pet. 18; *see also* Ex. 1016, 6:60–64 (teaching TE1 is connected to a peripheral device to be monitored or controlled via the V.24 connection interface). Petitioner is also likely to show Whitley’s gateway, having a physical interface that “couple[s] [it] to various devices within [a] facility in order to control the devices,” is a base unit interfaced with and configured to control an environmental device. Pet. 18; *see also* Ex. 1023, 8:27–9:2 (teaching a “gateway” is a device providing a physical interface between a facility device and a network, and is coupled to the facility to monitor and/or control devices in the facility).

Claim 1 further requires the wireless system to include a remote unit having wireless connectivity and configured to send and receive SMS messages. Ex. 1001, 13:42–44. Notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*,¹¹ Petitioner is likely to show Oinonen’s second telecommunication terminal (TE2) is a remote unit configured to wirelessly send and receive SMS messages. Pet. 19; *see also* Ex. 1016, 4:67–5:13, 6:64–7:4 (teaching TE2 is a mobile device that can send and receive SMS messages to a peripheral device to monitor and control it). Petitioner is also likely to show Whitley’s mobile station is a remote unit configured to wirelessly send and receive SMS messages. Pet 19; *see also* Ex. 1023, 8:6–14, 12:21–13:2, 16:9–12 (teaching a “mobile station” that

¹⁰ *See supra* notes 7–9.

¹¹ *See supra* notes 7–9.

sends and receives SMS messages to monitor and control a device in a facility).

Claim 1 further requires the wireless system to include a wireless module interfaced with the base unit and configured to provide wireless connectivity between the base and remote units. Ex. 1001, 13:45–47. Notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*¹² and *infra*, Petitioner is likely to show the “radio element” in Oinonen’s TE1 (base unit) is a wireless module configured to provide wireless connectivity between TE1 and TE2 (remote unit). Pet. 20; *see also* Ex. 1016, 4:52–52, 7:12–21. (teaching TE1 includes radio element 6, and transmits SMS messages to TE2 over a wireless network). Petitioner is also likely to show Whitley’s gateway (base unit) is interfaced to a transceiver (wireless module) that provides wireless connectivity between the gateway and mobile station (remote unit). Pet 20; *see also* Ex. 1023, 3:13–25, 9:6–8 (teaching the gateway has a wireless transceiver for sending SMS messages to and receiving SMS messages from a “mobile station”).

Patent Owner argues Petitioner’s analysis of this limitation is deficient because Petitioner fails to show that Oinonen’s radio element 6 provides wireless connectivity between TE1 (base unit) and TE2 (remote unit). Prelim. Resp. 43. At this stage of the proceeding, we are not persuaded by Patent Owner’s argument. First, Petitioner supports its contention with testimony from Dr. Jeffay, who points out that radio element 6 of TE1, as shown in Figure 3 of Oinonen, is labelled RX/TX. *See* Pet. 20; Ex. 1003 ¶ 232; Ex. 1016, Fig. 3. That is, Oinonen’s radio element 6 is a wireless transceiver connected to an antenna to provide wireless connectivity to other

¹² *See supra* notes 7–9.

devices such as TE2 (remote unit). Second, Patent Owner does not dispute Petitioner's contention that Whitley's gateway (base unit) is interfaced with a transceiver (wireless module) that provides wireless connectivity between the gateway and a mobile station (remote unit). *See* Prelim. Resp. 42–43. Instead, Patent Owner argues Whitley's disclosure cannot be relied upon because Petitioner's reasoning for combining Oinonen and Whitley is "the ability 'to monitor and/or control multiple . . . devices,'" and Petitioner "does not provide motivation for modifying Oinonen's radio element." *Id.* at 43 (quoting Pet. 15). But it is the addition of Whitley's gateway to Oinonen's system, including the gateway's transceiver, that would permit Oinonen's system to monitor and control multiple environmental devices.

Claim 1 further requires the base unit be configured to send a first SMS message that includes environmental information to the remote unit through the wireless module. Ex. 1001, 13:48–50. Notwithstanding Patent Owner's arguments to the contrary, discussed *supra*¹³ and *infra*, Petitioner is likely to show Oinonen's TE1 (base unit) is configured to send a first SMS message containing environmental information (e.g., an alarm or the status of V.24 interface lines) to TE2 (remote unit) via TE1's radio element 6 (wireless module). *See* Pet. 20; *see also* Ex. 1016, 4:67–5:6, 10:38–42, (teaching TE1 transmits SMS messages regarding a peripheral device state (e.g., an alarm state) to TE2 based on the status of input lines of the interface between TE1 and the peripheral device). Petitioner is also likely to show Whitley's gateway (base unit) is configured to send a first SMS message containing environmental information (e.g., energy usage data or a security breach alarm) to a mobile station (remote unit) via the gateway's transceiver.

¹³ *See supra* notes 7–9.

Pet 21; *see also* Ex. 1023, 12:21–13:2 (teaching the gateway sends SMS messages to a network element (e.g., a mobile station) containing an alarm or energy use data).

Patent Owner argues Petitioner’s analysis of this limitation is deficient because Petitioner fails to show that Oinonen’s SMS messages (e.g., an alarm or input line state) convey environmental information. Prelim. Resp. 38–41. Regarding Oinonen’s input line state, Patent Owner argues the only input lines on Oinonen’s V.24 interface are the lines labeled RX, DTR, and RTS, and “Oinonen . . . does not teach that any of the RX, DTR, and RTS lines contains information reflecting a characteristic of an environment.” *Id.* at 39–40 (citing Ex. 1016, 6:13–16, 10:47–48, Fig. 3). Patent Owner also argues that Whitley’s “energy usage” or “security breach alarm” data is not environmental information. *Id.* at 41.

At this stage of the proceeding, we do not find Patent Owner’s arguments persuasive. First, the ’935 patent expressly describes a base unit that monitors the status of a building’s security system or energy usage, and sends alarms to a remote unit based on the monitored status. *See* Ex. 1001, 11:32–39 (describing monitoring “environmental functions of the building includ[ing] . . . power status of the building and . . . security status.”), 11:42–50 (describing base unit sensors that “provide continuous measurement and status of target environmental characteristics. Examples of sensor applications include utilities status . . . [and] door and window condition.”), 11:61–64 (describing transmitting base unit alarms to a remote unit “when a measured characteristic exceeds a predetermined value”). Second, Oinonen teaches sending binary input line state information (e.g., RX=0, DTR=1, RTS=0) as SMS messages so that “the user does not need to remember what is monitored by each input line.” Ex. 1016, 10:43–55. For example, in a

door monitoring application, Oinonen teaches input line DTR can take on logical values of 0/1 to indicate an open/closed door, and TE1 can transmit SMS messages “door is open” or “door is closed” rather than the binary values 0/1 on the DTR line. *Id.* at 9:38–44, 10:48–54. As noted above, the ’955 patent expressly describes “door and window condition” information as environmental information that a base unit can send to a remote unit. Ex. 1001, 11:32–50, 11:61–64.

Claim 1 further requires the remote unit be configured to send a second SMS message to the base unit that includes a command for the environmental device. Ex. 1001, 13:51–54. Notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*,¹⁴ Petitioner is likely to show Oinonen’s TE2 (remote unit) is configured to send a second SMS message to TE1 (base unit) that includes a command for the environmental device (e.g., a command to lock a door). *See* Pet. 21; *see also* Ex. 1016, 4:58–61, 11:64–12:4 (teaching TE2 transmitting an SMS message to TE1 commanding an electronic locking device to “lock the door”). Petitioner is also likely to show Whitley’s mobile station (remote unit) is configured to send a second SMS message to gateway 20 (base unit) that includes a command to control a connected device. Pet 22; *see also* Ex. 1023, 6:12–14, 10:14–17, 16:9–12, 17:2–7 (teaching the user of a mobile station can send SMS response messages to gateway 20 to control attached devices, such as commands to enable/disable an alarm system or set a temperature).

Claim 1 further requires the base unit to be configured to receive the second SMS message and send the command to the environmental device to control the operation of the environmental device. Ex. 1001, 13:55–58.

¹⁴ *See* nn. 7–9.

