

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONOS, INC.,
Petitioner,

v.

GOOGLE LLC,
Patent Owner.

IPR2023-00806
Patent 11,050,615 B2

Before KEVIN F. TURNER, BARRY L. GROSSMAN, and
SCOTT RAEVSKY, *Administrative Patent Judges*.

TURNER, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background and Summary*

Sonos, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) to institute an *inter partes* review of claims 1–3, 5–12, and 15–19 (the “challenged claims”) of U.S. Patent No. 11,050,615 B2 (Ex. 1001, “the ’615 Patent”). Google LLC (“Patent Owner”) timely filed a Preliminary Response (Paper 6, “Prelim. Resp.”) contending that the Petition should be denied as to all challenged claims.

We instituted an *inter partes* review of the challenged claims. Paper 7 (“Dec. to Inst.”). Patent Owner subsequently filed a Patent Owner Response (Paper 9, “PO Resp.”), Petitioner filed a Petitioner Reply (Paper 11, “Pet. Reply”), Patent Owner filed a Patent Owner Sur-reply (Paper 12, “PO Sur-reply”), and a transcript of an oral hearing held on August 5, 2024 (Paper 19, “Hr’g Tr.”) has been entered into the record.

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). We base our decision on the preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). Having reviewed the arguments of the parties and the supporting evidence, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 1–3, 5, 9–12, and 15–18 of the challenged claims are unpatentable, but has not demonstrated by a preponderance of the evidence that claims 6–8 and 19 of the challenged claims are unpatentable.

B. *Related Proceedings*

The Petition states that the ’615 Patent is asserted in the following litigation: *Google LLC v. Sonos, Inc.*, No. 3:22-CV-04553 (N.D. Cal.); *Certain Audio Players and Components Thereof II*, Inv. No. 337-TA-1330 (U.S. ITC). Pet. 4; Paper 4, 2.

Patent Owner acknowledges that

[t]he Initial Determination in the related ITC investigation addressed anticipation and obviousness of claims 1, 5, 6, 9, 16, 17, and 19 based on the primary reference applied in the Petition’s first ground—Roberts. Ex. 2001, 157. The Administrative Law Judge found claims 1, 5, 9, 16, and 17 anticipated by Roberts but found that Sonos failed to show Roberts disclosed the limitations recited in claims 6 and 19. Id., 160-164 (“Roberts does not anticipate claim 6 . . . Roberts does not anticipate claim 19”), 176-177 (claims 6 and 19 have not been shown to be obvious over the single reference Roberts.”).

PO Resp. 1. Based on those findings, Patent Owner limits its arguments to the patentability of dependent claims 6 and 19 with respect to the instituted grounds discussed below, which Petitioner takes as a concession that the other claims are unpatentable. *See generally* PO Resp.; PO Sur-reply; Pet. Reply 1. We note, however, that in this proceeding, Petitioner still has the burden of persuasion with respect to the challenged claims, which it must demonstrate by a preponderance of the evidence, although counter arguments are only raised with respect to dependent claim 6 and 19, as discussed below.

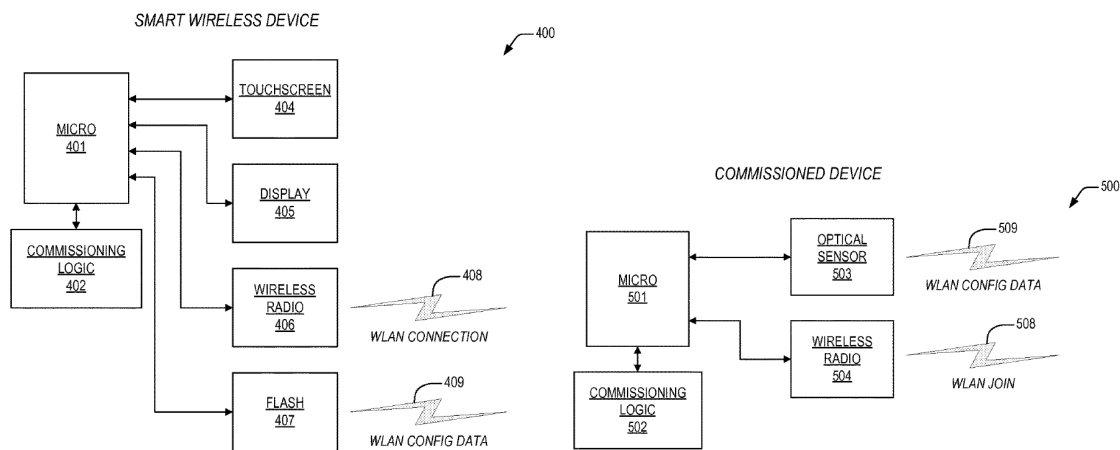
C. Real Party-in-Interest

Petitioner identifies itself as the sole real party-in-interest. Pet. 4. Patent Owner identifies itself as the sole real party-in-interest. Paper 4, 2.

D. The '615 Patent

We make the following findings of fact concerning the '615 patent. The '615 patent relates to the “commissioning of electronic devices onto wireless local area networks (WLANs),” whereby wireless electronic devices do not merely connect themselves to the nearest wireless network, but rather they must be “commissioned” or “provided with configuration

data to enable them to join” the network. Ex. 1001, 1:37–40, 1:62–2:2. The ’615 patent asserts that commissioning can entail complicated sequences and equipment, which can be problematic because it necessitates the device user to “either be very smart,” or seek “assistance from someone who is knowledgeable.” *Id.* at 2:2–14, 6:35–39. The ’615 patent seeks to employ a “smart wireless device” with a transducer that can transit “WLAN configuration packets” to a target device to allow that device to join the WLAN. *Id.* at 2:43–64. Per the ’615 patent, block diagrams of a smart wireless device and commissioned device (Figures 4 and 5) are reproduced below:



Figures 4 (on the left) and 5 (on the right) of the ’615 Patent illustrate block diagrams showing a Smart Wireless [commissioning] Device and a commissioned device, respectively

As shown in Figure 4, smart wireless device 400 includes microcomputer 401 coupled to commissioning logic 402 and touchscreen 404 and display 405, as well as wireless radio 406, that allows the device to participate in and communicate via WLAN 408. Ex. 1001, 9:7–15, 9:44–47. The smart wireless device utilizes a side band, proximity based, communication channel that is established between the smart wireless device and the other device to be commissioned onto the WLAN. This

communication channel can be a camera flash, light emitted by the display backlight, a transmitter that utilizes “BLUETOOTH®, near field communications (“NFC”), mechanical vibration/accelerometer transmission, RF identification, Zigbee®, radio frequency for consumer electronics (RF4CE®), Z-Wave®, or other proprietary standards. *Id.* at 8:9–13, 42–67. Irrespective of its form, the transmitting element uses well-known communication protocols, error correcting codes, line coding, and/or modulation techniques, and the WLAN configuration data can include the name of the WLAN, security mode, and any required security passphrase. *Id.* at 10:1–6, 8:32–37.

