

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RING LLC,
Petitioner,

v.

SKYBELL TECHNOLOGIES, INC.,
Patent Owner.

IPR2019-00446
Patent 9,179,109 B1

Before JEFFREY S. SMITH, DANIEL J. GALLIGAN, and
KAMRAN JIVANI, *Administrative Patent Judges*.

JIVANI, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION AND BACKGROUND

Petitioner Ring LLC requested an *inter partes* review of claims 1, 7, 15, 20, and 21 of U.S. Patent No. 9,179,109 B1 (“the ’109 patent,” Ex. 1001). Paper 2 (“Petition” or “Pet.”). Patent Owner SkyBell Technologies, Inc. did not file a Preliminary Response. After considering the Petitioner’s arguments and the evidence of record, we instituted review of all challenged claims on all grounds set forth in the Petition. Paper 11 (“Dec. on Inst.”).

During the trial, Patent Owner filed a Response (Paper 21, “PO Resp.”), Petitioner filed a Reply (Paper 23, “Reply”), and Patent Owner filed a Sur-Reply (Paper 25, “Sur-Reply”).

An oral hearing was held on April 16, 2020, a transcript of which appears in the record. Paper 30.

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a), addresses issues and arguments raised during the trial in this *inter partes* review. For the reasons discussed below, we determine that Petitioner has proven by a preponderance of the evidence that the challenged claims of the ’109 patent are unpatentable. *See* 35 U.S.C. § 316(e) (2018) (“In an *inter partes* review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.”).

A. *Related Matters*

The parties note the following related matter: *SkyBell Techs., Inc. v. Ring Inc.*, 8:18-cv-00014 (C.D. Cal. 2018). Pet. 2–3; Paper 4, 2.

B. Real Parties-in-Interest

Petitioner identifies the following real parties-in-interest: Ring LLC, Ring of Security Limited, Ring of Security B.V., Ring of Security Pty. Ltd., Ring of Security Asia Co., Ltd., Ring Protect Inc., Wireless Environment, LLC, Wireless Environment Asia, LLC, Wireless Environment Lighting Co., Ltd., Wireless Environment UK Ltd., Wireless Lighting Technologies, LLC, Amazon.com Services, Inc., and Amazon.com, Inc. Pet. 2.

Patent Owner identifies itself as the real party-in-interest. Paper 4, 1.

C. The '109 Patent and Challenged Claims

The '109 patent describes a doorbell system, remote computing device and a camera. Ex. 1001, code (57). Challenged claims 1, 7, 15, and 20 are independent. Claim 1 is illustrative of the claimed subject matter and reproduced below.

1. A method of using a doorbell system, wherein the doorbell system comprises a remote computing device and a doorbell having a camera, the method comprising:
 - coupling communicatively the doorbell and the remote computing device;
 - detecting, by the doorbell system, an indication of a presence of a visitor;
 - entering, by the doorbell, a camera sleep mode wherein the camera is configured to not record;
 - opening a doorbell control application on the remote computing device;
 - overriding, by the remote computing device via a wireless communication, a power setting of the doorbell to force the doorbell to exit the camera sleep mode and enter a camera recording mode, wherein the camera recording mode consumes more power than the camera sleep mode; and
 - receiving a first video, by the remote computing device, from the doorbell at least partially in response to remotely overriding the power setting of the doorbell.

D. Prior Art and Asserted Grounds

Petitioner asserts the following grounds of unpatentability (Pet. 9):

Claim(s) Challenged	35 U.S.C. §¹	Reference(s)/Basis
1	103	Siminoff, ² Almomani ³
7	103	Siminoff, Imao ⁴
20, 21	103	Siminoff, Imao, Huisking ⁵
15	103	Siminoff '618, ⁶ Huisking

E. Testimony

Petitioner supports its challenges with a declaration of Vijay Madiseti, Ph.D. Ex. 1003. Dr. Madiseti testified by deposition on October 24, 2019, and a transcript of his testimony has been entered into evidence. Ex. 2003. Petitioner further supports its challenges with a supplemental declaration of Dr. Madiseti. Ex. 1021.

Patent Owner proffers the declaration of Jacob Baker, Ph.D. in support of its arguments. Ex. 2001. Dr. Baker testified by deposition on December 19, 2019, and a transcript of his testimony has been entered into evidence. Ex. 1020.

¹ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102 and 103 that became effective before the filing of the application for the ’109 patent. Therefore, we apply the post-AIA versions of these sections.

² US Patent Publication No. 2015/0022620 A1, pub. Jan. 22, 2015 (Ex. 1005, “Siminoff”).

³ US Patent Publication No. 2014/0267740 A1, pub. Sept. 18, 2014 (Ex. 1006, “Almomani”).

⁴ US Patent No. 7,809,966 B2, issued Oct 15, 2010 (Ex. 1007, “Imao”).

⁵ US Patent Publication No. 2013/0057695 A1, pub. Mar. 7, 2013 (Ex. 1008, “Huisking”).

⁶ US Patent Publication No. 2015/0022618 A1, pub. Jan. 22, 2015 (Ex. 1009, “Siminoff ’618”).

II. CLAIM CONSTRUCTION

The Petition was accorded a filing date of December 17, 2018. Paper 5, 1. In an *inter partes* review for a petition filed on or after November 13, 2018, a claim “shall be construed 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).” *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (2019)). In applying this standard, we are guided by the principle that the words of a claim “are generally given their ordinary and customary meaning,” as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc) (citation omitted).

Neither party seeks our construction of any claim terms and, therefore, we do not construe expressly any claim terms. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’”). Instead, we give the claims their ordinary and customary meaning, as understood by a person of ordinary skill in the art in question at the time of the invention.⁷ *Phillips v. AWH Corp.*, 415 F.3d at 1312–13.

⁷ We discuss the parties’ contentions regarding claim 20’s “opening a doorbell control application” and claim 15’s “automatically” in the context of our analysis of those claims. *See infra* Sections III.E.3., III.F.3.

III. ANALYSIS OF ASSERTED GROUNDS

A. Principles of Law

Petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail in its challenges, Petitioner must show by a preponderance of the evidence that the challenged claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective evidence of non-obviousness such as commercial success, long-felt but unsolved needs, failure of others, and unexpected results. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966) (“the Graham factors”). The obviousness inquiry further requires an analysis of “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (requiring “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”)).

B. Level of Ordinary Skill in the Art

The level of skill in the art is a factual determination that provides a primary guarantee of objectivity in an obviousness analysis. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 1324 (Fed. Cir. 1999) (citing *Graham*, 383 U.S. at 17–18; *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991)).

Petitioner and its declarant Dr. Madisetti assert that, at the time of the '109 patent, one of ordinary skill in the would have “a bachelor’s degree in Electrical Engineering, Computer Engineering, or Computer Science, or equivalent training, as well as at least one year of technical experience in the relevant field.” Pet. 9 (citing Ex. 1003 ¶ 28).

Patent Owner and its declarant Dr. Baker “adopt[] Petitioner’s definition of level of ordinary skill.” PO Resp. 8 (citing Ex. 2001 ¶ 35).

We regard Petitioner’s formulation of the level of skill as consistent with the prior art before us. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (prior art itself may reflect an appropriate level of skill). Based on the full trial record and in view of the parties’ agreement, we adopt Petitioner’s formulation of the level of ordinary skill in the art, with the exception of the language “at least,” which introduces ambiguity, consistent with the Decision on Institution. *See* Dec. on Inst. 6–7; Pet. 12–13; PO Resp. 8; Ex. 1003 ¶ 28; Ex. 2001 ¶ 35.

C. Asserted Obviousness of Claim 1 over Siminoff and Almomani

1. Siminoff

Siminoff is directed to a doorbell system and includes a Smart Device and a Wireless Communication Doorbell with a camera and a doorbell button. Ex. 1005 ¶¶ 74, 78–79, 88–91. The Smart Device is coupled to the

doorbell by a wireless system network and a wireless user's network. *Id.* ¶¶ 74–79, 88–89. Further, the Smart Device includes an application that “provide[s] an interface for User 62 to communicate and interact with Wireless Communication Doorbell 61” across these networks. *Id.* ¶ 80. Siminoff teaches that “all hardware components within Wireless Communication Doorbell 61 may live in a state of hibernation,” referred to as “a low power consumption mode.” *Id.* ¶¶ 87, 90. Claim 1 of Siminoff recites “switching the processor from low-power mode to active mode in response to an activation trigger” “wherein the activation trigger comprises. . . a signal from the user at the remote communication device.” *Id.* at Claim 1.