Notwithstanding Patent Owner's arguments to the contrary, discussed *supra*,¹⁵ Petitioner is likely to show Oinonen's TE1 (base unit) is configured to receive the second SMS message and send the command to the environmental device (e.g., door lock) to control the operation of the device. *See* Pet. 22–23; *see also* Ex. 1016, 8:34–37, 11:64–12:4 (teaching TE1 examines received messages to control attached devices, e.g., by setting a voltage on the DTR line of the interface between TE1 and a door locking mechanism in response to a “lock the door” message). Petitioner is also likely to show Whitley's gateway (base unit) is configured to receive the second SMS message and send the command to the environmental device to control operation of the device. Pet 23; *see also* Ex. 1023, 6:12–14, 10:14–17, 16:9–12, 17:2–7 (teaching the user of a mobile station can send SMS messages to gateway 20 to control attached devices).

For the reasons discussed above, at this stage of the proceeding, Petitioner has demonstrated a reasonable likelihood of showing all the limitations of claim 1 are taught by the combination of Oinonen and Whitley, and that a person skilled in the art would have had a rational reason to combine the teachings of Oinonen and Whitley. Accordingly, Petitioner has demonstrated a reasonable likelihood of showing claim 1 is unpatentable over the combination of Oinonen and Whitley.

5. *Claims 2, 3, 7, 11, 13–15, 17–19, and 21*

As discussed in § I.E, *supra*, independent claims 1, 11, and 18–21, although directed to different systems and system components, are substantially similar in scope. Consequently, Petitioner's analysis of independent claims 11, 18, 19, and 21 largely relies on and refers back to

¹⁵ *See supra* notes 7–9.

Petitioner's analysis of independent claim 1 discussed above. *See* Pet. 26–29, 32–35. Additionally, Petitioner identifies the relatively small differences in subject matter between each of these claims and claim 1, and sufficiently demonstrates at this stage of the proceeding how Oinonen and Whitley teach these differences. *Id.* Petitioner also sufficiently demonstrates how Oinonen and Whitley teach the limitations recited in dependent claims 2, 3, 7, 13–15, and 17. *See* Pet. 23–26, 31. Patent Owner contends Petitioner's analysis of these claims is deficient for the same reasons as Petitioner's analysis of claim 1. *See* Prelim. Resp. 45–47. For the reasons discussed above, at this stage of the proceeding, we are not persuaded by Patent Owner's arguments and find Petitioner is reasonably likely to show that claims 2, 3, 7, 11, 13–15, 17–19, and 21 are unpatentable over Oinonen and Whitley.

6. *Claim 12*

Claim 11 is an independent claim to a wireless system that includes a remote unit having wireless connectivity that exchanges SMS messages with a wireless base unit to control an environmental device. *See* Ex. 1001, 14:19–38. Claim 12 depends from claim 11 and requires the wireless connectivity to comprise “a first wireless connection interfacing with the base unit, a second wireless connection interfacing with the remote unit, and a non-wireless connection interfacing *between the first wireless connection and the second wireless connection.*” *Id.* at 14:39–44 (emphasis added).

Petitioner characterizes claim 12 as “describ[ing] network connections to/from the base unit and the remote unit, and a non-wireless connection *between the base unit and the environmental device.*” Pet. 29 (emphasis added). Petitioner argues Oinonen teaches the limitations of claim 12 by disclosing “wireless connections between various stations (e.g., the base unit and the remote unit) and various wired connections thereafter.” Pet. 30.

Petitioner argues Whitley teaches the limitations by disclosing “a variety of wired and wireless connections in . . . Figure 1.” *Id.* Petitioner further argues that “Oinonen and Whitley also disclose interfaces between the base unit and environmental device.” *Id.*

At this stage of the proceeding, Petitioner has not sufficiently demonstrated that Oinonen or Whitley teach the limitations required by claim 12 and, in particular, how the combination teaches the “non-wireless connection interfacing *between the first wireless connection and the second wireless connection.*” First, Petitioner’s vague identification of Oinonen’s “various wired connections” and Whitley’s “variety of wired . . . connections” fails to identify with sufficient particularity where these wired connections are located, and whether they are located “*between the first wireless connection and the second wireless connection*” as required by claim 12. Second, to the extent Petitioner relies on Oinonen and Whitley’s disclosure of an interface *between a base unit and environmental device*, Petitioner fails to sufficiently explain how such an interface is a “connection interfacing *between the first wireless connection and the second wireless connection,*” as required by claim 12.

D. Ground 1B

Petitioner argues claims 4–6 and 16 are unpatentable as obvious over Oinonen, Whitley, and Sears. Pet. 3, 35–38. Patent Owner disputes this. Prelim. Resp. 15–29, 32, 33, 48. For the reasons discussed below, at this stage of the proceeding, Petitioner has established a reasonable likelihood of showing claims 4–6 and 16 are unpatentable as obvious over Oinonen, Whitley, and Sears.

1. Sears

Sears discloses a system and method for disseminating JAVA code to networked devices. Ex. 1019 ¶ 24. Sears teaches that “Java technology enables developers to write rich dynamic personalized services and applications . . . on mobile devices,” and that Java-enabled devices “offer dynamic and secure delivery of multiple applications and services.” *Id.* ¶¶ 7, 32. Sears further teaches that J2ME (Java 2 Micro Edition) is a “modular, scalable architecture to support the flexible deployment of technology to devices with diverse features, functions, and . . . capabilities.” *Id.* ¶ 32

2. Reasons to Combine

Petitioner argues that because Oinonen and Whitley disclose custom applications running on mobile devices, a person skilled in the art would have known that the applications could have been implemented using JAVA or J2ME as taught by Sears. Pet. 35–36 (citing Ex. 1003 ¶¶ 393–394). Petitioner argues Sears teaches several advantages to implementing mobile applications in JAVA or J2ME. *Id.* at 36. These include the ability to “create, dynamic, personal, and functionality-rich applications,” provide “content-rich graphics and faster interaction,” and “process the SMS commands of Oinonen/Whitley for transmission even when offline.” *Id.* (citing Ex. 1003 ¶¶ 394–397; Ex. 1019 ¶¶ 7, 8, 32).

Patent Owner argues Petitioner’s reasoning for combining the teachings of Sears with those of Oinonen and Whitley is superfluous and improper because Petitioner alleges Oinonen already discloses mobile handsets having custom applications, and “a person of ordinary skill in the art would not have looked to Sears for a handset with custom programmability if Oinonen already has one.” Prelim. Resp. 32–33.

At this stage of the proceedings, Petitioner demonstrates sufficient reasoning to combine the teachings of Sears with the teachings of Oinonen and Whitley. Oinonen and Whitley both disclose mobile devices running custom applications that allow them to send, receive, and interpret SMS messages to monitor and control peripheral devices. *See* Ex. 1016, 8:33–37; Ex. 1023, 10:20–23. Sears teaches such software can be implemented using JAVA or J2ME, and the advantages of doing so, including the ability to create content-rich graphics, to provide faster response or interaction times, and to process commands when offline. *See* Ex. 1003 ¶¶ 394–397; Ex. 1019 ¶¶ 7, 32. Thus, Petitioner’s proposal is to substitute one element (Oinonen and Whitley’s application run-time environment) for another known in the field (Sears’ JAVA or J2ME based run-time environment). Such a substitution would have been obvious if it yields predictable results, as Petitioner has alleged. *See* Pet. 36; Ex. 1003 ¶ 397; *KSR* 550 U.S. at 416 (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”).

3. Claims 4–6 and 16

Claim 4 depends from claim 1 and requires the remote unit of claim 1 to be a cellular telephone handset with custom programmability. Ex. 1001, 13:66–67. Claims 5 and 6 depend from claim 4 and require the custom programmability of claim 4 to be, respectively, JAVA and J2ME programming kernels. *Id.* at 14:1–4. Claim 16 depends from claim 15 and requires the remote cellular telephone handset of claim 15 to include at least one of a customizable JAVA or J2ME programming kernel. *Id.* at 14:51–56.

Notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*,¹⁶ Petitioner is likely to show the combination of Oinonen, Whitley, and Sears teaches the limitations of claims 4–6 and 16. *See* Pet. 37–38. Oinonen teaches TE2 (remote unit) is a cellular telephone handset running applications, and Sears teaches such applications can be implemented to execute in a virtual run-time environment such as that provided by a JAVA or J2ME kernel. *See* Ex. 1003 ¶¶ 398–409; Ex. 1016, 8:33–37; Ex. 1019 ¶¶ 6, 30, 33, 34. Whitley teaches its mobile station (remote unit) is a cellular telephone handset running applications, and Sears teaches such applications can be implemented to execute in a virtual run-time environment such as that provided by a JAVA or J2ME kernel. *See* Ex. 1003 ¶¶ 398–409; Ex. 1023, 8:6–10, 3:19–25; Ex. 1019 ¶¶ 6, 30, 33, 34.

E. Ground 1C

Petitioner argues claim 8 is unpatentable as obvious over Oinonen, Whitley, and Antila. Pet. 3, 38–39. Patent Owner disputes this. Prelim. Resp. 15–29, 33, 48. For the reasons discussed below, at this stage of the proceeding, Petitioner has established a reasonable likelihood of showing claim 8 is unpatentable as obvious over Oinonen, Whitley, and Antila.

1. Antila

Antila is directed to “a double-sided display element . . . using a liquid crystal display as an example.” Ex. 1021, 4:19–21. Antila teaches that “[l]iquid crystal displays (LCD[s] . . .) are at present very common especially in small size devices,” and that a common construction for such displays “is the so called twisted nematic . . . LCD-display.” *Id.* at 1:15–21. Antila further teaches that the Nokia 9000 Communicator has a reasonably

¹⁶ *See supra* notes 7–9.

small LCD-display, and that such displays “are often of the so called super twisted nematic . . . type.” *Id.* at 5:1–5.

2. *Reasons to Combine*

Petitioner argues Oinonen’s TE2 (remote unit) is a GSM¹⁷ mobile device and Whitley’s mobile terminal (remote unit) is a Nokia 9000 GSM Communicator used to monitor and control peripheral devices. Pet. 38. Petitioner, therefore, argues a person skilled in the art would have considered the teachings of “Antila, which provide[] technical and design information for the Nokia 9000 communicator,” when seeking “additional details regarding the types of mobile devices used to control environmental devices.” *Id.* (citing Ex. 1003 ¶¶ 410–412).

Patent Owner argues Petitioner’s reasoning for combining the teachings of Antila with those of Oinonen and Whitley is superfluous and improper because Whitley already discloses using the Nokia 9000 Communicator as a remote unit, and “a person of ordinary skill in the art would not have sought to add an LCD module from Antila if Whitley’s handset already has one.” Prelim. Resp. 33.

At this stage of the proceeding, Petitioner demonstrates sufficient reasoning to combine the teachings of Antila with the teachings of Oinonen and Whitley. Oinonen and Whitley teach using a remote unit (TE2 or mobile station) to monitor and control a peripheral (environmental) device, and Whitley teaches the remote unit can be a Nokia 9000 Communicator, but does not elaborate on the nature of the Nokia device’s display. Ex. 1016, 6:64–7:4, 13:15–20; Ex. 1023, 6:22–29, 8:6–14. Antila teaches the Nokia

¹⁷ GSM (Global System for Mobile) is a cellular communications standard. *See* Ex. 1016, 1:16–18; Ex. 1023, 3:19–20,

9000 Communicator has an LCD display. Ex. 1021, 5:1–5. Thus, Petitioner’s proposal is a “combination of familiar elements according to known methods [and] is likely to be obvious when it does no more than yield predictable results.” *KSR* 550 U.S. at 416.

3. Claim 8

Claim 8 depends from claim 1 and requires the remote unit of claim 1 to include a liquid crystal display module. Ex. 1001, 14:10–11. Notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*,¹⁸ Petitioner is likely to show the combination of Oinonen, Whitley, and Antila teaches the limitation of claim 8. *See* Pet. 39. As discussed above, Whitley teaches the remote unit used to monitor and control an environmental device can be a Nokia 9000 Communicator, and Antila teaches LCD displays were commonly used in small devices, including in the Nokia 9000 Communicator. Ex. 1023, 6:22–29, 8:6–14; Ex. 1021, 1:15–25, 4:65–5:5.

F. Ground 1D

Petitioner argues claims 9 and 10 are unpatentable as obvious over Oinonen, Whitley, Antila, and Ehlers. Pet. 3, 39–44. Patent Owner disputes this. Prelim. Resp. 15–29. For the reasons discussed below, at this stage of the proceeding, Petitioner has established a reasonable likelihood of showing claims 9 and 10 are unpatentable as obvious over Oinonen, Whitley, Antila, and Ehlers.

1. Ehlers

Ehlers discloses “a system and method for managing the delivery and usage of a commodity such as electricity, natural gas, steam, water, chilled

¹⁸ *See supra* notes 7–9.

or heated water, or potable or recycled water.” Ex. 1002 ¶ 2. Ehlers’ allows a customer to access and control portions of the system through a graphical user interface (GUI) 1.14 incorporated on a device (e.g., a mobile phone) that is linked to the system via a wireless data network. *Id.* ¶ 69. The various windows of GUI 1.14 are shown in Figures 4A–4R of Ehlers. *Id.* ¶¶ 30–47. Figure 4C of Ehlers is reproduced below.

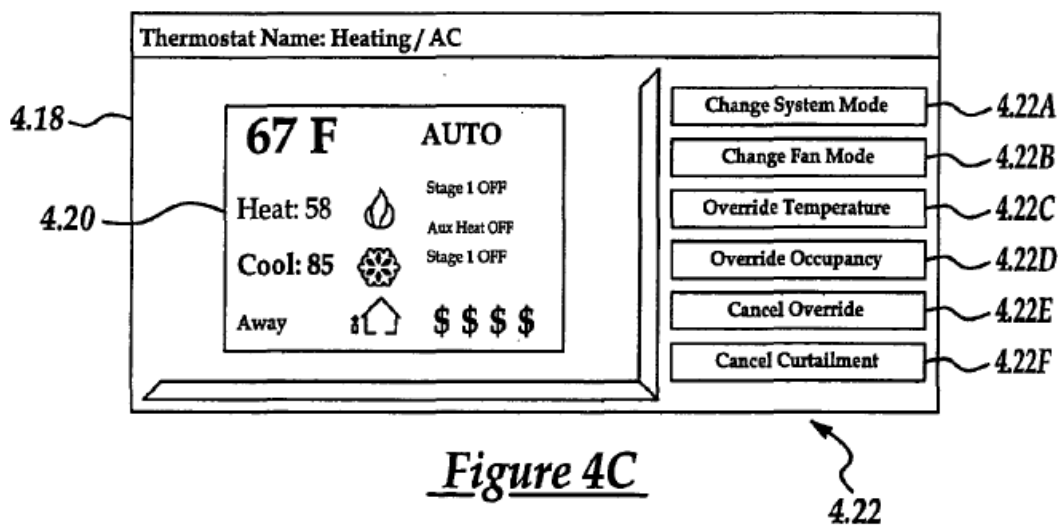


Figure 4C of Ehlers is an illustration of a mobile phone’s GUI used in Ehlers’ utility control system. *Id.* ¶ 311. Figure 4C illustrates virtual thermostat 4.18 containing information section 4.20 and buttons 4.22. *Id.* ¶ 316. Information section 4.20 contains current information for a remotely monitored HVAC system, such as the current temperature, heating and cooling set-points, operating mode (auto) and status (off). *Id.* Using buttons 4.22, a customer can change the operating parameters of the HVAC system, such as the heating and cooling set-points. *Id.* Using GUI 1.14, a user can “directly access and control in-home devices 1.08.” *Id.* ¶ 116.

Ehlers system includes a number of pre-defined alerts, such as a temperature out of range alert, and allows a customer to “select or designate . . . who gets notified for each alert, and how they are notified.” *Id.* ¶ 327.

2. *Reasons to Combine*

Petitioner argues Oinonen and Whitley teach the ability to remotely monitor and control devices via SMS messages, and Whitley teaches monitoring remote devices for energy usage. Pet. 39–40. Petitioner argues a person skilled in the art would have incorporated the teachings of Ehlers into the combination of Oinonen, Whitley, and Antila in order “[t]o enhance the energy monitoring functionality of Whitley” because “Ehlers provides an improved user interface that allows a user to precisely control his/her own preferences,” and Ehlers’ “intuitive user interface would have the benefit of improved customer usability.” *Id.* at 40. Patent Owner does not dispute Petitioner’s reasoning. *See* Prelim. Resp. 30–37.