As shown in Figure 5, the device commissioned onto the network has microcontroller 501 and wireless radio 504, as well as a receiving element that allows it to receive the configuration data transmitted by the smart device. Ex. 1001, 7:55–59, 10:7–17. The commissioned device extracts the WLAN configuration data from the received configuration message and employs the configuration data in order to join the WLAN. *Id.* at 8:38–41.

E. Illustrative Claims

As noted above, Petitioner challenges claims 1–3, 5–12, and 15–19, with claims 1, 11, and 16 being independent claims. Given the arguments raised, claims 1 and 6 are reproduced below, with the understanding that dependent claims 6 and 19 are similar in scope, but depend from different, similar independent claims:

1. A method comprising:
preprocessing, by a network protection device, a first rule set by performing operations on the first rule set, prior to the first rule set being implemented on the network protection device, to optimize performance of the network protection device;

configuring the network protection device to process packets in accordance with the preprocessed first rule set after preprocessing the first rule set;

receiving, a plurality of packets after configuring the network protection device to process packets in accordance with the preprocessed first rule set;

processing, by the network protection device, a first portion of the plurality of packets in accordance with the preprocessed first rule set;

preprocessing, by the network protection device, a second rule set by performing operations on the second rule set, prior to the second rule set being implemented on the network protection device, to optimize performance of the network protection device;

signaling the network protection device to process packets in accordance with the second rule set; and

responsive to the signaling:

- ceasing processing of one or more packets by the network protection device;
- caching the one or more packets;
- reconfiguring the network protection device to process packets in accordance with the preprocessed second rule set;
- signaling completion of reconfiguration to process packets in accordance with the preprocessed second rule set; and
- responsive to signaling the completion of the reconfiguration,

processing the one or more cached packets by the network protection device in accordance with the preprocessed second rule set,

wherein the operations performed on the first rule set and the second rule set include at least one of:

- merging two or more rules within the first rule set or the second rule set into one rule;
- separating one or more rules within the first rule set or the second rule set into two or more rules; or
- reordering one or more rules within the first rule set or the second rule set.

6. The method of claim 1, further comprising:
 contacting the wireless device via the communication
 network to indicate that the target device has successfully
 entered the communication network.

Ex. 1001, 13:28–54, 14:7–10.

F. Grounds of Institution

Trial was instituted on the following grounds:

References	Basis 35 U.S.C. §	Claims Challenged
Roberts ¹ , Asokan ²	103 ³	1–3, 5–12, 15–19
Suumäki ⁴	103	1–3, 5–12, 15–19

Dec. to Inst. 25. Petitioner relies on the Declaration from Dr. Douglas C. Schmidt (Ex. 1003).

II. ANALYSIS

A. Level of Ordinary Skill in the Art

The level of ordinary skill in the pertinent art at the relevant time is a factor in how we construe patent claims. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). It is also one of the factors we consider when determining whether a patent claim is obvious over the prior art. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

¹ US 7,616,594 B2, issued Nov. 10, 2009 (Ex. 1004, “Roberts”).

² US 2006/0251256 A1, published Nov. 9, 2006 (Ex. 1006, “Asokan”).

³ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the application from which the ’615 Patent issued was filed before this date, the pre-AIA version of § 103 applies.

⁴ US 9,288,228 B2, filed Aug. 5, 2011, patented Mar. 15, 2016 (Ex. 1005, “Suumäki”).

To assess the level of ordinary skill, we construct a hypothetical “person of ordinary skill in the art,” from whose vantage point we assess obviousness and claim interpretation. *See In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998). This legal construct “presumes that all prior art references in the field of the invention are available to this hypothetical skilled artisan.” *Id.* (citing *In re Carlson*, 983 F.2d 1032, 1038 (Fed. Cir. 1993)).

Petitioner, supported by Dr. Schmidt’s testimony, has proposed that a person of ordinary skill in the art at the time of the invention “would have had a degree in computer engineering, computer science, or a similar discipline, along with 2 years of professional experience in the fields of networking and network-based systems or applications, or an equivalent level of skill, knowledge, and experience,” and would have been “aware of and generally knowledgeable about how devices were provisioned onto wireless networks, along with standards applicable to well-known methods for communication such as Wi-Fi, Bluetooth, and NFC available at the time the ’615 patent was filed.” Pet. 18 (citing Ex. 1003 ¶¶ 37–39). Patent Owner does not challenge the qualifications proposed by Petitioner for a person of ordinary skill in the art. *See generally* PO Resp.; PO Sur-reply.

We find Petitioner’s proposal consistent with the level of ordinary skill in the art reflected by the prior art of record, *see Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978), and, therefore, we adopt Petitioner’s unopposed position as to the level of ordinary skill in the art for purposes of this Decision.

B. Claim Construction

In an *inter partes* review, we construe a patent 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). In applying such standard, claim terms are generally given their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art, at the time of the effective filing date of the patent application and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

In the Institution Decision, we considered the assertions of Petitioner that the terms of the ’615 patent’s claims do not require further construction and can be afforded their plain and ordinary meaning. Dec. to Inst. 7 (citing Pet. 14; Ex. 1003 ¶¶ 79–82). Patent Owner also does not assert any express constructions. *See generally* PO Resp.; PO Sur-reply. Given the lack of controversy, we need not explicitly adopt or discuss any explicit constructions in this decision. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

C. Legal Standards

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 ordinary skill in the art; and (4) objective evidence of nonobviousness. *See Graham*, 383 U.S. at 17. Additionally, the obviousness inquiry typically 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 Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (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”)); *see In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333 (Fed. Cir. 2016) (citing *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006)).

An obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418; *accord In re Translogic Tech., Inc.*, 504 F.3d 1249, 1259 (Fed. Cir. 2007). Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Instead, Petitioner must articulate a reason why a person of ordinary skill in the art would have combined or modified the prior art. *In re NuVasive, Inc.*, 842 F.3d 1376, 1382 (Fed. Cir. 2016).

A reason to combine or modify the prior art may be found explicitly or implicitly in market forces; design incentives; the “interrelated teachings of multiple patents”; “any need or problem known in the field of endeavor at the time of invention and addressed by the patent”; and the background knowledge, creativity, and common sense of the person of ordinary skill. *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1328–29 (Fed. Cir. 2009) (quoting *KSR*, 550 U.S. at 418–21).

In determining whether a claim is obvious in light of the prior art, when in evidence, we consider any relevant objective evidence of non-obviousness. *See Graham*, 383 U.S. at 17–18. Notwithstanding what the teachings of the prior art would have suggested to one of ordinary skill in the art at the time of the invention, the totality of the evidence submitted, including objective evidence of non-obviousness, may lead to a conclusion that the challenged claims would not have been obvious to one of ordinary skill. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984).

We analyze the asserted grounds of unpatentability in accordance with these principles to determine whether Petitioner has met its burden to establish unpatentability of the challenged claims by a preponderance of the evidence.

*D. Obviousness over Roberts and Asokan
Claims 1–3, 5–12, and 15–19*

Petitioner asserts that claims 1–3, 5–12, and 15–19 are unpatentable over Roberts and Asokan. Pet. 6. Petitioner addresses each limitation of the independent claims and provides the testimony of Dr. Schmidt in support of its position with respect to them. Pet. 18–33; Ex. 1003 ¶¶ 120–222.