2. *Almomani*

Almomani “relates to an electronic lock with an integral camera that allows remote monitoring.” Ex. 1006 ¶ 5. This electronic lock is “configured with wireless communication capabilities” and “allows the user to remotely see who is at the door,” for example, by “stream[ing] video taken by the camera to remote electronic devices.” *Id.* ¶¶ 5, 20. In particular, Almomani teaches that “the camera could be selectively activated remotely by a user.” *Id.* ¶ 21. Almomani further explains that the user can use a “dedicated app on a mobile device” that is in wireless communication with the electronic lock “to activate a remote monitoring mode.” *Id.* ¶ 21. “In this mode, the electronic lock could be configured to continuously stream video, regardless of whether the motion sensor 103 is activated or not.” *Id.*

3. Motivation to Combine Siminoff and Almomani

Relying on Dr. Madisetti, Petitioner asserts, “a person of ordinary skill in the art . . . would have found it obvious, beneficial, and predictable to implement Almomani’s method of remotely activating a door-based camera in the context of Siminoff’s video doorbell system.” Pet. 16 (citing Ex. 1003 ¶¶ 55–64). According to Petitioner, Siminoff and Almomani “are both directed to door-based, home monitoring systems controllable with applications on mobile devices and both have the same goal of allowing a user to remotely see who is near an entrance at any given time.” *Id.* at 17 (citing Ex. 1005 ¶ 79; Ex. 1006 ¶ 5; Ex. 1003 ¶ 56).

Petitioner states that one of ordinary skill in the art would have been motivated to apply Almomani’s known camera activation technique to Siminoff’s Wireless Communication Doorbell to yield the beneficial and predictable result of Siminoff’s “signal”-based activation trigger not only causing the doorbell to wake up, but also causing the camera to activate and begin recording live video that is transmitted to the smart device.

Id. at 17–18 (citing Ex. 1003 ¶ 57). The combined teachings, Petitioner argues, “would allow a user to view streaming video of the area around the Wireless Communication Doorbell ‘at any given time’—explicitly advancing one of Siminoff’s stated goals,” namely “allowing users to ‘see who is within view of Wireless Communication Doorbell 61 at any given time.’” *Id.* at 18 (citing Ex. 1005 ¶ 79; Ex. 1003 ¶ 58).

Petitioner contends “another stated goal of Siminoff’s disclosure is reduced power consumption of video doorbells.” *Id.* at 19 (citing Ex. 1005 ¶ 90). According to Petitioner, modifying Siminoff’s system with Almomani’s technique of activating the doorbell’s camera upon remotely

waking the doorbell “would allow the doorbell to remain in the hibernation mode and save power when not in use, but still provide a user with the option to selectively request a video stream of the area around the doorbell.” *Id.* (citing Ex. 1003 ¶ 59). Petitioner further argues that an ordinarily skilled artisan would find the proposed modification “predictable and likely to result in success” because of specific teachings and suggestions in Siminoff, and additionally that such skilled artisan “would have had an expectation of success” because other doorbells embodying the proposed combination were already “implemented and commercialized” before the ’109 Patent. *Id.* at 19–20 (citing Ex. 1005 ¶¶ 66, 86; Ex. 1003 ¶¶ 60–61; Ex. 1010). Finally, Petitioner asserts that “[a]ny hypothetical modifications to Siminoff’s system needed to implement Almomani’s features would be within the skill of” one of ordinary skill in the art. *Id.* at 20 (citing Ex. 1005 ¶¶ 64, 77, 79; Ex. 1003 ¶¶ 63; Ex. 1010).

Patent Owner and Dr. Baker counter that Petitioner’s proposed combination “would frustrate Siminoff’s intended purpose of saving power by rendering the camera inoperable when motion is not detected.” PO Resp. 19; Ex. 2001 ¶ 55. Patent Owner elaborates:

Almomani teaches that when the smart phone application is used to activate recording by the camera it “continuously stream[s] video, regardless of whether the motion sensor is activated or not.” Thus, if Almomani’s method of instructing the camera to record were combined with Siminoff’s Wireless Communication Doorbell, Siminoff would “continuously stream video, regardless of whether the motion sensor is activated.”

PO Resp. 19 (citing Ex. 2001 ¶ 55; Ex. 1006 ¶ 21) (emphasis omitted) (internal citations omitted).

We disagree with Patent Owner’s argument because it mischaracterizes Siminoff’s stated goal. Siminoff seeks to ensure that its components “do not waste battery power *when not in use*,” not merely “rendering the camera inoperable when motion is not detected,” as Patent Owner contends. *Compare* Ex. 1005 ¶ 90 (emphasis added), *with* PO Resp. 19. Petitioner’s proposed combination would simply define explicitly an additional situation for use of Siminoff’s components without destroying the goal of lowering power usage when those components are not in use. As Petitioner correctly argues, “modifying Siminoff to include Almomani’s remote camera activation technique would in fact *further* Siminoff’s goal of saving power, because it would provide both a low power mode and on-demand streaming while still consuming less power than doorbell systems that remain fully-powered at all times in order to provide on-demand streaming.” Reply 14–15 (citing Pet. 19–21; Ex. 1003 ¶ 59).

Accordingly, based on the complete trial record and for the foregoing reasons, we determine one of ordinary skill in the art would have been motivated to combine the teachings of Siminoff and Almomani, as Petitioner proposes, with a reasonable expectation of success.

4. Claim 1

a) “*A method of using a doorbell system . . . comprising:*”

Claim 1 recites “[a] method of using a doorbell system, wherein the doorbell system comprises a remote computing device and a doorbell having a camera, the method comprising.” Petitioner contends “Siminoff discloses this limitation because it teaches a method of using a doorbell system that includes a Smart Device, such as a smartphone, and a Wireless Communication Doorbell with a camera, as shown in Fig. 15.” Pet. 21

(citing Ex. 1005 ¶ 88; Ex. 1003 ¶¶ 36–40). In particular, Siminoff describes that data from Wireless Communication Doorbell 61 is processed by Server 53 and routed to Smart Device 54 “to inform User 62 via Smart Device 54 if Battery 24 is about to die (e.g. 10% battery remaining).” Ex. 1005 ¶ 88. Patent Owner does not dispute Petitioner’s contentions on this subject matter. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find Siminoff meets this subject matter.

b) “coupling communicatively the doorbell and the remote computing device”

Claim 1 recites “coupling communicatively the doorbell and the remote computing device.” Petitioner contends “Siminoff teaches communicatively coupling the Wireless Communication Doorbell 61 and the Smart Device 54 via a ‘wireless telecommunications network’ (System Network 52) and a wireless User’s Network 65.” Pet. 22–23 (citing Ex. 1005 ¶¶ 88, 77). Siminoff teaches, “Devices within the system send data to System Network 52 where Server 53 processes and routes the data to the appropriate device.” Ex. 1005 ¶ 88. As stated above, Siminoff describes that data from Wireless Communication Doorbell 61 is processed by Server 53 and routed to Smart Device 54 “to inform User 62 via Smart Device 54 if Battery 24 is about to die (e.g. 10% battery remaining).” *Id.* Patent Owner does not dispute Petitioner’s contentions on this limitation. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find Siminoff meets the claimed “coupling communicatively the doorbell and the remote computing device.”

c) *“detecting, by the doorbell system, an indication of a presence of a visitor”*

Claim 1 recites “detecting, by the doorbell system, an indication of a presence of a visitor.” Petitioner contends “Siminoff discloses this limitation because it teaches that the Wireless Communication Doorbell detects the presence of a visitor with a doorbell button push or with an infrared sensor.” Pet. 24 (citing Ex. 1005 ¶ 66; Ex. 1003 ¶¶ 43–44). In particular, Siminoff recites, “Camera 18 may record still or moving video, (e.g. anyone who activates Wireless Communication Doorbell 61 by pressing Button 8, or triggering Infrared Sensor 42).” Ex. 1005 ¶ 66. Siminoff additionally states that “the transmission of data to and from Wireless Communication Device to a Smart Device . . . may be initiated when the Visitor 63 presses Button 11 of Wireless Communication Doorbell 61.” *Id.* ¶ 86; *see also id.* ¶ 45, Fig. 14. Siminoff further discloses that “[i]nfrared Sensor 42 may trigger Camera 18 to record live video or still images of Visitor 63 when Visitor 63 crosses the path of the Infrared Sensor 42.” *Id.* ¶ 46. Patent Owner does not dispute Petitioner’s contentions on this limitation. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find Siminoff meets the claimed “detecting, by the doorbell system, an indication of a presence of a visitor.”

d) *“entering, by the doorbell, a camera sleep mode wherein the camera is configured to not record”*

Claim 1 recites “entering, by the doorbell, a camera sleep mode wherein the camera is configured to not record.” Petitioner contends “Siminoff discloses this limitation because the Wireless Communication Doorbell enters a ‘hibernation’ mode during which the camera is inactive and does not record images or video.” Pet. 24 (citing Ex. 1005 ¶ 90).