At this stage of the proceeding, Petitioner has demonstrated sufficient reasoning to combine the teachings of Oinonen, Whitley, Antila, and Ehlers. Oinonen and Whitley teach using a remote unit (TE2 or mobile station) to monitor and control a peripheral (environmental) device, Whitley teaches the remote unit can be a Nokia 9000 Communicator, and Antila teaches the Nokia 9000 Communicator has an LCD display. Ex. 1016, 6:64–7:4, 13:15–20; Ex. 1021, 5:1–5; Ex. 1023, 6:22–29, 8:6–14. Ehlers teaches how to monitor and control a peripheral device via a GUI displayed on a mobile device. Ex. 1022 ¶ 116. Thus, Petitioner’s proposal is a “combination of familiar elements according to known methods [and] is likely to be obvious when it does no more than yield predicable results.” *KSR* 550 U.S. at 416.

3. *Claim 9*

Claim 9 depends from claim 8 and requires the liquid crystal module to include selectable graphic icons corresponding to current environmental information being monitored or controlled. Ex. 1001, 14:12–15. Notwithstanding Patent Owner’s arguments to the contrary, discussed

supra,¹⁹ Petitioner is likely to show the combination of Oinonen, Whitley, Antila, and Ehlers teaches the limitation of claim 9. *See* Pet. 41–43. As discussed above, Whitley teaches a remote unit used to monitor and control an environmental device (e.g., a thermostat) can be a Nokia 9000 Communicator, Antila teaches that device includes an LCD display, and Ehlers teaches displaying a GUI 4.18 having icons (information section 4.20 and buttons 4.22) corresponding to current environmental information (temperature) being monitored or controlled on a mobile device. Ex. 1021, 1:15–25, 4:65–5:5; Ex. 1022 ¶¶ 116, 316; Ex. 1023, 6:22–29, 8:6–14, 12:21–23.

4. Claim 10

Claim 10 depends from claim 1 and requires the remote unit to be configured to selectively disable SMS message transmissions from the base unit. Ex. 1001, 14:16–18. Notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*,²⁰ Petitioner is likely to show the combination of Oinonen, Whitley, Antila, and Ehlers teaches the limitation of claim 10. *See* Pet. 43–44. As discussed above, Oinonen and Whitley teach the ability to remotely monitor and control environmental devices by exchanging SMS messages, and Ehlers teaches selectively controlling the alert messages that can be sent to a remote device. *Id.* at 44. For example, Ehlers teaches that when a temperature is out of range for an extended period of time, the user can configure the system to send an alert each time the temperature is out of range, or only a single time (thereby selectively disabling transmission of alerts other than the first alert). Ex. 1022 ¶ 327.

¹⁹ *See supra* notes 7–9.

²⁰ *See supra* notes 7–9.

G. Ground 1E

Petitioner argues claims 20 and 22 are unpatentable as obvious over Oinonen, Whitley, and Menard. Pet. 3, 44–48. Patent Owner disputes this. Prelim. Resp. 15–29, 48–52. For the reasons discussed below, at this stage of the proceeding, we find Petitioner has established a reasonable likelihood of showing claims 20 and 22 are unpatentable as obvious over Oinonen, Whitley, and Menard.

1. Menard

Menard discloses a system and method for remote notification of a monitored condition. Ex. 1020 ¶ 16. The notification can be a burglar alarm, a fire alarm, or an alarm from a sensor that monitors any type of mechanical, environmental, maintenance, usage, or access system. *Id.* The alarm can be sent to an RP (responsible party) via facsimile, email, SMS, or WAP (wireless application protocol). *Id.* ¶¶ 18, 20. When an RP responds to the notification to manage alarm processing, Menard’s system “executes the process which may include further notification.” *Id.* ¶ 68. Thus, “after instructions from [the] RP are completed, another round of notification may occur” so that “RPs are informed as to the outcome of the event.” *Id.* ¶ 179.

2. Reasons to Combine

Petitioner argues Oinonen and Whitley teach the ability to remotely monitor and control an alarm system by exchanging SMS messages, and Menard teaches sending remote notifications of monitored conditions, including alarm system alarms, via SMS messaging. Pet. 45. Petitioner argues Oinonen and Whitley both teach that it was known to confirm the receipt of messages. *Id.*; *see also* Ex. 1016, 2:24–28 (SMS service center receives confirmation when mobile station MS2 “has received the short message.”); Ex. 1023, 10:3–5 (SMS service center returns a message

indicating the delivery status of a transmitted SMS message.). Petitioner further argues that a person skilled in the art would have been motivated to transmit a command confirmation message, confirming that a command had been received and executed, in order “to provide confirmation to a user that [a] monitoring/control request had been performed” and to provide “extra comfort and/or security to [the] user.” Pet. 45–46 (citing Ex. 1003 ¶¶ 444–445).

At this stage of the proceeding, Petitioner demonstrates sufficient reasoning to combine the teachings of Oinonen, Whitley, and Menard. Oinonen and Whitley teach using a remote unit (TE2 or mobile station) to monitor and control a peripheral (environmental) device such as an alarm system, and Menard teaches an alarm system that can send alarms, receive responses to the alarms, and send additional messages to notify users of the outcome of processing the responses to the alarms. Ex. 1016, 6:64–7:4, 10:63–11:11; Ex. 1020 ¶¶ 68, 179; Ex. 1023, 6:22–29, 12:21–23.

3. *Claims 20 and 22*

As noted in § I.E, *supra*, independent claims 1, 11, and 18–22, although directed to different systems and system components, are substantially similar in scope. Independent claims 19, 20, and 22 differ from independent claim 1 in that they require the base unit to include or be associated with a controller that sends received commands to the environmental device. *Compare* Ex. 1001, 13:37–58, *with id.* at 15:9–27, *id.* at 15:28–16:4, *and id.* at 16:22–37. Claims 20 and 22 differ from claim 19 in that they require a wireless module/transmitter configured to send a wireless message to the remote unit indicating that a received command has been executed. *Compare id.* at 15:9–27 with *id.* at 15:28–16:4, *and id.* at 16:22–37. Given how similar claims 1, 19, 20, and 22 are in scope,

Petitioner’s analysis of claims 20 and 22 largely relies on and refers back to (a) Petitioner’s analysis of claim 1, as discussed above, and (b) Petitioner’s analysis of claim 19, which accounts for the base unit controller configured to send received commands to the environmental device. *See* Pet. 33–34, 46–48.

For the additional limitations recited in claims 20 and 22 (i.e., transmitting a message indicating that a received command has been executed), Petitioner is likely to show, notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*²¹ and *infra*, that they are taught by Menard. Pet. 46–48. Menard teaches that an RP receives and responds to an alarm “for the purpose of managing the alarm processing,” and that the alarm processing “may include further notification . . . data processing or other actions based upon executing the instructions for the particular RP . . . or the alarm condition.” Ex. 1020 ¶ 68. Menard further discloses “after instructions from an RP are completed, another round of notification may occur. In addition, selected RPs may be notified of the outcome of the process. . . . In this manner, RPs are informed as to the outcome of the event.” *Id.* ¶ 179.

Patent Owner argues Petitioner’s analysis of this limitation is deficient because although “Menard discloses notifying responsible parties RPs of the outcome of processing that the RPs requested, the requested processing relates to a third party—not the environmental device as claimed.” Prelim. Resp. 51. For example, Patent Owner argues that when an RP responds to an alarm, “the system executes the processing such as by dispatching a response agency” and notifying the RP that “the police were dispatched at

²¹ *See supra* notes 7–9.

10:05 AM.” *Id.* However, Patent Owner argues, the police or notified response agency are “not an environmental device.” *Id.*

At this stage of the proceeding, we do not find Patent Owner’s argument persuasive. As we understand it, Petitioner’s contention is that Menard’s alarm system is an environmental device that (a) notifies an RP of an alarm, (b) receives a command to process the alarm (e.g., to cancel it or notify the police), (c) executes the received command, and (d) notifies the RP that the command has been executed (e.g., the police have been notified).