Patent Owner does not contest Petitioner’s assertions regarding the limitations of the independent claims. *See generally* PO Resp.; PO Sur-reply. With respect to this ground of unpatentability, Patent Owner only argues that the Petition fails to demonstrate that Roberts and Asokan render claims 6 and 19 unpatentable. PO Resp. 5–14; PO Sur-reply 8–14. Patent Owner also suggests arguments raised would affect the patentability arguments against claims 7 and 8, which depend from claim 6, and claim

20⁵, which depends from claim 19, but does not offer arguments specific to those further dependent claims. PO Resp. 3.

We begin with brief discussions of Roberts and Asokan, then consider Petitioner’s arguments with respect to the challenged claims, and then consider Patent Owner’s arguments concerning claims 6 and 19.

1. Roberts

We make the following findings of fact concerning Roberts. Roberts relates to a system for establishing communication with a wireless network, where before joining such a network, a device needs WiFi specific settings, such as a service set identifier (SSID), a cryptographic key, and operating channels. Ex. 1004, 1:12–14, 29–32. Roberts discusses that existing methods for configuring a device are “difficult,” such that a user must often manually enter the configuration in the device, “which can be a very confusing process.” *Id.* at 1:26–35.

To address this problem, Roberts teaches a system in which a new “enrollee device” is automatically provided with the “necessary configuration settings” by a “registrar” device that “is already connected to the network, as illustrated in Figure 5 of Roberts, reproduced below:

⁵ We note that claim 20 is not challenged in this proceeding.

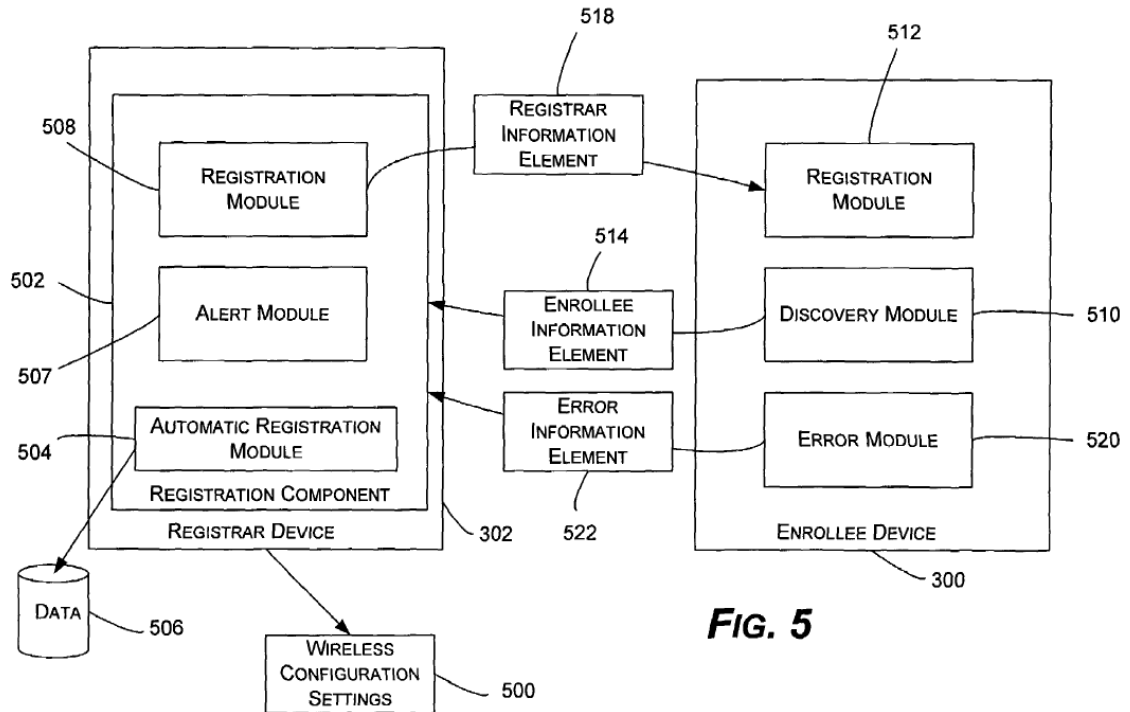


FIG. 5

Figure 5 illustrates the architectures of the registrar and enrollee devices.

Enrollee device 300 transmits enrollee information element 514, and in response, a communication channel is established, and registrar device 302 transmits back registrar information element 518 over this channel. Ex. 1004, 2:6–10, 7:43–52, 9:17–20, 42–45, 11:18–21, 33–40, 62–65, 12:1–6, Figs. 5, 6. Either an “in band” or “out of band” communication channel, such as BLUETOOTH®, can be employed. *Id.* at Abstr., 1:66–2:19; 6:26–28, 7:43–52. Registrar information element 518 includes the network configuration information—the network SSID and key—the enrollee device needs to join the network. *Id.* at 7:30–42, Fig. 8.

2. Asokan

We make the following findings of fact concerning Asokan, which is directed to “[m]ethods and systems for managing access to a wireless local area network” by new or guest devices. Ex. 1006, Abstr., ¶ 2. Asokan

explains that its system utilizes an out-of-band channel to communicate authentication key and network address information to that device. *Id.* ¶ 10. The employed out-of-band channel can be based on “NFC, short range wireless communication infrared, Bluetooth, UWB, WiFi, RFID, USB memory stick, etc.” *Id.* ¶ 25. Asokan discloses that the use of an out-of-band channel, as opposed to the in-band channel, allows for “simpler and more efficient wireless network setup and administration” and “provides for an increase to security and usability.” *Id.* at Abstr., ¶¶ 8, 10, 25.

3. *Independent Claims 1, 11, and 16*

Petitioner asserts that

Claims 1, 11, and 16 are all independent. These claims embrace the same, basic subject matter. The only difference is that claim 1 is directed to a “method.” Claim 11 is directed to a “target device.” And, claim 16 is directed to “non-transitory computer readable storage medium.” Because of their similarity, this petition will discuss the claims together.

Pet. 19. We agree with Petitioner with respect to the independent claims. For purposes of our analysis, claims 11 and 16 are similar to claim 1, and Patent Owner does not contend otherwise. *See generally* PO Resp.; PO Sur-reply. Petitioner provides a clause-by-clause analysis identifying each clause of claims 1, 11, and 16, and asserting where the claimed limitation is shown in the references, as discussed below.

i) Petitioner’s Assertions

Petitioner asserts that Roberts relates to a system for establishing communication with a wireless network, where a wireless device that desires to be connected to the network is provided with the necessary configuration setting by a device already connected to the network. Pet. 20 (citing

Ex. 1004, 1:12–14, 47–55). Petitioner also asserts that Roberts provides an example of a basic configuration for a computer, containing at least one processing unit and memory that can store instructions to carry out tasks, with the computer either being a “registrar device” or an “enrollee device.” *Id.* at 22–23 (citing Ex. 1004, 3:15–16, 54–60, 4:51–54, Fig. 2). Petitioner also asserts that persons of ordinary skill in the art would have recognized that Roberts would have employed wireless radio to engage in wireless communications and transmit modulated signals wirelessly. *Id.* at 23 (citing Ex. 1004, 1:27–29, 56–65, 3:41–46, 4:18–32, 9:8–10; Ex. 1003 ¶¶ 137–145).