Siminoff discloses that “all hardware components within Wireless Communication Doorbell 61 may live in a state of hibernation” until activated. Ex. 1005 ¶ 90; *see also id.* at code (57), ¶¶ 86–87. Siminoff refers to this state as “a low power consumption mode.” *Id.* ¶ 87, code (57). Siminoff further explains that in this mode, “all components that draw power from Battery 24, such as . . . Camera 18 do not waste battery power when not in use.” *Id.* ¶ 90. Siminoff further discloses “[i]n reference to FIG. 12, after Button 11 is pressed, Power Processor 51 may provide the power to activate Camera 18 and Night Vision LEDs 19.” *Id.* ¶ 76 (emphasis added). Relying on its declarant Dr. Madisetti, Petitioner contends that “when Siminoff’s Wireless Communication Doorbell is in hibernation mode/low-power mode, the camera is in a sleep mode and configured not to record, because, in order for it to record an image, it must first be provided power and activated, for example, in response to an activation trigger.” Pet. 25 (citing Ex. 1003 ¶¶ 46). Patent Owner does not dispute Petitioner’s contentions on this limitation. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find Siminoff meets the claimed “entering, by the doorbell, a camera sleep mode wherein the camera is configured to not record.”

e) “opening a doorbell control application on the remote computing device”

Claim 1 recites “opening a doorbell control application on the remote computing device.” Petitioner contends “Siminoff discloses this limitation because it teaches that an ‘Application 55 may be installed on Smart Device 54 and provide an interface for User 62 to communicate and interact with Wireless Communication Doorbell 61.’” Pet. 25 (quoting Ex. 1005

¶ 80). According to Petitioner, “[t]he Application allows the user to, among other things, ‘view still images or video taken by Wireless communication Doorbell 61,’ ‘focus or zoom Camera 18,’ and communicate with a visitor.” *Id.* at 26 (citing Ex. 1005 ¶¶ 76, 80). Relying on Dr. Madisetti, Petitioner further alleges that an ordinarily skilled artisan “would have understood that the Application is opened on the smart device to allow the user to view images or video and to control the doorbell.” *Id.* at 26–27 (citing Ex. 1003 ¶¶ 48–50). Patent Owner does not dispute Petitioner’s contentions on this limitation. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find Siminoff meets the claimed “opening a doorbell control application on the remote computing device.”

f) “*overriding . . . wherein the camera recording mode consumes more power than the camera sleep mode*”

Claim 1 recites “overriding, by the remote computing device via a wireless communication, a power setting of the doorbell to force the doorbell to exit the camera sleep mode and enter a camera recording mode, wherein the camera recording mode consumes more power than the camera sleep mode.” Petitioner contends, “Siminoff teaches that several different activation triggers can bring the Wireless Communication Doorbell out of the low power/hibernation mode.” Pet. 27 (citing Ex. 1005, claim 1, ¶¶ 45, 46, 66, 76). Siminoff’s claim 1, cited by Petitioner, recites “switching the processor from low-power mode to active mode in response to an activation trigger” “wherein the activation trigger comprises . . . a signal from the user at the remote communication device.” Ex. 1005, claim 1, *quoted in* Pet. 28. Petitioner contends, “with respect to the ‘remote communication device’ from which the activation signal recited in claim 1 originates, Siminoff

teaches that its doorbell system includes a ‘Smart Device’ that wirelessly controls the Wireless Communication Doorbell, as discussed above.” Pet. 28 (citing Ex. 1005 ¶¶ 77, 79, 88, Fig. 12). Petitioner argues “Siminoff teaches overriding the Wireless Communications Doorbell’s low power/hibernation mode with a wireless activation signal from the Smart Device.” *Id.* (citing Ex. 1003 ¶ 55). In addition, Petitioner contends that:

Siminoff teaches that at least some of the activation triggers that wake the Wireless Communication Doorbell also cause the doorbell to begin providing power to the camera and cause the camera to record video and/or images that are sent to the Smart Device (*i.e.*, exit the camera sleep mode and enter a camera recording mode)

Id. at 28–29 (citing Ex. 1005 ¶¶ 86, 76, 46, 66).

Petitioner further refers to Almomani as teaching this limitation. *Id.* at 29–30. Almomani teaches that “the camera could be selectively activated remotely by a user” to capture video for streaming. Ex. 1006 ¶ 21. For example, the user can use a “dedicated app on a mobile device” “to activate a remote monitoring mode.” *Id.* “In this mode, the electronic lock could be configured to continuously stream video” *Id.* “This provides the user with peace of mind to remotely see the area surrounding the electronic lock.” *Id.*

Relying on Dr. Madisetti, Petitioner asserts that a person of ordinary skill in the art

would have found it predictable and obvious to combine Almomani’s method of using a mobile device and a wireless communication to selectively activate a remote camera with Siminoff’s doorbell system so that a user of the smart device could remotely wake up the Wireless Communication Doorbell and activate the camera such that it begins recording video.

Pet. 31 (citing Ex. 1003, 58). Petitioner combines Almomani and Siminoff's teachings as follows:

[T]he Wireless Communication Doorbell that is configurable to exit a low power mode in response to a wireless activation trigger signal from a user of a remote communication device, as taught by Siminoff, in view of the wireless camera that is activated and begins streaming video in response to a wireless communication from a mobile phone, as taught by Almomani, renders obvious "overriding, by the remote computing device via a wireless communication, a power setting of the doorbell to force the doorbell to exit the camera sleep mode and enter a camera recording mode."

Id. at 31–32 (citing Ex. 1003, 50–59).

With respect to the claimed "wherein the camera recording mode consumes more power than the camera sleep mode," Petitioner contends "Siminoff discloses this limitation because it teaches that when the components of the Wireless Communication Doorbell are in a 'state of hibernation' and inactive, the doorbell is in a 'low power consumption mode' (*i.e.*, a mode that consumes less power) as compared to the doorbell's 'active mode.'" *Id.* at 32 (citing Ex. 1005 ¶¶ 90, 87, Abstract). In contrast, Petitioner asserts, "when the doorbell exits the hibernation mode, 'it may activate all components,' which may include '*provid[ing] the power to activate Camera 18.*'" *Id.* (citing Ex. 1005 ¶¶ 90, 76, 46, 66, 86–87, code (57); Ex. 1003, 61).

Patent Owner contends Almomani and Siminoff fail to meet this limitation because "neither reference teaches or discloses (1) that the remote computing device overrides a power setting of the doorbell or (2) that that [sic] the remote compute [sic] device causes the camera to enter a camera

recording mode.” PO Resp. 13. We address each of these contentions in turn below.

*(1) Patent Owner’s argument regarding
“overriding . . . a power setting of the doorbell”*

Patent Owner asserts that “[c]laim 1 requires that the ‘remote computing device’ ‘overrid[e] . . . a power setting of the doorbell,’ not that the doorbell changes power settings itself.” Sur-Reply 2. According to Patent Owner, “Siminoff does not disclose that the ‘remote computing device’ ‘overrides [the] power setting of the doorbell.’” PO Resp. 14 (citing Ex. 2001 ¶ 44). “Instead, all that is disclosed is that the remote computing device sends an activation trigger, and in response ‘the processor’ switches from ‘low power mode to active mode.’” *Id.* Patent Owner and Dr. Baker contend, “Siminoff contains no disclosure that the activation trigger itself forces or causes the doorbell to change the power setting.” *Id.*; Ex. 2001 ¶ 45. Patent Owner elaborates, “[m]ere disclosure that the processor is switched from lower power mode to active mode in response to receiving a ‘signal,’ does not render obvious to a [person of ordinary skill in the art] that the remote communication device, itself, can override a power setting of the doorbell as required by the claim.” Sur-Reply 3.

We disagree with Patent Owner’s argument because it is not commensurate with the scope of claim 1. Claim 1 recites, in relevant part, “overriding, by the remote computing device via a wireless communication, a power setting of the doorbell.” Thus, the claim language requires a method in which the remote computing device sends a wireless communication to override a power setting of the doorbell. Contrary to Patent Owner’s argument, claim 1 recites neither the contents of that

wireless communication nor the functions used to accomplish overriding the doorbell's power signal. *See* Sur-Reply 2 (asserting that “[t]he ’109 patent requires that *the remote computing device* contain the code and instructions for changing the power setting of the doorbell”); *see also id.* at 3 (arguing that “Petitioner points to no disclosure from Siminoff concerning the contents of [Siminoff’s] ‘signal’”). Indeed, Patent Owner fails to cite any limitations of the challenged claim in support of this argument. *Id.*

The Specification is similarly silent as to contents of the wireless communication and the functions through which the doorbell's power signal is overridden. The Specification recites, “the remote computing device 204 may send a signal 604 to the doorbell 202 that overrides the sleep mode (e.g., changes a power setting 702) to cause the doorbell 202 to ‘wake up.’” Ex. 1001, 12:16–19. The Specification makes no mention of the contents of signal 604 sent from remote computing device 204 to doorbell 202 nor imposes any requirement that the overriding occurs without the use of any code residing at doorbell 202. Therefore, reading the claim language in light of the Specification, we decline Patent Owner's invitation to import into the claim language a requirement “that the *remote computing device* contain the code and instructions for changing the power setting of the doorbell.” Sur-Reply 2.

We further disagree with Patent Owner's argument because it fails to account for the complete teachings of Siminoff cited by Petitioner. Patent Owner asserts that, although Siminoff discloses changing the power setting of the doorbell in response to activation triggers “such as a ‘button signal’ created by pushing a button, or a ‘sensor signal’ created by triggering the infrared sensor in the doorbell,” Petitioner's reliance on these activation

triggers is allegedly misplaced because “[n]one of these activation signals originate from the remote computing device.” Sur-Reply 3. We are not persuaded by this argument because Siminoff’s claim 1 recites “switching the processor from low-power mode to active mode in response to an activation trigger” “wherein the activation trigger comprises . . . a signal from the user at the remote communication device.” Ex. 1005, claim 1. Based on this disclosure, we agree with Petitioner and Dr. Madisetti that, “[b]ecause Siminoff makes no distinction between these ‘activation triggers,’ a POSITA would, at the very least, find it obvious that the activation trigger from the remote computing device changes the power setting of the ‘Doorbell’ (just like the other two activation triggers).” Reply 7–8 (citing Ex. 1003 ¶¶ 50–52, 57, 60, pages 45–46, 50–59).