H. Ground 2A

Petitioner argues claims 1–4, 7–9, 11–15, 17–19, and 21 are unpatentable as obvious over Bielski and Wu. Pet. 3, 49–77. Patent Owner disputes this. Prelim. Resp. 15–29, 33–35, 52–60. For the reasons discussed below, at this stage of the proceeding, Petitioner has established a reasonable likelihood of showing at least claim 1 is unpatentable as obvious over Bielski and Wu.

1. Bielski

Bielski discloses “a communication system and a method for . . . the monitoring, control and/or regulation of one or more devices.” Ex. 1017 ¶ 1. Bielski allows “the user of a mobile phone[] to monitor devices . . . over long distances, and/or to actively control or regulate them by means of the mobile phone.” *Id.* ¶ 8. Bielski identifies each of “a stove, a refrigerator, a fuse box, a light, a roller blind, a garage door, [and] an alarm system of a video surveillance system,” as a device that can be remotely monitored and controlled. *Id.* Bielski’s system is illustrated in Figure 1, which is reproduced below.

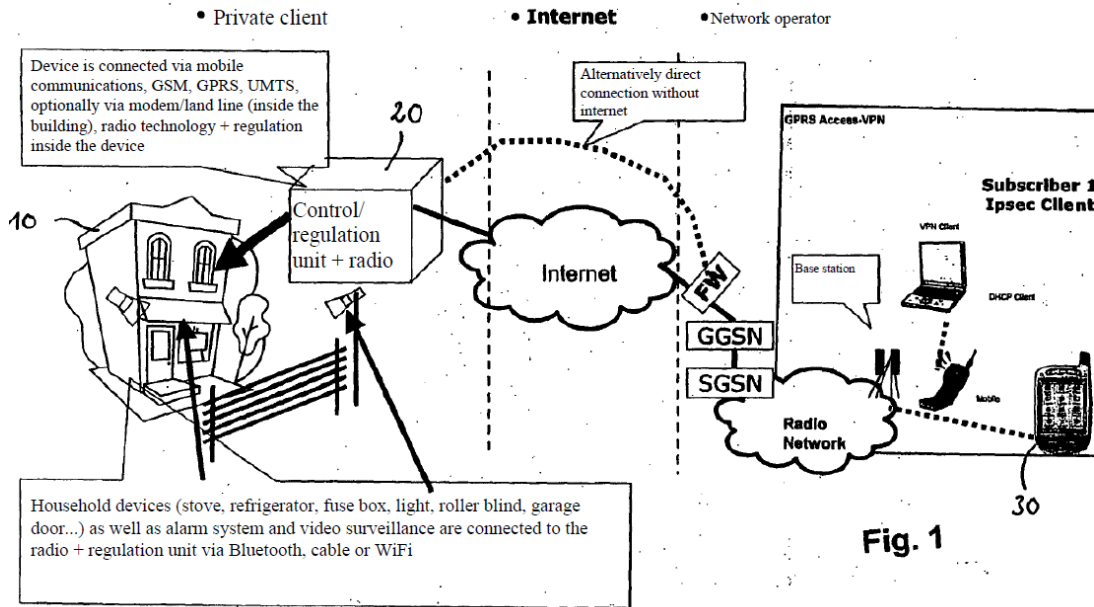


Figure 1 of Bielski is a schematic illustration of a system for “the monitoring, control, or regulation of household devices by means of a mobile terminal.” *Id.* ¶ 53. The system includes monitored/controlled devices 10, check and communication unit 20, and mobile device 30. *Id.* ¶ 54, Fig. 1.

Check and communication unit 20 represents separate units that are “wired together for purposes of data exchange.” *Id.* ¶ 54. The check unit can be “a monitoring unit which receives data from the device(s),” and also “a control unit which transfers data for the purpose of control to the one or more devices.” *Id.* ¶ 14; *see also id.* ¶¶ 5, 40. The check unit communicates with the controlled devices over a wired or wireless connection. *Id.* ¶¶ 5, 13, 40. The communication unit includes a “sending and/or receiving unit by means of which data can be sent and/or received by mobile communications . . . according to the GSM, GPRS, or UMTS standard.” *Id.* ¶ 57; *see also id.* ¶¶ 5, 21, 22, 26, 40.

Mobile terminal 30 can also operate according to the GSM, GPRS, or UMTS standards. *Id.* ¶ 30. Users of “mobile terminal 30 can be informed

about the operation conditions of the devices . . . or can themselves influence the devices by controlling or regulating them.” *Id.* ¶ 63. For example, users can enter “commands, such as on/off conditions or temperatures . . . into the mobile terminal and send this information. . . . to the control and communication unit 20 via the telecommunications network.” *Id.* From control and communication unit 20, an issued command “is transmitted to the devices inside the building 10 or serves as a nominal value which is required for regulation of the devices.” *Id.* Mobile terminal 30 can execute “an application with a corresponding user interface with which the user can . . . activate special features using buttons and various control panels . . . for the control/regulation unit” of a controlled device. *Id.* ¶ 81. The application, for example, allows the user “to specify a room temperature with a slider inserted onto the user interface, wherein the exact temperature values would be shown on a separate display, and the user . . . moves the slider to a desired value.” *Id.* A corresponding application on check and communication unit 20 “effect[s] control and regulation processes in the direction of the controlling/regulation devices.” *Id.* ¶ 82.

Bielski’s system includes “means [i] by means of which data can be transferred from the network operator to the mobile terminal on the basis of the data transferred from the communication unit . . . and/or [ii] by means of which data can be transferred from the mobile terminal to the network operator on the basis of which data are transferred to the communication unit.” *Id.* ¶ 5. Bielski further discloses the means by means of which the mobile terminal can be informed about the status of monitored/controlled devices 10 can “be in the form of an SMS or by means of a voice mail.” *Id.* ¶ 69.

2. Wu

Wu discloses “a Home Network System (HNS) architecture integrated with . . . Short Message Service to support the connectivity between the home and Internet/Global System for Mobile Communication (GSM) networks.” Ex. 1018, 493. “The main objective of the integrated system is to remotely monitor and control the devices in the HNS via laptop computer or a GSM mobile terminal.” *Id.* Wu’s HNS is depicted in Figure 1, which is reproduced below.

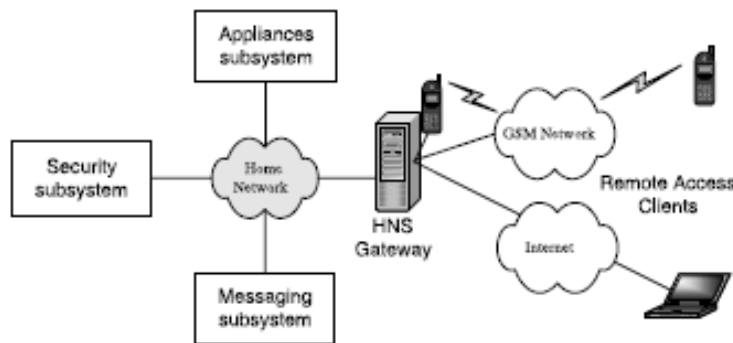


Fig. 1. Home network system architecture.

Figure 1 of Wu is a schematic illustration of a Home Network System. *Id.* at 494–495. The system includes an HNS gateway that “connects to home devices and runs a home automation management application that supervises home devices.” *Id.* at 494. Home network devices, such as refrigerators, air-conditioners, televisions, surveillance systems, burglar alarm systems, fax and answering machines, are organized into appliance, security, and messaging subsystems. *Id.* at 494–495 (Table 1).

Wu’s HNS allows remote users “to monitor home appliances and control them” from either a mobile terminal executing WAP (wireless access) or SMS protocols, or a computer executing HTTP (hypertext

transfer) protocol. *Id.* at 495. This is shown in Figure 2 of Wu, which is reproduced below.