With respect to the step of receiving a request to initiate a commissioning process, Petitioner asserts that Roberts discloses that the process for configuring a new device begins when the power for the enrollee device is turned on, and then, either automatically or upon user initiation, the enrollee device broadcasts information about itself and its capabilities in the form of an enrollee information element. Pet. 24 (citing Ex. 1004, 5:44–53). With respect to the step of establishing a short-range signal transmission path, Petitioner asserts that Roberts explains that as part of this process, a connection between the enrollee and registrar is created to facilitate the communication of configuration information, wherein the connection can be either “in band” or “out-of-band” communication, with “a Bluetooth™ connection” serving as an example of out-of-band communication. *Id.* at 26 (citing Ex. 1004, 1:66–2:19, 2:6–10, 6:26–28, 7:43–52, 9:17–20, 42–45, 11:18–22, 33–40, 62–65, 12:1–6).

Petitioner acknowledges that Roberts discloses both in-band and out-of-band communication, but asserts that a person of ordinary skill in the art would have selected, and considered obvious, the use of an out-of-band channel when implementing Roberts. Pet. 27. Petitioner asserts that

Roberts provides instructions to do so, and that Asokan confirms that a person of ordinary skill in the art not only would have considered use of an out-of-band channel with Roberts, but would have preferred such a method of communication. *Id.* at 26–27 (citing Ex. 1004, 2:6–10; 7:46–52; Ex. 1006, Abstr., ¶¶ 2, 3, 10, 23, 25; Ex. 1003 ¶¶ 178–186.).

With respect to the limitation of receiving one or more network configuration packets from the wireless device, Petitioner further asserts that Roberts discloses that after element 514 is received by a registrar device, the registrar provides configuration information to the enrollee. Pet. 28 (citing Ex. 1004, 1:66–2:2, 5:44–53, 7:11–12, 25–29, 31–33, Fig. 6). The configuration information is sent “via the same channel through which the enrollee information element 514 was broadcast,” using “media specific data frames,” and can include various information fields, including a header and address “to ensure that the targeted enrollee device . . . directly receives the packet.” *Id.* at 28–29 (citing Ex. 1004, 7:43–52, 11:65–67, 12:7–11, 28–29, 12:64–13:11; Ex. 1003 ¶¶ 194–197). Additionally, Petitioner asserts that even if Roberts did not itself already teach the use of packets with defined formats, a person of ordinary skill would have considered this obvious because Bluetooth, employed by Roberts, utilizes a standardized packet format. *Id.* at 29–30 (citing Ex. 1004, 2:6–10; Ex. 1003 ¶¶ 198–202; Ex. 1017, 2:15–17, 4:57–58, 5:59–61, Fig. 3). In addition, Petitioner asserts that Figure 8 of Roberts illustrates that the configuration information that can be conveyed to an enrollee includes the wireless network name and encryption information, such as an encryption key, for the network. *Id.* at 30–31 (citing Ex. 1004, 1:29–32, 7:30–42, Fig. 8).

With respect to the limitation of decoding and processing the one or more network configuration packets, Petitioner asserts Roberts discloses that

its invention can be implemented by programs on its devices, and that Roberts explains that upon receipt of a packetized registrar information element 518, an enrollee extracts and uses “the configuration information within” the element for purposes of joining a network. Pet. 31–32 (Ex. 1004, 1:47–52, 3:15–16, 58–60, 5:44–47, 8:39–43, 13:16–24, Fig. 6; Ex. 1003 ¶¶ 209–217). With respect to the limitation of enabling the target device to join the communication network, Petitioner asserts that, in Roberts, upon receipt of a registrar information element, an enrollee device attempts registration with the wireless network using the configuration information within the element. *Id.* at 32–33 (citing Ex. 1004, Abstr., 1:46–55, 4:38–42, 8:39–45, Fig. 6).

Petitioner also asserts that persons of ordinary skill in the art would have considered it obvious and would have been motivated to apply Asokan’s teachings to Roberts. Pet. 43 (citing Ex. 1003 ¶¶ 293–320). Petitioner asserts that Asokan explains that employing only an “in-band” communication channel when commissioning a new network device “present[s] a variety of problems.” *Id.* at 43–44 (quoting Ex. 1006 ¶ 6). Petitioner further asserts that Asokan goes on to explain that its system overcomes these issues and provides a simpler and more efficient wireless network setup and administration, and the ability to use out-of-band where possible provides for an increase to security and usability. *Id.* at 44 (Ex. 1006 ¶¶ 8, 10, 25). Petitioner asserts that Asokan’s teachings would have provided strong motivation to employ a separate, out-of-band communication channel in Robert’s system, to improve security of the process and easy management of guest access. *Id.* at 44–45 (citing Ex. 1003 ¶¶ 295–314). Petitioner also points out that Roberts is already open to and allows for the use of out-of-band communication channels during new

device commissioning, and that reasonably skilled artisans would have had a reasonable expectation of success that their process can be successfully combined. *Id.* at 46–47 (citing Ex. 1004, Abstr., 1:66–2:19, 2:1–3, 6:26–28, 7:43–52; Ex. 1006 ¶¶ 6, 10, 26; Ex. 1003 ¶¶ 315–324; *KSR Int’l Co.*, 550 U.S. at 406).

ii) Conclusions Regarding Independent Claims 1, 11, and 16

As we note above, Patent Owner does not offer either arguments or evidence regarding claims 1, 11, and 16. We have considered the evidence and arguments in the record before us with respect to independent claims 1, 11, and 16, including the relevant testimony of Dr. Schmidt. We conclude that Petitioner has demonstrated by a preponderance of the evidence that independent claims 1, 11, and 16 are unpatentable.

4. Dependent Claims 2, 3, 5–10, 12, 15, and 17–19

Petitioner also addresses the limitations of dependent claims 2, 3, 5–10, 12, 15, and 17–19. Pet. 33–43. As discussed above, Patent Owner limits its arguments to dependent claims 6 and 19. PO Resp. 5–14; PO Sur-reply 8–14. We address the dependent, challenged claims in groups below.

i) Claims 2, 3, and 5

Claim 2 recites, in part that the wireless device may be a smart phone or a tablet computer. Petitioner asserts that Roberts explains that various different computers can be connected to its network and serve as a register. Pet. 33–34 (citing Ex. 1004, 3:21–29). Petitioner acknowledges that Roberts does not disclose the specific devices recited in claim 2, but asserts that “these types of devices were well-known and in routine use.” *Id.* at 34. We agree with Petitioner that claim 2 would have been obvious over Roberts and Asokan for the reasons asserted by Petitioner.