(2) *Patent Owner’s argument regarding
“camera recording mode”*

Claim 1 recites, in relevant part, “overriding . . . to force the doorbell to exit the camera sleep mode and enter a camera recording mode.” Patent Owner contends that “the Petition and Dr. Madisetti fail to show that Siminoff discloses ‘enter a camera recording mode’ in response to the communication from the remote computing device as required by the claim.” PO Resp. 15 (citing Ex. 2001 ¶ 46). According to Patent Owner, “Siminoff provides no teaching that the activation trigger sent from the *remote computing device* has any effect on the *camera*.” *Id.*

Patent Owner further argues that Almomani fails to teach the claimed entering a camera recording mode because “Almomani simply discusses using the remote computing device to ‘selectively active’ or ‘activate a remote monitoring mode’ in which the lock ‘continuously streams video.’”

Id. at 17 (citing Pet. 29–30; Ex. 1003, 58–59). Patent Owner elaborates that the “‘recording mode’ requires the recording of video” and argues that “[t]here is no disclosure in Almomani of recording the continuously streamed video for later use.” *Id.* (citing Ex. 1003 ¶ 51). According to Patent Owner, Petitioner’s declarant Dr. Madisetti concedes that “a POSITA would not generally consider ‘the ability to continuously stream video [a]s the equivalent of entering a camera recording mode as required by this limitation.’” Sur-Reply 5 (citing Ex. 2003, 32:18–24).

We disagree with Patent Owner’s argument because it fails to account for the complete teachings of Siminoff and Almomani cited by Petitioner. In particular, we disagree with Patent Owner that Siminoff lacks a teaching or suggestion of entering a camera recording mode in response to the wireless communication from the remote computing device (PO Resp. 15) because Siminoff describes “upon depressing Button 11 or another trigger may cause Camera 18 of Wireless Communication Doorbell 61 to record a static or continuous video image.” Ex. 1005 ¶¶ 86, 107. Siminoff thus teaches using its activation triggers to cause the camera within its doorbell to record video. *Id.* As discussed above, Siminoff discloses its activation triggers include “a signal from the user at the remote communication device.” Ex. 1005, claim 1. Accordingly, we agree with Petitioner that Patent Owner’s “argument is unpersuasive because it ignores Siminoff’s explanation that the infrared sensor, the button, or ‘another trigger’ can cause the doorbell to activate and begin recording a static or continuous video image.” Reply 8.

Moreover, assuming *arguendo* we were to agree with Patent Owner that Almomani’s live stream mode does not, standing alone, meet the claimed camera recording mode, Patent Owner fails to explain persuasively

why the cited combined teachings of Almomani and Siminoff would not meet the disputed limitation. Specifically, Siminoff discloses, “[i]n one aspect of the present disclosure, the video and/or still images recorded by Camera 18 may be collected and stored in Database 64 within System Network 52, in conjunction with the routing of said video and/or still images.” Ex. 1005 ¶ 76. Siminoff thus teaches storing the video recorded at its camera for later use. Patent Owner fails to explain persuasively why Almomani’s live stream mode, when combined with this teaching of Siminoff, would not meet the claimed camera recording mode. *See* Sur-Reply 5–6. Instead, Patent Owner contends “the combination of Siminoff with Almomani would frustrate Siminoff’s intended purpose of saving power.” *Id.* at 6. We address this argument above in the context of Petitioner’s showing of a motivation to combine Siminoff and Almomani. *See supra* Section III.C.3.

Accordingly, based on the complete trial record and for the foregoing reasons, we determine the combined teachings of Siminoff and Almomani meet the claimed “overriding, by the remote computing device via a wireless communication, a power setting of the doorbell to force the doorbell to exit the camera sleep mode and enter a camera recording mode, wherein the camera recording mode consumes more power than the camera sleep mode.”

g) “receiving a first video . . . in response to remotely overriding the power setting of the doorbell”

Claim 1 recites “receiving a first video, by the remote computing device, from the doorbell at least partially in response to remotely overriding the power setting of the doorbell.” Petitioner contends that Siminoff and Almomani together render this limitation obvious. Petitioner argues that

“Siminoff teaches that its Smart Device receives video captured by the camera of the Wireless Communication Doorbell in response to activation triggers bringing the doorbell out of the hibernation mode.” Pet. 33 (citing Ex. 1005 ¶¶ 86, 66, 46, 76). In addition, the portion of Almomani upon which Petitioner relies (Pet. 34) teaches “the camera could be selectively activated remotely by a user. For example, the user could access and set configurable options through a designated website or use a dedicated app on a mobile device.” Ex. 1006 ¶ 21. Almonani continues:

If the user wanted to remotely monitor the electronic lock 100, the user could log in to a designated website (or use an app) to activate a remote monitoring mode. In this mode, the electronic lock could be configured to continuously stream video, regardless of whether the motion sensor 103 is activated or not.

Id. Relying on Dr. Madisetti, Petitioner contends an ordinarily skilled artisan “would have found it predictable and obvious to combine Almomani’s method of streaming video with Siminoff’s doorbell system so the Smart Device receives video from the Wireless Communication Doorbell when the Smart Device wakes the doorbell up with the wireless activation signal.” Pet. 34 (citing Ex. 1003, 64). Specifically, Petitioner asserts:

Thus, receiving a video at the Smart Device in response to waking up the Wireless Communication Doorbell from hibernation mode with an activation trigger, where one activation trigger is a signal from a remote device, as taught by Siminoff, in view of Almomani’s teaching of receiving a video at a mobile device from a door-based camera after remotely activating it with a mobile device, renders obvious “receiving a first video, by the remote computing device, from the doorbell at least partially in response to remotely overriding the power setting of the doorbell.”

Id. (citing Ex. 1003, 61–64).

Patent Owner does not dispute Petitioner's contentions on this limitation. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we determine the combined teachings of Siminoff and Almomani meet the claimed "receiving a first video, by the remote computing device, from the doorbell at least partially in response to remotely overriding the power setting of the doorbell."

Accordingly, based on the complete trial record and for the foregoing reasons, we determine Petitioner has established by a preponderance of the evidence that the combined teachings of Siminoff and Almomani render obvious claim 1.

D. Asserted Obviousness of Claim 7 over Siminoff and Imao

1. Imao

Imao describes a system with a network camera that "distributes photographed still image data or photographed moving image data." Ex. 1007, 15:31–39. Imao teaches that its network camera is controlled "according to an instruction sent by a client apparatus via a network." *Id.* at 15:39–43. For example, Imao's system allows a user to "display photographed images, operate the camera, or perform system settings" with a "mobile phone." *Id.* at 15:49–53. Imao teaches that its camera has a "low power consumption state," and when "no application communication is performed, the network camera 1401 powers off each hardware device in the camera system unit 1403." *Id.* at 16:62–65. The camera wakes from its low power state upon receiving "a TCP packet requesting a start of a TCP connection" from a client apparatus for an application such as video streaming. *Id.* at 16:62–17:28, 17:54–18:3. When the communication

session request is received, the camera system “powers on devices necessary for performing the application communication.” *Id.*

2. Motivation to Combine Siminoff and Imao

Petitioner asserts that a person of ordinary skill in the art “would have found it obvious, beneficial, and predictable to implement Imao’s method of waking a camera upon receiving a communication session in the context of Siminoff’s video doorbell system in order to increase the responsiveness of the doorbell.” Pet. 36 (citing Ex. 1003 ¶¶ 69–76). According to Petitioner, both references are “directed to allowing a user to remotely view images and video from a network camera on a client device.” *Id.* (citing Ex. 1005 ¶ 79; Ex. 1007, 15:44–48; Ex. 1003 ¶ 70).

Petitioner contends that an ordinarily skilled artisan “would have been motivated to apply Imao’s known camera activation technique to Siminoff’s Wireless Communication Doorbell to yield the predictable result of Siminoff’s activation signal being a packet that requests a start of a communication session, such that the Wireless Communication Doorbell records a video when it receives the activation signal.” *Id.* at 37 (citing Ex. 1003 ¶ 71). According to Petitioner, “the proposed modification would reduce lag when a user requests video because the doorbell would begin waking before the request is provided.” *Id.* at 38 (citing Ex. 1003 ¶ 72). Also, “modifying Siminoff to include Imao’s remote camera activation technique would allow the doorbell to stay in the hibernation mode and to save power when not in use, but, at the same time, be responsive to the user commands by coming out of hibernation in anticipation of a user sending commands.” *Id.* at 38–39 (citing Ex. 1003 ¶ 72). Petitioner contends that one of ordinary skill in the art would find the proposed modification

predictable and likely to result in success because “[s]ubstituting and modifying standardized and interchangeable components within a system such as Siminoff’s would have been well within the skill of a POSITA in 2014.” *Id.* at 39 (citing Ex. 1005 ¶¶ 64, 77, 79; Ex. 1007, 15:50–55, 18:15–17; Ex. 1003 ¶¶ 74–75; Ex. 1011).