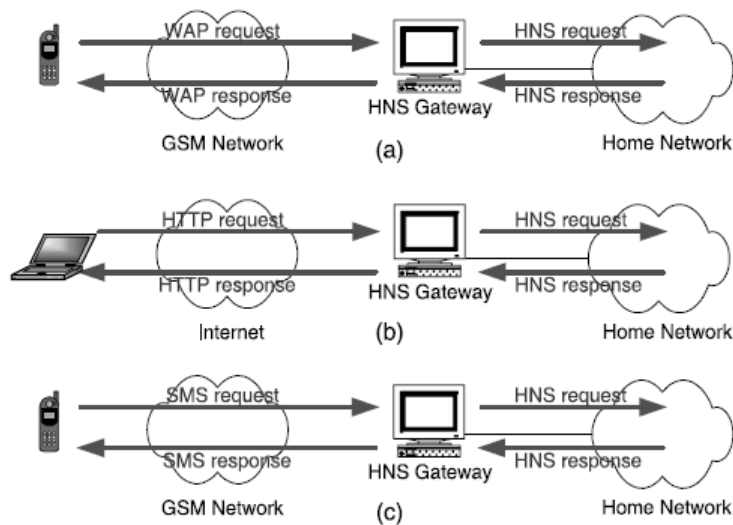


Fig. 2. Communication with the HNS in (a) WAP and (b) HTTP (c) SMS.

Figure 2 of Wu is a schematic illustration of three methods for communicating with home devices from a remote location, including via (a) WAP, (b) HTTP, and (c) SMS. *Id.*

3. Reasons to Combine

Petitioner argues Bielski teaches a system “that allows users to monitor and control devices . . . through a cellular remote unit” by receiving status information and responding with appropriate commands. Pet. 49–50. Petitioner further argues that although “Bielski discloses the use of SMS messages for communication between the base unit [control unit 20] and remote unit [mobile 30],” Bielski “does not further describe the details of the communications protocols.” *Id.* at 50. Therefore, Petitioner argues, a person skilled in the art would have been motivated “to identify additional [protocol] details,” including those described in Wu, which teaches “a home network system that allows users to monitor and control appliance systems

through communications protocols such as SMS, HTTP, and WAP.” *Id.* Petitioner argues a person skilled in the art would have implemented Wu’s bi-directional use of SMS messaging because Wu teaches SMS is “simple to implement . . . and is already widely implemented,” and Bielski “already discloses that SMS messages can be used to provide the status of devices to the user.” *Id.* at 51–52.

Patent Owner argues Petitioner’s rationale for combining the teachings of Bielski and Wu is improper because “Petitioner contends that ‘Bielski discloses the use of SMS messages for communication between the base unit and remote unit,’” and so “there would be no reason for the POSITA to look to Wu . . . for an SMS implementation.” Prelim. Resp. 34. Patent Owner further argues that a person skilled in the art would not have looked to Wu’s SMS implementation details because although “the challenged claims recite ‘short message service (SMS),’ their elements are not dependent on the ‘details’ of the SMS protocol.” *Id.*

At this stage of the proceeding, Petitioner has set forth sufficient reasoning with rational underpinning to combine the teachings of Bielski and Wu. Although Bielski teaches sending messages between a base unit and a remote unit to monitor/control a device, Bielski only expressly teaches sending SMS messages from the base unit to the remote unit. *See* Ex. 1017 ¶ 69 (disclosing the means that inform the “mobile terminal 30 . . . about the actual status of the corresponding devices” can be “in the form of an SMS” message). Wu, by contrast, expressly teaches monitoring/controlling a device by sending SMS messages in both directions—from the base unit to the remote unit and from the remote unit to the base unit. Ex. 1018, 495–497, Figs. 1, 2, 6 (showing the bi-directional transfer of SMS messages between the mobile terminal and the HNS gateway). Although we agree

with Patent Owner that the challenged claims do not depend on the details of the SMS protocol, we are not persuaded that Petitioner's reasoning for combining Bielski and Wu is improper on that basis. *See KSR* 550 U.S. at 418 (an obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim"); *id.* at 419 ("In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls."); *id.* at 420 ("[A]ny need or problem known in the field of endeavor at the time of the invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.").

4. *Claim 1*

Claim 1 recites a wireless system comprising an environmental device. Ex. 1001, 13:37–38. Notwithstanding Patent Owner's arguments to the contrary, discussed *supra*,²² Petitioner is likely to show Bielski teaches a wireless system for monitoring and/or controlling an environmental device such as an alarm system. Pet. 52–53; *see also* Ex. 1017 ¶¶ 1, 22, 54 (teaching monitoring/controlling an alarm system by sending/receiving data over a mobile network). Petitioner is also likely to show Wu teaches a wireless system for monitoring/controlling environmental devices, such as air-conditioners. Pet. 52–53; *see also* Ex. 1018, 493, 495²³ (teaching monitoring/controlling an air-conditioner in a home network using a GSM mobile terminal).

Claim 1 requires the wireless system to include a base unit interfaced with and configured to control the environmental device. Ex. 1001, 13:29–

²² *See supra* notes 7, 8.

²³ Petitioner cites to Table 1 on page 494. We note Table 1 is provided on page 495 of Wu, and correct the citation here.

41. Notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*,²⁴ Petitioner is likely to show Bielski’s check and communication unit 20 (base unit) is interfaced with and configured to control home networked devices. Pet. 53; *see also* Ex. 1017 ¶¶ 5, 14, 20 (teaching check and communication unit 20 is a single device, structurally, and the check unit is wired to and configured to send data to/from the networked device to control it). Petitioner is also likely to show Wu’s HNS gateway (base unit) “connects to home devices and . . . supervises home devices” in order to control them. Pet. 54 (quoting Ex. 1018, 494); *see also* Ex. 1018, 494–496.

Claim 1 further requires the wireless system to include a remote unit having wireless connectivity and configured to send and receive SMS messages. Ex. 1001, 13:42–44. Notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*,²⁵ Petitioner is likely to show Bielski’s mobile terminal 30 (remote unit) is configured to wirelessly send/receive SMS messages. Pet. 54; *see also* Ex. 1017 ¶¶ 5 (teaching mobile terminal 30 includes “means by means of which data can be transferred from the network operator to the mobile terminal . . . [and] from the mobile terminal to the network operator,” and that those means include SMS messaging), 69. Petitioner is also likely to show Wu’s mobile terminal (remote unit) is configured to wirelessly send/receive SMS messages. Pet 54–55; *see also* Ex. 1018, 493, 495 (teaching “[t]he main objective of the integrated system is to remotely monitor and control the devices in the HNS via . . . [a] GSM mobile terminal” that communicates with the HNS gateway via SMS messages).

²⁴ *See supra* notes 7, 8.

²⁵ *See supra* notes 7, 8.

Claim 1 further requires the wireless system to include a wireless module interfaced with the base unit and configured to provide wireless connectivity between the base and remote units. Ex. 1001, 13:45–47. Notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*,²⁶ Petitioner is likely to show Bielski’s check and communication unit 20 (base unit) is interfaced to a send/receive unit (wireless module) that is configured to provide wireless connectivity between check and communication unit 20 and a mobile terminal (remote unit). Pet. 55; *see also* Ex. 1017 ¶¶ 5, 21–23 (teaching check and communication unit 20 includes a sending/receiving unit that sends/receives data over a mobile communications network). Petitioner is also likely to show Wu’s HNS gateway (base unit) is interfaced to a wireless module that provides wireless connectivity between the HNS gateway and mobile terminal (remote unit). Pet 56; *see also* Ex. 1018, 497 (teaching “[t]he HNS gateway provides the interlinking of the controlled home network and the Internet/GSM network.”). Petitioner demonstrates the interface between Wu’s “wireless module” and gateway (base unit) in an annotated version of Figure 6 of Wu, which is reproduced below.

²⁶ *See supra* notes 7, 8.

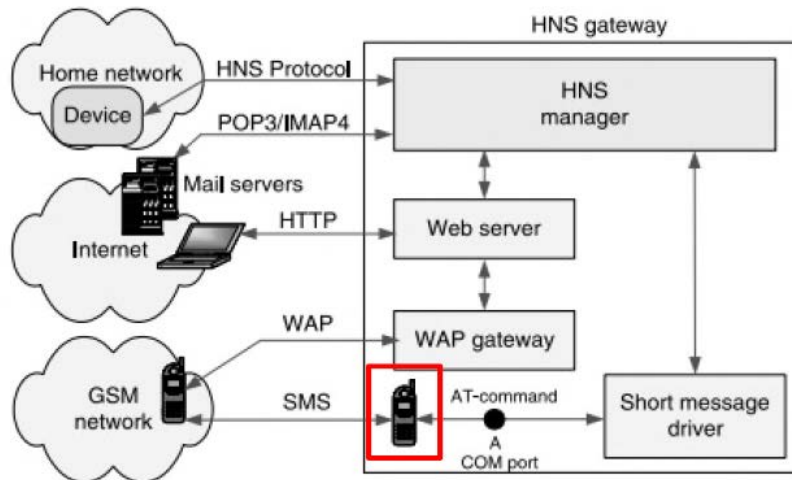


Fig. 6. Architecture of the HNS gateway.