Claim 3 recites, in part, that the information received via the short-range signal transmission path through one of a plurality of radio modulation techniques. Claim 5 recites, in part, the same path may be through Bluetooth communication. Petitioner asserts that both Roberts and Asokan disclose that “out of band communications,” which can be a Bluetooth channel that employs the types of modulation techniques claim 3 requires. Pet. 34–36 (citing 1004, 4:18–20, 2:6–10, 7:46–52, 10:8–9; Ex. 1006 ¶ 10; Ex. 1003 ¶¶ 238–245). We agree with Petitioner that claims 3 and 5 would have been obvious over Roberts and Asokan for the reasons asserted by Petitioner.

ii) Claims 6 and 19

Claim 6 recites, in part, that the wireless device is contacted via the communication network to indicate that the target device has successfully entered the communication network, with claim 19 reciting similar subject matter. With respect to claim 6, Petitioner asserts that in Roberts, after enrollee device setup has succeeded, the L2 data port is deleted on both devices and the enrollee device “reconfigures its ‘802.11 stack with an 802.11 profile and credentials to connect the enrollee device . . . as a member of the 802.11 network domain.” Pet. 36 (quoting Ex. 1004, 13:51–57). Based on this disclosure, Petitioner asserts that ordinarily skilled artisans “would [have] understand that any further messages or notifications sent to the registrar—which obviously includes a notification that the setup was successful such that the registrar can delete its own matching L2 port—would be transmitted over the wireless network itself.” *Id.* at 36–37 (citing Ex. 1003 ¶¶ 246–251). Petitioner refers to its analysis for claim 6 in asserting that claim 19 is unpatentable for the same reasons. *Id.* at 43.

Patent Owner argues that Petitioner’s assertions regarding claim 6 fail for three reasons: 1) Petitioner’s claim 6 mapping contradicts how it mapped claim 1; 2) Petitioner fails to prove that Roberts’s enrollee device communicates with the registrar device *after* the enrollee device is successfully set up; and 3) Petitioner does not persuasively show that the enrollee device messages the registrar device *over the WiFi network* about the enrollee device *successfully connecting to the WiFi network*. PO Resp. 9–14.

With respect to the first argument, Patent Owner argues that Roberts discloses both in-band and out-of-band communication channels, but that Petitioner relies only on the out-of-band system for claim 1, and switches to discussion of in-band WiFi to send configuration information for claim 6. PO Resp. 9–10. Patent Owner asserts, however, that “Roberts consistently describes using in-band and out-of-band channels as distinct and separate embodiments for the same purpose: to provide the configuration information to the enrollee device.” *Id.* at 10. Petitioner responds that the positions it takes with respect to claims 1 and 6 are not contradictory, and that network configuration information may be conveyed from a registrar to an enrollee device “regardless of whether an in-band or out-of-band communication method is employed.” Pet. Reply 6–7. Patent Owner responds that such a position is new, i.e., not found in the Petition, and the Petition provides no explanation for why persons of ordinary skill in the art would have been motivated to combine the different embodiments or whether such a combination would be successful. PO Sur-reply 5–7.

We agree with Patent Owner’s argument. Although Petitioner is correct that Roberts discloses different embodiments for conveying configuration information, those embodiments are distinct. *See* Ex. 1004,

Abstr., 1:67–2:15, 6:23–28, 7:43–52. We further agree with Patent Owner that the section of the Petition discussing claim 6 does not discuss the combination of embodiments; it merely asserts what would have been obvious in the context of the cited embodiment. *See* Pet. 36–37. *See, e.g., In re Stepan Co.*, 868 F.3d 1342 (Fed. Cir. 2017), headnote 4, “Whether a rejection of a patent claim for obviousness is based on combining disclosures from multiple references, combining multiple embodiments from a single reference, or selecting from large lists of elements in a single reference, there must be a motivation to make the combination and a reasonable expectation that such a combination would be successful, otherwise a skilled artisan would not arrive at the claimed combination.” *See also, Intuit Inc. v. Samesurf, Inc.*, No. IPR2023-00342, 2024 WL 3165359, at *31 (P.T.A.B. June 25, 2024) (Distinguishing *Stephan* for simultaneous actions). Claim 6 depends on claim 1, and any discussion of claim 6, explaining its obviousness, must consider the obviousness case for the independent claim in its analysis. Petitioner’s observation that Roberts is agnostic as to how network configuration information is conveyed does not relieve Petitioner of the requirement of making that case in the Petition. *See* 35 U.S.C. § 312(a)(3); 37 C.F.R. § 42.104(b)(4).

Petitioner also emphasizes that its analysis of claims 6 and 19 is supported by passages of Roberts and Asokan and also supported by expert testimony, but Patent Owner relies on “nothing more than bare attorney argument,” and Patent Owner’s assertions of what Roberts teaches or suggests do not rebut the Petition’s showing of obviousness. Pet. Reply 3–4. Patent Owner responds, and we agree, that it has cited specific disclosures from Roberts that undermine Petitioner’s obviousness arguments. PO Sur-reply 3. The Board may be persuaded by evidence and argument that is not

supported by expert testimony. *See Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009) (“Nor are expert opinions always a prerequisite [to address patentability], for [i]n many patent cases expert testimony will not be necessary because the technology will be easily understandable without the need for expert explanatory testimony.”).

With respect to Patent Owner’s second argument, Patent Owner argues that Petitioner fails to prove that Roberts’s enrollee device communicates with the registrar device *after* the enrollee device is successfully set up, because no such disclosure is found in Roberts and Petitioner’s allegations of the obviousness of such communication rely on a single conclusory assertion. PO Resp. 11. Patent Owner also argues that no rationale is provided as to why the registrar device needs a notification from the enrollee device to close its L2 port, and that the port may be closed even when no response is received. *Id.* at 11–12 (citing Ex. 1003 ¶¶ 246–251). Petitioner responds that Patent Owner addresses the portions of Roberts cited in the Petition in isolation, fails to account for the reference’s collective teachings to persons of ordinary skill in the art, and that its expert “arrived at the entirely unsurprising conclusion that one obvious way to accomplish what Roberts teaches would be to transmit the type of messages claims 6 and 19 require.” Pet. Reply 8–10 (citing Ex. 1003 ¶¶ 253, 251). Patent Owner responds that Petitioner’s assumptions are not supported by Roberts. PO Sur-reply 9–11.

Here, again, we agree with Patent Owner. The only support the Petition provides is that it would have been obvious to transmit a notification that the setup was successful comes from Dr. Schmidt’s testimony (Ex. 1003 ¶¶ 246–251), of which only a single paragraph discusses what would have been obvious to one of ordinary skill in the art (*id.* ¶ 251). Pet. 36–37. That

paragraph, however, details that it would have been obvious to send such a message *over the wireless network*, but does not explain why one of ordinary skill in the art would have sent the message in the first place, given the lack of disclosure in Roberts. Indeed, Dr. Schmidt does not cite Roberts once in this paragraph. Put another way, Dr. Schmidt offers an explanation as to how that the message would have been sent over the wireless network but fails to explain why any message would need to be sent at all. The Petition also fails to demonstrate the obviousness of sending the message.