Patent Owner does not address Petitioner’s contentions. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find one of ordinary skill in the art would have been motivated to combine the teachings of Siminoff and Imao, as Petitioner proposes, and would have had a reasonable expectation of success in doing so.

3. Claim 7

- a) “*A method of using a doorbell system . . . comprising: coupling . . . ; detecting . . . ; entering . . . configured not to record*”

Claim 7 recites, “[a] method of using a doorbell system, wherein the doorbell system comprises a remote computing device and a doorbell having a camera, the method comprising: coupling communicatively the doorbell and the remote computing device; detecting, by the doorbell system, an indication of a presence of a visitor; entering, by the doorbell, a camera sleep mode in which the camera is configured to not record.”

Petitioner relies on Siminoff as meeting this subject matter in the same manner as discussed above in the context of commensurate limitations of claim 1. Pet. 40 (incorporating analysis of commensurate limitations of claim 1). Patent Owner does not address these limitations of claim 7. *See generally* PO Resp.; Sur-Reply.

Based on the complete trial record, we find that Siminoff meets this claimed subject matter for the same reasons discussed above in the context of claim 1. *See supra* Section III.C.4.a.–d.

b) “*exiting . . . in response to receiving, by the doorbell, a first wireless communication session from the remote computing device*”

Claim 7 recites, “exiting, by the doorbell, the camera sleep mode and entering a camera recording mode in response to receiving, by the doorbell, a first wireless communication session from the remote computing device.” Petitioner contends that Siminoff and Imao meet the claimed exiting step. Pet. 40–45. In particular, Petitioner contends “Siminoff teaches that several different activation triggers . . . can bring the Wireless Communication Doorbell out of the low power/hibernation mode,” including “a signal from the user at the remote communication device.” *Id.* at 41 (citing Ex. 1005, claim 1, ¶¶ 46, 66, 76). Petitioner continues, “Siminoff teaches that its doorbell system includes a ‘Smart Device’ that wirelessly controls the Wireless Communication Doorbell.” *Id.* (citing Ex. 1005, ¶¶ 77, 79, 88, Fig. 12). Petitioner further alleges, “Siminoff teaches that at least some of the activation triggers that wake the Wireless Communication Doorbell also cause the doorbell to provide power to the camera and cause the camera to record video and/or images that are sent to the Smart Device (i.e., exit the camera sleep mode and enter a camera recording mode.” *Id.* at 41–42 (citing Ex. 1005, ¶¶ 46, 66, 76, 86).

Against this backdrop, Petitioner contends, “it was well known prior to the ’109 Patent for a network camera to wake up and begin recording when it receives a communication session over a wireless network.” *Id.* at 42 (citing Ex. 1003, 77). As an example, Petitioner asserts, “Imao’s network

camera exits the low power state and powers on the components, such as the imaging unit, when . . . receiving a communication session in the form of a ‘TCP packet requesting a start of a TCP connection.’” *Id.* at 43–44 (citing Ex. 1007, 17:8–28, 17:31–36, 18:10–17; Ex. 1003, 80–81). Petitioner adds, “Imao teaches that one type of application communication session that may be started by this technique is video streaming.” *Id.* at 44 (citing Ex. 1007, 17:16–28, 17:54–18:1).

Patent Owner does not address Petitioner’s contentions. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find the combined teachings of Siminoff and Imao meet the claimed “exiting, by the doorbell, the camera sleep mode and entering a camera recording mode in response to receiving, by the doorbell, a first wireless communication session from the remote computing device.”

c) “receiving, by the remote computing device, a first video recorded by the camera of the doorbell”

Claim 7 recites, “receiving, by the remote computing device, a first video recorded by the camera of the doorbell.” Petitioner relies on Siminoff as meeting this claim limitation because Siminoff discloses, “[i]n one aspect, upon depressing Button 11 or another trigger may cause Camera 18 of Wireless Communication Doorbell 61 to record a static or continuous video image, which is sent to User 62 along with notification at Smart Device 54.” Ex. 1005 ¶ 86 (*quoted in* Pet. 45–46).

Patent Owner does not address Petitioner’s contentions. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find Siminoff meets the claimed receiving, by the remote computing device, a first video recorded by the camera of the doorbell.

Accordingly, based on the complete trial record and for the foregoing reasons, we determine Petitioner has established by a preponderance of the evidence that the combined teachings of Siminoff and Imao render obvious claim 7.

E. Asserted Obviousness of Claims 20 and 21 over Siminoff, Imao, and Huisking

1. Huisking

Huisking teaches a doorbell system including “[a]n audio/video intercom doorbell” with “a camera, a microphone, a speaker, and one or more doorbell user interfaces.” Ex. 1008 ¶ 37. Huisking describes establishing a communication session between the doorbell system and a smartphone so that, for example, the smartphone may be alerted to doorbell events. *Id.* ¶¶ 62–63.

Huisking describes various embodiments including these doorbell event alerts. For instance,

On mobile computing device platforms which support multi-tasking applications, at a time of application startup, the application may initiate an audio session with the doorbell security system board 210 over an IP (internet protocol) link using SIP (Session Initiation Protocol) protocol. The application may run in background mode thus permitting a user to work on other applications.

Id. ¶ 62. Huisking continues, “[t]he background application/OS (operating system) may listen on a VOIP (Voice Over IP) socket, and arrival of data packets on this socket may notify the user of the event.” *Id.*

“On platforms which do not support multi-tasking (Background/Foreground applications) operations, a separate server based notification may be required to notify the mobile computing device application about a doorbell event.” *Id.* ¶ 64. Huisking describes that, in this embodiment, notifications may be pushed by various types of servers to mobile computing device 220 in order to display an event on the device. *Id.*

In a portion of Huisking on which Petitioner relies, Huisking discloses “an embodiment of the present invention configured to support Android.” Ex. 1008 ¶ 85, *cited in* Pet. 54. Therein, Huisking describes establishing a Session Initiation Protocol (SIP) “when the Android device is powered on by starting the application and running it in the background.” Ex. 1008 ¶ 85. A “doorbell press event may be notified by transmitting data over the SIP connection between the board 210 and the registered Android device 220 (which may be running the application in the background).” *Id.* The SIP may be used to establish audio communication between the board 210 and the Android device 220, whereas video and control signal communication may be established over HTTP or TCP/IP connections, respectively. *Id.* Huisking similarly describes establishing a SIP connection when an iOS device “is powered on” or “when the application starts up” and using this connection to transmit audio data for a doorbell press event to the device. *Id.* ¶¶ 83–84.

2. *Motivation to Combine Siminoff, Imao, and Huisking*

Petitioner asserts, “a person of ordinary skill in the art would have found it obvious, beneficial, and predictable to modify the combination of Siminoff and Imao to include Huisking’s technique of establishing a communication session between a doorbell and a mobile device when the

mobile device wakes up.” Pet. 48 (citing Ex. 1003 ¶¶ 83–93). According to Petitioner, all three references are “directed to networked camera systems that stream video to a mobile device.” *Id.* (citing Ex. 1008 ¶ 48).

Petitioner contends that an ordinarily skilled artisan “would have been motivated to apply Huisking’s method of starting a communication session immediately upon waking up a smartphone to Siminoff’s system in order to improve the responsiveness of the doorbell to user commands, such as streaming video requests.” *Id.* at 49 (citing Ex. 1003 ¶ 86). According to Petitioner and Dr. Madisetti, the proposed modification would “allow[] the doorbell to be ready to respond to user commands when the doorbell application is subsequently opened.” *Id.* at 50; Ex. 1003 ¶ 87. Also, “modifying Siminoff . . . would allow the doorbell to stay in the hibernation mode and to save power when not in use, but, at the same time, be responsive to the user commands by coming out of hibernation in anticipation of a user sending commands.” Pet. 50 (citing Ex. 1003 ¶ 88). Petitioner contends that one of ordinary skill in the art would find the proposed modification predictable and likely to result in success because “[s]ubstituting and modifying standardized and interchangeable components within a system such as Siminoff’s would have been well within the skill of a POSITA in 2014.” *Id.* at 50–51 (citing Ex. 1008 ¶¶ 26, 54; Ex. 1003 ¶¶ 89–90; Ex. 1011).

Patent Owner does not address Petitioner’s contentions. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find one of ordinary skill in the art would have been motivated to combine, as Petitioner proposes, “Huisking’s known technique of establishing a communication session

between a doorbell and a mobile device when the mobile device wakes up to Siminoff's doorbell system (as modified by Imao) because the combination amounts to applying a known technique to a video doorbell ready for improvement" (Pet. 51 citing Ex. 1003 ¶ 91), and would have had a reasonable expectation of success in doing so.

3. Claim 20

a) *"A method of using a doorbell system . . . comprising"*

Claim 20 recites, "[a] method of using a doorbell system, wherein the doorbell system comprises a remote computing device and a doorbell having a camera, the method comprising."

Petitioner relies on Siminoff as meeting this subject matter in the same manner as discussed above in the context of the commensurate limitation of claim 1. Pet. 52 (incorporating analysis of the commensurate limitation of claim 1). Patent Owner does not address this limitation of claim 20. *See generally* PO Resp.; Sur-Reply.