Petitioner's annotated version of Figure 6 of Wu highlights in red a wireless module interfaced to Wu's HNS gateway (base unit) that provides wireless connectivity (e.g., SMS messaging) between the gateway (base unit) and a cell phone (remote unit) on a GSM network.

Claim 1 further requires the base unit be configured to send a first SMS message that includes environmental information to the remote unit through the wireless module. Ex. 1001, 13:48–50. Notwithstanding Patent Owner's arguments to the contrary, discussed *supra*,²⁷ Petitioner is likely to show Bielski's check and communication unit (base unit) is configured to send a first SMS message containing (environmental) status information to the mobile terminal (remote unit) via its sending/receiving unit (wireless module). See Pet. 56–57; see also Ex. 1017 ¶¶ 5, 23, 69 (teaching check and communication unit 20 sends an SMS message to mobile terminal 30 regarding the status of a monitored/controlled device through its sending/receiving unit). Petitioner is also likely to show Wu's HNS gateway

²⁷ See *supra* notes 7, 8.

(base unit) is configured to send a first SMS message containing an alert (environmental information) to the mobile terminal (remote unit) via the gateway's wireless module. Pet 57; *see also* Ex. 1018, 495–496, Figs. 3, 6 (teaching the HNS gateway sends an alert as an SMS message to a mobile station via its GSM interface).

Claim 1 further requires the remote unit be configured to send a second SMS message to the base unit that includes a command for the environmental device. Ex. 1001, 13:51–54. Notwithstanding Patent Owner's arguments to the contrary, discussed *supra*²⁸ and *infra*, Petitioner is likely to show Bielski's mobile terminal 30 (remote unit) is configured to send a second SMS message to check and communication unit 20 (base unit) that includes a command for the controlled device. *See* Pet. 57–58; *see also* Ex. 1017 ¶¶ 63, 64, 69, 70 (teaching mobile terminal 30 sends commands (e.g., on/off or temperatures) to check and communication unit 20 in order to control attached devices via means that include SMS messaging). Petitioner is also likely to show Wu's mobile station (remote unit) is configured to send a second SMS message to the HNS gateway (base unit) that includes a command to control a connected device. Pet 58; *see also* Ex. 1018, 495 (teaching a mobile station can send SMS messages to the HNS gateway to control attached devices, such as commands to turn the devices on/off or to set a temperature).

Patent Owner argues Petitioner's analysis of this limitation is deficient because “[a]t best, Bielski and Wu merely send a message from the alleged base unit to the alleged remote unit.” Prelim. Resp. 53. Patent Owner further argues that Bielski's mobile terminal (remote unit) fails to send an

²⁸ *See supra* notes 7, 8.

SMS message to check and communication unit 20 (base unit) because it “calls the phone number for the check and communication unit 20 and presumably uses dial tones to command the unit 20.” *Id.* at 54 (citing Ex. 1017 ¶ 64). Patent Owner further argues that Bielski “at best discloses one-way communications of status information in the direction from the unit 20 to the mobile terminal 30,” and lacks “two-way communication because it does not send any message, SMS or otherwise, containing a command from the mobile terminal 30 to the unit 20.” *Id.* at 55.

At this stage of the proceeding, we are not persuaded by Patent Owner’s arguments. First, Petitioner is likely to demonstrate that Bielski’s controlled device is in two-way communication with mobile terminal 30 via check and communication unit 20. *See* Pet. 53–54; *see also* Ex. 1017 ¶ 5 (teaching (1) a check unit wired to the controlled device for transferring data to/from the device, (2) a communication unit for transferring data to/from the check unit and to/from a telecommunications network, and (3) means for transferring data (i) from the network to a mobile terminal and (ii) from the mobile terminal to the network), ¶ 8 (teaching a mobile phone user can monitor and control a household device), ¶¶ 14, 56 (teaching the check unit receives data from the device to monitor it, and sends data to the device to control it), ¶ 36 (teaching the mobile terminal transfers control signals to the terminal to be controlled).

Second, Petitioner’s cited evidence is likely to demonstrate that Bielski’s mobile terminal 30 sends control data to the controlled device as SMS messages. *Id.* In particular, Bielski teaches its system includes:

means [i] by means of which data can be transferred from the network operator to the mobile terminal on the basis of the data transferred from the communication unit to the network operator and/or [ii] by means of which data can be transferred

from the mobile terminal to the network operator on the basis of which data are transferred to the communication unit.

Ex. 1017 ¶ 5. That is, Bielski teaches its system includes a single “means” that performs two functions: (i) it transfers data from the network to the mobile terminal, which data was transferred to the network from the communication unit attached to the controlled device, and (ii) it transfers data from the mobile terminal to the network, which data can be transferred to the communication unit attached to the controlled device. *Id.* Bielski further teaches this single “means” can be SMS messaging by identifying SMS as the means for performing the first function, i.e., the function by which “the user of the mobile terminal 30 is automatically informed about the actual status of the corresponding devices.” *Id.* ¶ 69.

Patent Owner also argues that Wu fails to teach this limitation because Wu sends an SMS request to “the HNS gateway (the alleged base unit), not a command for the home device (the alleged environmental device).” Prelim. Resp. 56–57. Patent Owner further argues that “Wu does not teach that the gateway further passes on the request, or any command included in the request, to the home device (the alleged environmental device) to control operation of the home device.” *Id.* at 57.

At this stage of the proceeding, we are not persuaded by Patent Owner’s arguments. First, the claim limitation does not require the remote unit to send an SMS message to the environmental device; it requires the remote unit “*to send a second SMS message, including a command for the environmental device, to the base unit through the wireless module.*” Ex. 1001, 13:51–54 (emphases added). Second, Petitioner is likely to demonstrate that Wu’s mobile station (remote unit) sends an SMS message to the HNS gateway (base unit) that includes control information the HNS

gateway passes to the controlled device. *See* Pet. 58–60; *see also* Ex. 1018, 495 (teaching “[t]he main objective of the integrated system is to remotely monitor and control the devices in the HNS via . . . GSM mobile terminal,” and that “a mobile station with SMS capability can communicate with the HNS via SMS protocol . . . [to] monitor and control the home devices”).

Claim 1 further requires the base unit to be configured to receive the second SMS message and to send the command to the environmental device to control the operation of the environmental device. Ex. 1001, 13:55–58. Notwithstanding Patent Owner’s arguments to the contrary, discussed *supra*,²⁹ Petitioner is likely to show Bielski’s check and communications unit 20 (base unit) is configured to receive the second SMS message and send the command to the controlled (environmental) device to control the operation of the device. *See* Pet. 58–59; *see also* Ex. 1017 ¶¶ 56 (teaching mobile terminal 30 sends temperature commands to check and communications unit 20, which transmits the data to the controlled device, thereby serving as “a control and regulation unit as it transfers data to the . . . device[]”), 63. Petitioner is also likely to show Wu’s HNS gateway (base unit) is configured to receive the second SMS message and send the command to the controlled (environmental) device to control operation of the device. Pet 59–60; *see also* Ex. 1018, 495 (teaching “a mobile station with SMS capability can communicate with the HNS via SMS protocol . . . [to] monitor and control the home devices”).

For the reasons discussed above, at this stage of the proceeding, Petitioner has demonstrated a reasonable likelihood of showing all the limitations of claim 1 are taught by the combination of Bielski and Wu, and

²⁹ *See supra* notes 7, 8.

that a person skilled in the art would have had a rational reason to combine the teachings of Bielski and Wu. Accordingly, Petitioner has demonstrated a reasonable likelihood of showing claim 1 is unpatentable over the combination of Bielski and Wu.