With respect to Patent Owner's third argument, Patent Owner argues that the Petition only alleges that the enrollee device informs the registrar that the enrollee device *was successfully set up*, not that it successfully connected to the WiFi network. PO Resp. 13–14 (citing Pet. 36–37). Patent Owner also argues that the Petition concedes that the enrollee device does not connect to the WiFi network until *after* the setup succeeds, so the alleged notification cannot be sent over the WiFi network. *Id.* at 14. Petitioner responds that Patent Owner's argument is premised on an overly narrow interpretation of claim 6, where the transmitted message does not need to be explicit or be in any particular form, and that claim 6 does not require that setup be totally complete, only that the enrollee successfully enter the communication network. Pet. Reply 11–12. Patent Owner responds that Petitioner's claim construction arguments are (i) improper to raise on Reply, (ii) contradicted by the '615 patent and Petitioner's own arguments, and (iii) even if accepted, do not overcome the Petition's failure to even *allege* that that Roberts renders obvious an indication that the enrollee successfully entered the WiFi network. PO Sur-reply 11–14.

We agree with Patent Owner, taking the last argument (regarding the Petition's failure to allege this argument) to be persuasive:

[T]he Petition only stated that the enrollee device “obviously” includes a notification to the registrar device that “*the setup was successful*” (Pet. 37 (emphasis added))—but, as [the] Patent Owner Response explains, this “setup” only refers to providing the enrollee device with WiFi credentials needed to subsequently connect to the communication network—not showing successful entry into the communication network.

PO Sur-reply 14. We are persuaded that the Petition does not adequately show that successful entry into the communication network is being indicated, only that the credentials have been provided. Pet. 37. Although the credentials are necessary for successful entry, they are not synonyms and do not necessarily indicate the same things.

Based on the arguments considered above, we determine that Petitioner has not demonstrated by a preponderance of the evidence that dependent claims 6 and 19 are unpatentable.

iii) Claims 7 and 8

Claim 7 recites, in part, that the commission process continues by receiving device configuration data from the wireless device. Claim 8 recites, in part, that the configuration data can include an Internet Protocol address. Petitioner asserts that, per Asokan, a network configuration process employing an out-of-band channel can employ multiple steps, with those further in-band communications being equivalent to device configuration data, and that Roberts discloses the transmission of an IP address, that could have been employed in Asokan. Pet. 37–39 (citing Ex. 1006 ¶¶ 3, 5, 10–13, 26–27, 52, 57, Fig. 4; Ex. 1004, 7:33–42; Ex. 1003 ¶¶ 255–278).

Claims 7 and 8 depend from claim 6, discussed above. By virtue of their dependence, if Petitioner has not established that claim 6 is obvious over Roberts and Asokan, claims 7 and 8 cannot be shown to have been obvious over Roberts and Asokan. Thus, we determine that Petitioner has

not demonstrated by a preponderance of the evidence that dependent claims 7 and 8 are unpatentable.

iv) Claims 9, 10, 12, 15, 17 and 18

Claim 9 recites, in part, visual and audio indications of the status of the commissioning process are generated, with claim 17 reciting similar subject matter. Petitioner asserts that Roberts discloses that an alert can be provided at a registrar device upon receipt of enrollee information. Pet. 41–43 (citing Ex. 1004, 8:13–15, 25–32, Fig. 10; Ex. 1003 ¶¶ 279–284, 290). We agree with Petitioner that claims 9 and 17 would have been obvious over Roberts and Asokan for the reasons asserted by Petitioner.

Claim 10 recites, in part, an application that has program instructions allowing for commission of target devices, with claims 12 and 18 reciting similar subject matter. Petitioner asserts that Roberts employs a “program” or “instructions” executed on each enrollee device to perform network configuration. Pet. 42, 43 (citing Ex. 1004, 3:15–16, 57–60; Ex. 1003 ¶¶ 286, 291). We agree with Petitioner that claims 10, 12 and 18 would have been obvious over Roberts and Asokan for the reasons asserted by Petitioner.

Claim 15 recites, in part, that the communication network includes a wireless local area network. Petitioner asserts that Roberts teaches that the network joined by the enrollee can be an 802.11 based Wi-Fi network. Pet. 42 (citing Ex. 1004, 1:27–29, 60–65, 9:8–9; Ex. 1003 ¶¶ 287–289). We agree with Petitioner that claim 15 would have been obvious over Roberts and Asokan for the reasons asserted by Petitioner.

v) *Conclusions Regarding Dependent Claims 2, 3, 5–10, 12, 15, and 17–19*

We have considered Petitioner’s evidence and arguments with respect to dependent claims 2, 3, 5–10, 12, 15, and 17–19, including the relevant testimony of Dr. Schmidt, and we conclude that Petitioner has demonstrated by a preponderance of the evidence that dependent claims 2, 3, 5, 9, 10, 12, 15, 17, and 18 are unpatentable, but has not demonstrated by a preponderance of the evidence that dependent claims 6–8 and 19 are unpatentable.

F. *Obviousness over Suumäki
Claims 1–3, 5–12, and 15–19*

Petitioner asserts that claim 1–3, 5–12, and 15–19 are unpatentable over Suumäki. Pet. 6. Petitioner addresses each limitation of the independent claims and provides the testimony of Dr. Schmidt in support of its position with respect to them. Pet. 47–64; Ex. 1003 ¶¶ 329–420.

Patent Owner does not contest Petitioner’s assertions regarding the limitations of the independent claims. *See generally* PO Resp.; PO Sur-reply. With respect to this ground of unpatentability, Patent Owner only argues that the Petition fails to demonstrate that Suumäki renders claims 6 and 19 unpatentable. PO Resp. 14–21; PO Sur-reply 15–20. Patent Owner also suggests arguments raised would affect the patentability arguments against claims 7 and 8, which depend from claim 6, and claim 20⁶, which depends from claim 19, but does not offer arguments specific to those further dependent claims. PO Resp. 3.

⁶ We note that claim 20 is not challenged in this proceeding.

We begin with brief discussion of Suumäki, then consider Petitioner’s arguments with respect to the challenged claims, and then consider Patent Owner’s arguments concerning claims 6 and 19.