Based on the complete trial record, we find that Siminoff meets this claimed subject matter for the same reasons discussed above in the context of claim 1. *See supra* Section III.C.4.a.

b) *"sending . . . in response to waking the remote computing device prior to opening a doorbell control application on the . . . device"*

Claim 20 recites, "sending a first signal from the remote computing device to the doorbell in response to waking the remote computing device prior to opening a doorbell control application on the remote computing device." Petitioner relies upon Siminoff in view of Imao and Huisking as meeting this limitation, and in particular on Huisking as teaching that, "in Huisking's doorbell system, the mobile device establishes a communication

session with the doorbell in response to the device waking up and starting—but not opening—an application so that the mobile device can communicate with the doorbell.” Pet. 54 (citing Ex. 1008 ¶ 62; Ex. 1003 ¶ 101). Patent Owner counters that the cited portions of Huisking fail to meet the claim limitation at issue because “as taught by Huisking, whether running in the foreground or in the background the application has still been opened as of the time that Huisking teaches that the signal is sent.” PO Resp. 21 (citing Ex. 2001 ¶ 60).

We turn first to the question of what is encompassed by the claimed communication between the remote computing device and the doorbell. We begin our analysis with the disputed claim language, as would have been understood by an artisan of ordinary skill in the content of the remainder of the claim and the Specification. Here, the plain language of claim 20 clearly contemplates communication between the remote computing device and the doorbell before the application is open because the claim language defines a method in which the remote computing device wakes up and sends a first signal to the doorbell before the application is opened. Ex. 1001, 20:59–62. We note the claim language is silent as to how or by whom the application is opened. *See id.*

Petitioner contends, and we agree, that “the embodiment in the [S]pecification that most closely parallels the limitations of claim 20 is also consistent with the above understanding,” namely that claim 20 encompasses methods in which the remote computing device is powered on and in communication with the doorbell before the doorbell control application is opened. Reply 19; *see* Ex. 1021 ¶ 12. The relevant portion of the Specification states:

In several embodiments, a signal 604 can be sent from the remote computing device 204 to the doorbell 202 in response to waking the remote computing device 204 prior to opening a doorbell control application 600 on the remote computing device 204 The first signal 604 may be sent in response to, for example, turning on the remote computing device 204.

Ex. 1001, 16:1–11. We find this portion of the Specification describes an embodiment in which the remote computing device is turned on, communication occurs between the remote computing device and doorbell, and then the doorbell control application on the device is opened.

Drs. Madisetti and Baker agree that, in this embodiment, the communication between the remote computing device and doorbell occurring prior to opening the application is performed via the application.

Ex. 1020, 47:2–5 (Deposition Testimony of Dr. Baker) (“Q. Would you agree, then, that the doorbell control application is the means by which the remote computing device communicates with the doorbell? A. Yes.”);

Ex. 1021 ¶ 12 (Supplemental Declaration of Dr. Madisetti). Based on this testimony, we find one of ordinary skill in the art would understand that the disputed claim language encompasses communication between the remote computing device and the doorbell, via the doorbell control application, before the doorbell control application is opened.

We turn next to the question of what is encompassed by the claimed opening of the doorbell control application. Petitioner contends that one of ordinary skill in the art would have a general understanding in computer science at the time that “an application running in the background of a mobile device is not ‘open.’” Reply 17 (citing Ex. 1021 ¶ 5). According to Petitioner, “[w]hether an application is ‘open’ is based on the perspective of

a user—and thus an application is not open until it is brought to the foreground and viewable by the user.” *Id.* (citing Ex. 1021 ¶ 5). In support of this assertion, Petitioner proffers Dr. Madisetti’s testimony and several examples of usage of “the terms ‘open’ and ‘opening’ in computer science patent literature to describe a mobile application being brought to the *foreground* of a computing device—rather than the application merely starting and running in the background.” *Id.* (citing Ex. 1021 ¶¶ 6–10). For instance, Petitioner and Dr. Madisetti direct our attention the following uses of “open”:

- U.S. Patent No. 10,367,814, which states, in relevant part, “even if the mobile device user does not actively open unsecured mobile application 702, its background process 706 may be activated by default once mobile device 720 is powered on.” (*id.* citing Ex. 1019, 24:52–57; Ex. 1021 ¶ 6);
- U.S. Patent No. 9,071,923, which states, in relevant part, “[t]he automatic archiver program determines whether to archive an application based on, for example, how frequently a user opens the application (e.g., touching on the application icon and brining [sic] the application to the foreground).” (*id.* at 18 citing Ex. 1015, 2:25–28; Ex. 1021 ¶ 7);
- U.S. Pat. No. 9,338,594, which states, in relevant part, “[i]n some embodiments, the collection of location information . . . is done at the time that Bob opens up his app (e.g., in the foreground), or can also be done in the background.” (*id.* at 18 citing Ex. 1018, 3:52–57; Ex. 1021 ¶ 7).

Patent Owner and Dr. Baker counter that, “[c]ontrary to the arguments made in the Petition, a [person of ordinary skill in the art] would understand, based on at least the teaching of Huisking[,] that an application that is started is opened.” PO Resp. 20; Ex. 2001 ¶ 59. Patent Owner elaborates that Huisking teaches that “*at a time of application startup*, the application may initiate an audio session with the doorbell security system board 210.” PO Resp. 21 (quoting Ex. 1008 ¶ 62). According to Patent Owner, this teaching of Huisking shows “the signal from the remote computing device is sent only after opening the doorbell control application on the remote computing device, not before.” *Id.* (citing Ex. 2001 ¶ 59). Patent Owner does not respond to Petitioner’s evidence of common usage of the term “open” in computer science. *See generally* Sur-Reply.

As we observed above, claim 20 is silent on how or by whom the application is opened. *See* Ex. 1001, 20:59–62. The Specification, however, describes the doorbell control application being opened by the user. *See, e.g.,* Ex. 1001, 9:60–65 (“The user can open the software application on the computing device 204 and instruct the application to show live video and/or audio from the security device 202”); *see also id.* at 12:24–28 (“In some embodiments, a remote computing device can display a live video from the doorbell camera in response to a user opening a doorbell control application on the remote computing device.”), 13:55–57, 14:20–23. We find these passages of the Specification suggest that the user opens the application.

Petitioner’s evidence of common usage of the term “open” in the art, including the testimony of Dr. Madisetti and the various additional references described above, is un rebutted in the record before us. We find

this evidence supports Petitioner’s contention that one of ordinary skill in the art would understand that “an application is not ‘open’ until it is brought to the foreground and viewable by the user.” Reply 17 (citing Ex. 1021 ¶ 5).

Rather than rebut Petitioner’s evidence, Patent Owner offers only Dr. Baker’s conclusory declaration testimony that an “application is ‘started,’ *i.e.* open, when the signal is sent by the remote computing device to start the SIP session.” PO Resp. 20 (citing Ex. 2001 ¶ 58). This statement, however, is in tension with Dr. Baker’s subsequent deposition testimony that the ’109 Patent discloses an embodiment of its invention in which the remote computing device is turned on, communication occurs between the remote computing device and the doorbell, and the doorbell control application is not yet opened by the user. Ex. 1020, 47:21–48:7 (discussing Ex. 1001, 16:1–11). In particular, Dr. Baker opines, “I think it’s safe to assume that the application is not opened by the user, but running as a background program.” *Id.* Patent Owner does not explain in the record before us how one might harmonize this statement with Dr. Baker’s earlier testimony that an ordinarily skilled artisan would understand an application started in the background to be open. *See* Ex. 2001 ¶ 58.

Accordingly, based on the complete trial record and in particular on the foregoing facts and analysis, we find a person of ordinary skill in the art would have understood claim 20 to encompass communication between the device and doorbell, including via the application running in the background upon startup of the device, prior to the application being opened by the user. With this understanding of the claim scope, we turn next to the teachings of Huisking.

Petitioner contends, “Huisking’s teaching of a doorbell application running in the background and sending a request signal prior to a user bringing the application to the foreground, together with Siminoff and Imao, renders obvious claim 20.” Reply 21; *see also* Pet. 54 (citing Ex. 1008 ¶ 62; Ex. 1003 ¶ 101). Patent Owner counters that the cited portions of Huisking fail to meet the claim limitation at issue because “as taught by Huisking, whether running in the foreground or in the background[,] the application has still been opened as of the time that Huisking teaches that the signal is sent.” PO Resp. 21 (citing Ex. 2001 ¶ 60).

We find Huisking teaches using a Session Initiation Protocol (SIP) to establish communication between its doorbell and an application on a remote device upon start of the device and before the application is brought to the foreground of the device. Huisking discloses, “[o]n mobile computing device platforms which support multi-tasking applications, at a time of application startup, the application may initiate an audio session with the doorbell security system board 210 over an IP (internet protocol) link using SIP (Session Initiation Protocol) protocol. The application may run in background mode thus permitting a user to work on other applications.” Ex. 1008 ¶ 62. Huisking further describes establishing audio communication between its doorbell security system board 210 and an Android device 220 using SIP “when the Android device is powered on by starting the application and running it in the background.” Ex. 1008 ¶ 85. A “doorbell press event may be notified by transmitting data over the SIP connection between the board 210 and the registered Android device 220 (which may be running the application in the background).” *Id.* Huisking similarly describes establishing a SIP connection when an iOS device “is

powered on” or “when the application starts up” and using this connection to transmit audio data for a doorbell press event to the device. *Id.* ¶¶ 83–84.