5. *Claims 2–4, 7–9, 11, 13–15, 17–19, and 21*

As noted in § I.E, *supra*, independent claims 1, 11, and 18–21, although directed to different systems and system components, are substantially similar in scope. Consequently, Petitioner’s analysis of independent claims 11, 18, 19, and 21 largely relies on and refers back to Petitioner’s analysis of independent claim 1 discussed above. *See* Pet. 52–60, 67–77. Additionally, Petitioner identifies the relatively small differences in subject matter between each of these claims and claim 1, and reasonably demonstrates how Bielski and Wu teach these differences. *Id.* Petitioner also reasonably demonstrates how Bielski and Wu teach the limitations recited in dependent claims 2–4, 7–9, 11, 13–15, and 17. *See* Pet. 60–67, 73. Patent Owner contends Petitioner’s analysis of these claims is deficient for the same reasons as Petitioner’s analysis of claim 1. *See* Prelim. Resp. 60. For the reasons discussed above, at this stage of the proceeding, we are not persuaded by Patent Owner’s argument and find Petitioner is reasonably likely to show that claims 2–4, 7–9, 11, 13–15, 17–19, and 21 are unpatentable over Bielski and Wu.

6. *Claim 12*

As discussed in § II.C.6, *supra*, claim 12 requires the wireless connectivity between the remote unit and the base unit to comprise “a first wireless connection interfacing with the base unit, a second wireless connection interfacing with the remote unit, and a non-wireless connection interfacing *between the first wireless connection and the second wireless*

connection.” Ex. 1001, 14:19–44 (emphasis added). Petitioner argues the combination of Bielski and Wu teaches or suggests this limitation because “Bielski discloses a variety of cellular network connection networks, such as ‘SGSN/GGSN system which connects the GPRS system’ and GSM,” and “Bielski and Wu further disclose connections between the base unit and environmental unit.” Pet. 72 (quoting Ex. 1017 ¶ 60).

At this stage of the proceeding, Petitioner is not likely to be able to demonstrate that the combination of Bielski and Wu teaches the “non-wireless connection interfacing *between the first wireless connection and the second wireless connection*” because Petitioner fails to sufficiently explain how Bielski and Wu’s “connections *between the base unit and environmental unit*” (Pet. 72 (emphasis added)) constitute a connection “interfacing *between the first wireless connection and the second wireless connection*,” as required by claim 12 (emphasis added).

I. Grounds 2B–2D

1. Claims 5, 6, 10, 16, 20, and 22

Petitioner argues claims 5, 6, and 16 are unpatentable as obvious over Bielski, Wu, and Sears; claim 10 is unpatentable as obvious over Bielski, Wu, and Ehlers; and claims 20 and 22 are unpatentable as obvious over Bielski, Wu, and Menard. Pet. 3–4, 77–85. Patent Owner disputes this. Prelim. Resp. 15–29, 35–37, 61–62.

In arguing the unpatentability of claims 5, 6, 10, 16, 20, and 22, Petitioner largely relies on (a) Bielski and Wu, as discussed above, to meet the limitations of the claims from which these claims depend, (b) Sears for the additional limitations recited in claims 5, 6, and 16, (c) Ehlers for the additional limitation recited in claim 10, and (d) Menard for the additional limitations recited in claims 20 and 22. *Id.* Moreover, Petitioner’s reasoning

for combining the teachings of Bielski and Wu with the teachings of Sears, Ehlers, and Menard, respectively, largely follows Petitioner’s reasoning for combining the teachings of Oinonen and Whitley with the teachings of Sears, Ehlers, and Menard, respectively, as discussed in §§ II.D.2, II.F.2, and II.G.2, *supra*. *Id.*

Patent Owner contends Petitioner’s analysis of claims 5, 6, 10, 16, 20, and 22 under Grounds 2B–2D is deficient for the same reasons as Petitioner’s analysis of claim 1 under Ground 2A and Petitioner’s analysis of claims 5, 6, 10, 16, 20, and 22 under Grounds 1B, 1C, and 1E. *See* Prelim. Resp. 61–62. Patent Owner also contends that Petitioner’s reasoning for combining the teachings of Bielski and Wu with the teachings of Sears, Ehlers, and Menard, respectively, is deficient for the same reasons as Petitioner’s reasoning for combining the teachings of Oinonen and Whitley with these references. *Id.* at 35–37.

For the reasons discussed in §§ II.D, II.E, II.G, and II.H, *supra*, we are not persuaded by Patent Owner’s arguments at this stage of the proceeding, and find Petitioner is reasonably likely to show that claims 5, 6, and 16 are unpatentable over Bielski, Wu, and Sears, claim 10 is unpatentable over Bielski, Wu, and Ehlers, and claims 20 and 22 are unpatentable over Bielski, Wu, and Menard.

J. Discretionary Denial Under 35 U.S.C. § 325(d)

Patent Owner argues that we should exercise our discretion under 35 U.S.C. § 325(d) to deny the Petition because “the same or substantially the same prior art or arguments previously were presented to the office.” Prelim. Resp. 8–14 (citing 35 U.S.C. § 325(d)). Patent Owner asserts each

of the *Becton Dickinson*³⁰ factors “supports denying the Petition because the Office has already considered and rejected on the record prior art and arguments similar to those for Bielski and Wu.” *Id.* at 8. Specifically, Patent Owner argues “[l]ike the prior art overcome during prosecution, Bielski and Wu lack two-way, direct messaging between a remote unit and a base unit to monitor and control environmental devices within an environment.” *Id.*

We are not persuaded by Patent Owner’s arguments for several reasons. First, Petitioner cites prior art and combinations of prior art (e.g., Bielski/Wu and Oinonen/Whitley) that were not cited during prosecution. Second, at this stage of the proceeding and for the reasons discussed in § II.H.4, *supra*, we are not persuaded that Bielski or Wu lacks two-way messaging between a remote unit and a base unit. To the contrary, Wu teaches that “a mobile station with SMS capability can communicate with the HNS via SMS protocol . . . [to] monitor and control the home devices.” Ex. 1018, 495. Bielski teaches transferring “data concerning the monitoring, control, and/or regulation of the device(s), from the device(s) to a check unit and/or from the check unit to the device(s).” Ex. 1017 ¶ 40. The data is further transferred (1) “from the check unit to a communication unit or from the communication unit to [the] check unit,” (2) “from the communication unit to the network operator . . . or from the network operator to the communication unit,” and (3) “from the network operator to the mobile terminal . . . [or] from the mobile terminal to the network operator.” *Id.* Thus, not only were Bielski and Wu not considered during prosecution, the

³⁰ *Becton Dickinson & Co. v. B Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential).

disclosures in Bielski and Wu are not cumulative to the disclosures in the art considered during prosecution to the extent that art failed to disclose two-way communications between the base and remote units. Third, even if Bielski and Wu are cumulative of prior art considered during prosecution, Petitioner also raises challenges based on the combination of Oinonen and Whitley, and Patent Owner does not allege that Oinonen and Whitley were previously considered during prosecution or are cumulative of prior art that had been previously considered during prosecution.

Accordingly, for all of the reasons discussed above, we find the *Becton Dickinson* factors do not favor denying institution, and decline to exercise our discretion to deny institution under 35 U.S.C. § 325(d).

III. CONCLUSION

We have reviewed the Petition and Preliminary Response, and have considered all of the evidence and arguments presented by Petitioner and Patent Owner. We find, on this record, Petitioner has demonstrated a reasonable likelihood of showing at least one claim of the '935 patent is unpatentable. Accordingly, we institute *inter partes* review of all claims on all grounds raised in the Petition.

The Board has not yet made a final determination with respect to any claim construction issue or the patentability of any challenged claim.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314, an *inter partes* review is hereby instituted on all challenged claims on all grounds; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this Decision.

IPR2019-01335
Patent 8,064,935 B2

FOR PETITIONER:

Benjamin Pleune
Christopher T.L. Douglas
Adam J. Doane
ALSTON & BIRD LLP
ben.pleune@alston.com
christopher.douglas@alston.com
adam.doane@alston.com

FOR PATENT OWNER:

James D. Stein
Andrew Strickland
LEE & HAYES P.C.
james.stein@leehayes.com
andrew.strickland@leehayes.com