1. *Suumäki*

We make the following findings of fact concerning Suumäki, which is directed to processes related to wireless communication and to connection setup in device-to-device communication using an out-of-band carrier. Ex. 1005, 1:8–10. Suumäki details that this out-of-band carrier can be near-field communication, that allows for a new device to be added to the network with a “simple wave or touch.” *Id.* at 1:52–2:3. One embodiment, Figure 1D, is reproduced below:

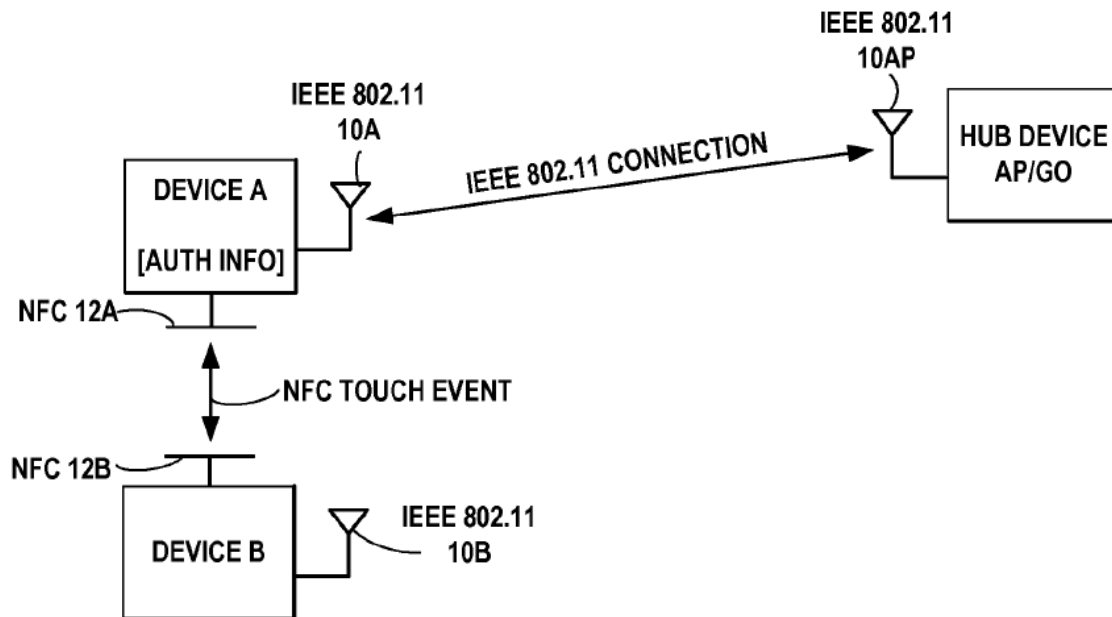


Figure 1D illustrates an NFC touch event to initiate a short-range carrier transport switch procedure

Suumäki discusses an existing IEEE 802.11 in-band WLAN network including device A and a hub device AP/GO, whereby Suumäki’s system operates to commission another device B onto this network, by having the

user of device A touch the NFC transponder of device A to the NFC transponder of device B in order to initiate a short-range carrier transport switch procedure with device B. Ex. 1005, 7:20–8:9, 20:65–21:3, 21:37–44. Authentication information and connection information, such as the MAC address of the hub device AP/GO is then transmitted from device A to device B. *Id.* at 21:52–59. Upon receipt of the transmission, device B extracts the network authentication and connection information it contains and uses it to communicate with the hub over the wireless network to complete the network configuration process. *Id.* at 22:1–13, 27:17–21, Fig. 1G. This allows the new device to be automatically connected to the hub device AP/GO and the network it manages “without requiring the user to type in a PIN number.” *Id.* at 21:32–37.

2. *Independent Claims 1, 11, and 16*

i) *Petitioner’s Assertions*

Petitioner asserts that Suumäki relates to wireless communication connection setup using an out-of-band carrier, where Suumäki discloses a variety of communication technologies, including an “IEEE 802.11 wireless local area network (WLAN).” Pet. 47–48 (citing Ex. 1005, 1:9–11, 39–51, 2:7–10, 3:32–40). Petitioner also asserts that Suumäki discloses that “device A” and “device B” may be a “cellular telephone, PDA, laptop computer, and the like,” with Figure 2 providing a functional block diagram of the devices. *Id.* at 49 (citing Ex. 1005, 8:16–20, 20:50–64, 23:22–23, 34–36, Figs. 1B, 2). With respect to the “receiving a request to initiate a commissioning process” limitation, Petitioner asserts that Suumäki teaches that its system allows “device B,” i.e., the claimed target device, to “activate a different wireless communication protocol” to obtain network access through the hub device AP/GO and join the existing infrastructure network. *Id.* at 50 (citing Ex.

1005, 25:2–6, 21:32–37). Petitioner also highlights Suumäki’s discussion of an “NFC touch event” to enable device B to obtain network access. *Id.* at 51 (citing Ex. 1005, 21:37–50, 23:22–25). Petitioner also asserts this NFC communication link as providing the claimed “short-range signal transmission path” that is independent of the communication network. *Id.* at 52–53 (citing Ex. 1005, 1:39–55, 62–65, 18:67–19:3, 21:31–44, 23:23–32, 24:65–25:1, Figs. 1D, 1E, 1F).

With respect to the “receiving one or more network configuration packets from the wireless device via the short-range signal transmission path” limitation, Petitioner asserts that after performance of the NFC touch event, in Suumäki, device A sends device B a “handover response select message 61,” that includes authentication and connection information, such as the MAC address of the hub device AP/GO, to carry out a connection setup between device B and the hub device AP/GO. Pet. 54 (citing Ex. 1005, 21:52–59, 25:60–61, Fig. 3B). Petitioner further asserts that although Suumäki does not explicitly characterize the NFC-based messages its system transmits as “packets,” a person of ordinary skill in the art would nonetheless consider it obvious that the messages would have been in this form, understanding that the term “packet” to refer simply to “[a] unit of information transmitted as a whole from one device to another on a network.” *Id.* at 57 (citing Ex. 1005, 20:24–31, 21:52–59, 25:34–42, 60–64, Fig. 3B; Ex. 1007, 385; Ex. 1003 ¶¶ 383–389).

With respect the “to decode and process the one or more network configuration packets” limitation, Petitioner asserts Suumäki discloses that the memory of device A and device B include programmed instructions of the NFC Connection Handover protocol implemented as software. Pet. 60 (citing Ex. 1005, 24:33–38). Petitioner also asserts that Suumäki explains

that upon receipt of message 61, one of the functions carried out by the NFC Connection Handover program running on device B is to use the connection parameters the message contains to setup an IEEE 802.11 in-band short-range carrier communication connection with the hub device. *Id.* (citing Ex. 1005, 22:1–13, 27:17–21).

With respect to “enabling the target device to join the communication network” limitation, Petitioner asserts that, in Suumäki, device B includes one or more in-band short-range carrier transceivers that allow it to engage in IEEE 802.11 WLAN communications, and upon receipt of NFC handover select message, device B uses the authentication and connection information the message contains to setup an IEEE 802.11 in-band short-range carrier communication connection with the hub device using this transceiver. Pet. 61 (citing Ex. 1005, 22:1–13, 23:26–30, 47–50, 27:17–21, Fig. 1G).

Petitioner also asserts that persons of ordinary skill in the art would have considered it obvious and would have been motivated to use different embodiments of Suumäki together and would have expected to succeed when doing so. Pet. 73 (citing Ex. 1003 ¶¶ 493–505). Petitioner asserts that Suumäki allows for the use of many different communication methods, incorporating by reference several communication standards. *Id.* (citing Ex. 1005, 3:27–50, 20:20–22 (incorporating Ex. 1008), 19:24–26, 33:58–61 (incorporating Ex. 1012)). Petitioner also asserts that persons of ordinary skill in art would have recognized that use of the standards would ensure that Suumäki’s system is compatible and can be used with the types of NFC hardware present in commercially available devices. *Id.* at 74 (citing Ex. 1003 ¶ 505).

ii) Conclusions Regarding Independent Claims 1, 11, and 16

As we note above, Patent Owner does not offer either arguments or evidence regarding claims 1, 11, and 16. We have considered Petitioner's evidence and arguments with respect to independent claims 1, 11, and 16, including the relevant testimony of Dr. Schmidt, and we conclude that Petitioner has demonstrated by a preponderance of the evidence that independent claims 1, 11, and 16 are unpatentable.