Although Huisking does not use the word “open” to describe its application, regardless of whether running in the background or foreground, (*see generally* Ex. 1008), Huisking discloses that the communication established upon waking the device and starting the application allows the background application to “listen on a VOIP (Voice Over IP) socket” for the “arrival of data packets on this socket [to] notify the user of the event.” *Id.* ¶ 62. “The application may run in background mode thus permitting a user to work on other applications.” *Id.* In light of these teachings, we disagree with Patent Owner’s assertion that Huisking’s “application has still been opened as of the time that Huisking teaches that the signal is sent.”

PO Resp. 21 (citing Ex. 2001 ¶ 60). Rather, we find that one of ordinary skill in the art would understand Huisking’s establishing a SIP connection between doorbell security system board 200 and a remote device when the device is powered on and running in the background to meet the claimed “prior to opening a doorbell control application on the remote computing device.” *See* Ex. 1008 ¶¶ 62, 83–85; *see also* Pet. 52–55; Reply 15–18.

Accordingly, based on the complete trial record and for the foregoing reasons, we determine the cited teachings of Huisking meet this claimed subject matter.

- c) “*exiting, . . . a camera sleep mode in which the doorbell camera is configured to not record and entering a camera recording mode;*”

Claim 20 recites, “exiting, by the doorbell, in response to the first signal, a camera sleep mode in which the doorbell camera is configured to not record and entering a camera recording mode.”

Petitioner relies on Imao's teaching of receiving a request for a TCP communication session as meeting this claim limitation in the same manner as discussed above in the context of the commensurate limitation of claim 7. Pet. 55 (incorporating analysis of the commensurate limitation of claim 7). Patent Owner does not address this limitation of claim 20. *See generally* PO Resp.; Sur-Reply.

Based on the complete trial record, we find that Imao meets this claimed subject matter for the same reasons discussed above in the context of claim 7. *See supra* Section III.D.3.b.

d) “*wherein the camera recording mode consumes more power than the camera sleep mode.*”

Claim 20 recites, “wherein the camera recording mode consumes more power than the camera sleep mode.”

Petitioner relies on Siminoff as meeting this claim limitation in the same manner as discussed above in the context of the commensurate limitation of claim 1. Pet. 56 (incorporating analysis of the commensurate limitation of claim 1). Patent Owner does not address this limitation of claim 20. *See generally* PO Resp.; Sur-Reply.

Based on the complete trial record, we find that Siminoff meets this claimed subject matter for the same reasons discussed above in the context of claim 1. *See supra* Section III.C.4.f.

Accordingly, based on the complete trial record and for the foregoing reasons, we determine Petitioner has established by a preponderance of the evidence that the combined teachings of Siminoff, Imao, and Huisking render obvious claim 20.

4. Claim 21

- a) “*The method of claim 20, further comprising recording, by the doorbell camera, a first video in response to the first signal.*”

Claim 21 recites, “[t]he method of claim 20, further comprising recording, by the doorbell camera, a first video in response to the first signal.” Petitioner relies on Siminoff and Imao’s teachings as meeting this claim limitation in the same manner as discussed above in the context of the commensurate limitation of claim 7. Pet. 56–57 (incorporating analysis of the commensurate limitation of claim 7). Patent Owner does not address this limitation of claim 21. *See generally* PO Resp.; Sur-Reply.

Based on the complete trial record, we find that Siminoff and Imao’s teachings meet this claimed subject matter for the same reasons discussed above in the context of claim 7. *See supra* Section III.D.3.c.

Accordingly, based on the complete trial record and for the foregoing reasons, we determine Petitioner has established by a preponderance of the evidence that the combined teachings of Siminoff, Imao, and Huisking render obvious claim 21.

F. Asserted Obviousness of Claim 15 over Siminoff ’618 and Huisking

1. Siminoff ’618

Siminoff ’618 is a published parent application to the Siminoff reference discussed above. Like Siminoff, Siminoff ’618 teaches activation triggers that bring Wireless Communication Doorbell 61 out of hibernation mode. Ex. 1009 ¶¶ 69, 75. Claims 1 and 2 of Siminoff ’618 recite switching the doorbell “from low-power mode to active mode in response to an activation trigger” where “the activation trigger includes . . . activation of an application running on a remote device.” Ex. 1009, claims 1 and 2.

2. Motivation to Combine Siminoff '618 and Huisking

Petitioner asserts, an ordinarily skilled artisan “would have found it obvious, beneficial, and predictable to implement Huisking’s technique in the context of Siminoff ’618, such that when the application on the Smart Device is activated (as recited in claims 1 and 2), a signal is transmitted to the Wireless Communication Doorbell that not only brings it out of hibernation but also triggers the camera to begin recording.” Pet. 59–60 (citing Ex. 1003 ¶¶ 100–108). According to Petitioner, both references are “directed to wireless video doorbell systems that stream video to a mobile device.” *Id.* at 60 (citing Ex. 1008 ¶ 48; Ex. 1009 ¶ 62; Ex. 1003 ¶ 101).

Petitioner contends that an ordinarily skilled artisan would have been “motivated to apply Huisking’s known video doorbell technique to the Wireless Communication Doorbell of Siminoff ’618.” *Id.* at 61 (citing Ex. 1003 ¶ 102). According to Petitioner, the proposed modification “would have furthered Siminoff’s goal of allowing users to ‘see who is within view of Wireless Communication Doorbell 61 at any given time’ in a reduced amount of time.” *Id.* (citing Ex. 1009 ¶ 62; Ex. 1003 ¶ 103). Petitioner further contends “the above combination would allow the doorbell to save power in hibernation mode, but, at the same time, allow a user to selectively request a video stream of the area around the doorbell by activating the application.” *Id.* at 62 (citing Ex. 1003 ¶ 105). According to Petitioner, one of ordinary skill in the art would find the proposed modification predictable and likely to result in success because “[s]ubstituting and modifying standardized and interchangeable components within a system such as Siminoff’s would have been well within the skill of a POSITA in 2014.” *Id.* at 62–63 (citing Ex. 1003 ¶¶ 106–107; Ex. 1011).

Patent Owner does not address Petitioner's contentions. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find one of ordinary skill in the art would have been motivated to combine, as Petitioner proposes, "Huisking's known video doorbell technique to the Wireless Communication Doorbell of Siminoff '618 to yield the predictable result of Siminoff's Smart Device sending a signal (e.g., an HTTP request) to the doorbell when the application is opened and the doorbell's camera activating and recording video to be displayed in the application on the mobile device," (Pet. 61 citing Ex. 1003 ¶ 102), and would have had a reasonable expectation of success in doing so.

3. Claim 15

a) "*A method of using a doorbell system . . . comprising:*"

Claim 15 recites, "[a] method of using a doorbell system, wherein the doorbell system comprises a remote computing device and a doorbell having a doorbell camera, the method comprising."

Petitioner contends, "[j]ust like Siminoff, Siminoff '618 teaches a method of using a doorbell system that includes a Smart Device, such as a smartphone, and a Wireless Communication Doorbell with a camera." Pet. 63–64 (citing Ex. 1009 ¶ 71; Ex. 1003, 124–128). Petitioner continues, "Siminoff '618 teaches that the smart device 'may be any electronic device capable of receiving and transmitting data via the internet' including 'smartphones.'" *Id.* at 64 (citing Ex. 1009 ¶ 62).

Patent Owner does not address this subject matter of claim 15. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find that Siminoff '618 meets this claimed subject matter.

- b) *“coupling communicatively the doorbell and the remote computing device”*

Claim 15 recites, “coupling communicatively the doorbell and the remote computing device.”

Petitioner contends, “Siminoff '618 teaches communicatively coupling the Wireless Communication Doorbell and the smart device via a ‘wireless telecommunications network’ (System Network 52) and a wireless User’s Network 65.” Pet. 64–65 (citing Ex. 1009 ¶¶ 60, 61, 71; Ex. 1003 ¶¶ 128–124).

Patent Owner does not address this limitation of claim 15. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find that Siminoff '618 meets this claimed subject matter.

- c) *“detecting, by the doorbell system, an indication of a presence of a visitor”*

Claim 15 recites, “detecting, by the doorbell system, an indication of a presence of a visitor.”

Petitioner contends that Siminoff '618 teaches detecting the presence of a visitor with a doorbell button push or with an infrared sensor. Pet. 66 (citing Ex. 1009 ¶¶ 29, 49, 69).

Patent Owner does not address this limitation of claim 15. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find that Siminoff '618 meets this claimed subject matter.

- d) *“opening a doorbell control application on the remote computing device”*

Claim 15 recites, “opening a doorbell control application on the remote computing device.”

Petitioner contends that Siminoff ’618 teaches “Application 55 may be installed on Smart Device 54 and provide an interface for User 62 to communicate and Interact with Wireless Communication Doorbell 61,” including allowing “the user to view still images or video taken by the Wireless Communication Doorbell 61, focus or zoom Camera 18, and communicate with a visitor.” Pet. 66–67 (citing Ex. 1009 ¶¶ 59, 63).

Patent Owner does not address this limitation of claim 15. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find that Siminoff ’618 meets this claimed subject matter.

- e) *“sending, automatically, a first signal from the . . . device to the doorbell in response to opening the doorbell control application”*

Claim 15 recites, “sending, automatically, a first signal from the remote computing device to the doorbell in response to opening the doorbell control application.”

Petitioner contends Siminoff ’618 and Huisking together meet this limitation. Pet. 68–70. According to Petitioner, “Siminoff ’618 teaches that several different activation triggers can bring the Wireless Communication Doorbell out of the low power/hibernation mode” and that one such trigger is “activation of an application running on a remote device.” *Id.* at 68 (citing Ex. 1009 ¶¶ 29, 49, 59, claims 1, 2).

Regarding the claimed automatic sending, Petitioner combines the foregoing disclosures of Siminoff ’618 with “Huisking’s teaching of

automatically sending an HTTP request signal from a remote device to a wireless doorbell in response to opening an application on the remote device.” *Id.* at 70. In particular, Petitioner relies on Huisking’s teachings that: after “the application is invoked, the user may be able to view the video (H.264, MJPEG) being captured by the camera installed with the doorbell unit” (Ex. 1008 ¶¶ 36, 46, 48); “[w]hen the application starts, an HTTP request may be sent to the board 210 which may respond with the web page containing a video frame (first in a sequence of digital video frames” (Ex. 1008 ¶¶ 97, 98); and when the control application is “brought to the foreground,” “[t]he mobile computing device application may subsequently initiate an http (HyperText Transfer Protocol)/RTP (Realtime Transport Protocol) session with the board to download the video” (Ex. 1008 ¶¶ 62, 65). Pet. 58, 59, 69.

Patent Owner contends Petitioner’s proposed combination fails to meet the claimed “sending, automatically” because “the cited teaching from Huisking states only that the sending of this signal is optional, and there is no disclosure that the signal is sent in response to opening the doorbell control application as required by the claim.” PO Resp. 22 (citing Ex. 2001 ¶ 65). Patent Owner and Dr. Baker explain, “every citation to Huisking relied on by the Petition and Dr. Madisetti provides that sending the signal to the doorbell is optional—Huisking uses only the word ‘may.’” *Id.* at 24; Ex. 2001 ¶ 66. Patent Owner further asserts, “in the paragraph 62 embodiment, the application is already opened and the signal is only sent ‘if the user acknowledges the event.’” PO Resp. 24

The ’109 patent’s Specification states, “automatically, *i.e.* without the user instructing.” Ex. 1001, 15:11–16. Petitioner treats this statement as

definitional. Reply 21–22. Patent Owner does not address the import of this statement on the claim term. Sur-Reply 8–10. The United States Court of Appeals for the Federal Circuit instructs that a patentee is free to act as their own lexicographer in order “to define the specific terms used to describe his or her invention, [but] this must be done with reasonable clarity, deliberateness, and precision.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Here, we agree with Petitioner and find this statement defines the claim term automatically as “without the user instructing” because the definition employs the term “i.e.” (“*id est*” or “that is”), which “signals an intent to define the word to which it refers.” *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1334 (Fed. Cir. 2009); *see SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1202 (Fed. Cir. 2013) (“i.e.” is definitional when it “comports with the inventors’ other uses . . . in the specification and with each and every other reference”).

With this understanding of the claim term “automatically,” we turn to the cited passages of Huisking. Huisking discloses:

- “The background application/OS (operating system) may listen on a VOIP (Voice Over IP) socket, and arrival of data packets on this socket may notify the user of the event. If the user acknowledges the event, ... the application may be brought to the foreground. The mobile computing device application may subsequently initiate an http (HyperText Transfer Protocol) /RTP (Realtime Transport Protocol) session.” (Ex. 1008 ¶ 62);
- “If a user acknowledges the event, then the OS may bring up the doorbell security system application. The application may then initiate an http/RTP session with the board 210 to

download the video and may use the SIP connection for bi-directional audio communication.” (*id.* ¶ 65);

- “When the application starts, an HTTP request may be sent to the board 210” (*id.* ¶¶ 97, 98).

Petitioner asserts that, as described in these passages, “Huisking’s HTTP request signal is sent ‘automatically’ upon the application opening because it is the *application* that initiates the sending, not the user—the user simply opens the application.” Reply 21–22. Patent Owner contends that these passages fail to “teach the timing associated with that sending of the signal at all” and instead “only teach that the application is brought to the foreground and then, at some unspecified time in the future, a signal ‘may’ be sent.” Sur-Reply 8–9.

We disagree with Patent Owner’s argument because it is misdirected at “timing.” As stated above, the Specification defines the claim term automatically as “without the user instructing.” Ex. 1001, 15:11–16. This definition does not require that the claimed sending be performed *immediately* in response to opening the doorbell control application, as Patent Owner’s argument suggests. Rather, claim 15, as read in light of the Specification’s definition of automatically, requires only that the sending occur without the user instructing after opening the application.

With respect to Patent Owner’s argument that, in Huisking’s embodiment at paragraph 62, “the application is already opened and the signal is only sent ‘if the user acknowledges the event’” (PO Resp. 24; Sur-Reply 9), we disagree with Patent Owner’s argument because it is premised on the notion that Huisking’s application is open upon powering the device when the application monitors in the background for a doorbell event. As

discussed above in the context of claim 20, we find one of ordinary skill in the art would not understand Huisking's application to be "open" until it is brought to the foreground. *See supra* Section III.E.3.b.

Finally, we agree with Petitioner that "Huisking's HTTP request signal is sent 'automatically' upon the application opening because it is the *application* that initiates the sending, not the user—the user simply opens the application." Reply 21–22. The cited passages of Huisking describe that, once the user opens the application by bringing it to the foreground, the HTTP request signal is sent without the user instructing. Ex. 1008 ¶¶ 62, 65, 97, 98. We further agree with Petitioner that Huisking's use of "may" in the cited passages denotes merely that configurations excluding the HTTP request signal are contemplated, but when included, the HTTP request signal is sent after opening the application without the user instructing. Reply 23 (citing Ex. 1008 ¶¶ 62, 97, 98).

Accordingly, based on the complete trial record and for the foregoing reasons, we determine the cited teachings of Huisking meet this claimed subject matter.

f) *"exiting, . . . wherein the camera recording mode consumes more power than the camera sleep mode"*

Claim 15 recites, "exiting, by the doorbell, in response to the first signal, a camera sleep mode in which the doorbell camera is configured to not record and entering, by the doorbell, a camera recording mode, wherein the camera recording mode consumes more power than the camera sleep mode."

Petitioner contends Siminoff '618 and Huisking together meet this limitation. "[W]ith respect to the recited 'camera sleep mode,' Siminoff

'618 teaches that the Wireless Communication Doorbell enters a 'hibernation' mode during which the camera is inactive and does not record images or video." Pet. 70 (citing Ex. 1009 ¶ 73). "Siminoff '618 calls this state of hibernation 'a low power consumption mode.'" *Id.* (citing Ex. 1009 ¶ 73, code (57)). Siminoff '618 further teaches that, during the low power consumption mode, the camera is inactive and without power until activated by an activation trigger. *See* Ex. 1009 ¶ 59 ("In reference to FIG. 12, after Button 11 is pressed, Power Processor 51 may provide the power to activate Camera 18"); *see also id.* ¶¶ 29, 46, 49, code (57). Claims 1 and 2 of Siminoff '618 recite switching the doorbell "from low-power mode to active mode in response to an activation trigger" where "the activation trigger includes . . . activation of an application running on a remote device." *Id.*, claims 1, 2.

Petitioner further alleges, "Huisking teaches that in response to the application being opened on its mobile device and the HTTP request being sent to the doorbell camera, real-time video from the camera is streamed to the remote device." Pet. 72–73 (citing Ex. 1009 ¶¶ 97, 98). According to Petitioner, an artisan of ordinary skill "would have found it obvious to implement Huisking's technique in Siminoff['618]'s video doorbell system so that when the doorbell application on Siminoff's smart device is activated and the activation trigger is sent to the Wireless Communication Doorbell to wake it up, real-time video would be streamed to the smart device for immediate viewing by the user." *Id.* at 73 (citing Ex. 1003, 145).

Patent Owner does not address this limitation of claim 15. *See generally* PO Resp.; Sur-Reply.

Based on the foregoing evidence, we find that Siminoff '618 and Huisking together meet this claimed subject matter.

Accordingly, based on the complete trial record and for the foregoing reasons, we determine Petitioner has established by a preponderance of the evidence that the combined teachings of Siminoff '618 and Huisking render obvious claim 15.

IV. CONCLUSION⁸

For the reasons discussed above, we determine Petitioner has proven, by a preponderance of the evidence, that the challenged claims are unpatentable, as summarized in the following table:

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1	103	Siminoff, Almomani	1	
7	103	Siminoff, Imao	7	
20, 21	103	Siminoff, Imao, Huisking	20, 21	
15	103	Siminoff '618, Huisking	15	
Overall Outcome			1, 7, 15, 20, 21	

⁸ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

V. ORDER

Accordingly, it is:

ORDERED that claims 1, 7, 15, 20, 21 of the '109 patent have been shown to be unpatentable; and

FURTHERED ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2019-00446
Patent 9,179,109 B1

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