3. Dependent Claims 2, 3, 5–10, 12, 15, and 17–19

Petitioner also addresses the limitations of dependent claims 2, 3, 5–10, 12, 15, and 17–19. Pet. 64–73. As discussed above, Patent Owner limits its arguments to dependent claims 6 and 19. PO Resp. 14–21; PO Sur-reply 15–20. We address the dependent, challenged claims in groups below.

i) Claims 2, 3, and 5

Claim 2 recites, in part, that the wireless device may be a smart phone or a tablet computer. Petitioner asserts that Suumäki discloses that device A can be a cellular telephone, PDA, laptop computer, palmtop computer, “and the like,” and that such devices would have been obvious uses. Pet. 64–65 (citing Ex. 1005, 20:51–54, 23:32–36; Ex. 1003 ¶¶ 421–427). We agree with Petitioner that claim 2 would have been obvious over Suumäki for the reasons asserted by Petitioner.

Claim 3 recites, in part, that the information received via the short-range signal transmission path through one of a plurality of radio modulation techniques. Claim 5 recites, in part, the same path may be through near field communication. Petitioner asserts that Suumäki discloses that device B is equipped with an out-of-band NFC transceiver, that persons of skill in the art would have understood that would have employed ASK modulation, as part of its disclosed standard. Pet. 65–67 (citing Ex. 1005, 3:27–31, 19:39–45,

21:40–44, 23:22–25, 33:58–61, Figs. 1–2; Ex. 1003, ¶¶ 428–448). We agree with Petitioner that claims 3 and 5 would have been obvious over Suumäki for the reasons asserted by Petitioner.

ii) Claims 6 and 19

Claim 6 recites, in part, that the wireless device is contacted via the communication network to indicate that the target device has successfully entered the communication network, with claim 19 reciting similar subject matter. With respect to claim 6, Petitioner asserts that in Suumäki, the process of adding device B to an existing network could be initiated by performing a touch event between device B and the hub, and the hub would use the created NFC communication link to transmit the “NFC handover select message 61” including communications and authentication information to device B. Pet. 67–68 (citing Ex. 1005, 19:15–19, 24:39–42; Ex. 1003 ¶¶ 449–457). Petitioner asserts that subsequently, device B issues a request frame, using authentication information recognizable by the hub, and receiving back authentication information. *Id.* at 68 (citing Ex. 1005, 13:16–48, 22:14–20, 27:22–30, 34–36, 55–59; Ex. 1003 ¶¶ 458–462). Additionally, Petitioner asserts that Suumäki also explains that an Enrollee device can transmit a “WSC_Done message” once it processed any received network credentials. *Id.* (citing Ex. 1005, 14:59–64; Ex. 1003 ¶ 463). Petitioner refers to its analysis for claim 6 in asserting that claim 19 is unpatentable for the same reasons. *Id.* at 73.

Patent Owner argues that Petitioner’s assertions regarding claim 6 fail for the same reasons with respect to either of Petitioner’s arguments, namely that both communications indicated in Suumäki occur before the target device connects to the WiFi network. PO Resp. 17. With respect to Petitioner’s first argument, that device B’s transmission of authentication

information to the hub device indicates to the hub device that device B has successfully entered the WiFi network, Patent Owner argues that Petitioner has acknowledged that the successful addition of device B to the existing wireless network does not occur until after device B receives and uses the network credentials to join the network. *Id.* at 18 (citing Pet. 61–64). Patent Owner argues that because device B has not connected to the WiFi network at the time it transmits authentication information to the hub device, such transmission cannot occur over “the communication network” or “indicate that [device B] has successfully entered the communication network.” *Id.* at 19. With respect to Petitioner’s second argument, that the Enrollee’s transmission of the WSC_Done message to the Access Point indicates that the Enrollee has successfully entered the WiFi network, Patent Owner argues that at the time the Enrollee sends the WSC_Done message, the Enrollee has not connected to the WiFi network, again citing that successful addition of device B only occurs after use of the network credentials to join the network, as acknowledged by Petitioner. PO Resp. 19 (citing Pet. 61–64).

Petitioner responds that Patent Owner is misreading claims 6 and 19, in that the claims only require a message indicating that a device has successfully entered the network, not that the configuration process is completely finished. Pet. Reply 14. Petitioner also argues that Suumäki itself says that the new device is “connect[ed]” to the network at the time the message is transmitted. *Id.* at 15 (citing Ex. 1005, 27:22–46). Patent Owner responds that the Petition failed to allege or suggest that device B or the Enrollee device was already connected to the claimed communication network when sending the authentication information or the WSC_Done message. PO Sur-reply 16 (citing Pet. 67–68).

We agree with Patent Owner on the basis of what was contained in the Petition with respect to claims 6 and 19. The process disclosed in Suumäki is that when the Enrollee decides to connect to the network, it associates with the AP device to start the WiFi Simple Configuration method, based on transmission of a probe request frame and enables the AP and Enrollee to exchange messages, which causes the AP to start running the Wi-Fi Simple Configuration EAP method. Ex. 1005, 14:54–60. Thereafter, additional messages are sent during this configuration process and, if this process fails, the enrollee can stay associated with the AP to rerun the process, whereby the Enrollee device receives credentials and sends a WSC_Done message. *Id.* at 15:5–13. After doing so, the Enrollee disconnects from the AP and reconnects to the AP via the WLAN network using the received credentials. *Id.* Per the language of independent claim 1, this first portion in Suumäki, i.e., receiving information regarding the WiFi Simple Configuration method, would occur through the short-range signal transmission path, which is independent of the communication network, such that it has not successfully entered the communication network. Ex. 1005, 19:15–19, 24:39–42. The fact that the Enrollee device may remain associated with the AP is not the same as entering the communication network, where all parties acknowledge that the latter network is the WiFi network of Suumäki. Although subsequent messages could have been sent through the WiFi network, or such messages could have been obvious over the disclosure of Suumäki, is immaterial in view of the arguments made in the Petition regarding claims 6 and 19.

Based on the arguments considered above, we determine that Petitioner has not demonstrated by a preponderance of the evidence that dependent claims 6 and 19 are unpatentable.

iii) Claims 7 and 8

Claim 7 recites, in part, that the commission process continues by receiving device configuration data from the wireless device. Claim 8 recites, in part, that the configuration data can include an Internet Protocol address. Petitioner asserts that persons of ordinary skill in the art would have recognized that the hub device AP/GO, in Suumäki, would have included an NFC transceiver, thus making it a wireless device. Pet. 69 (citing Ex. 1005, 27:34–46, 28:9–19, Fig. 5B; Ex. 1003 ¶¶ 464–470). Petitioner also asserts that Suumäki discloses that the frame sent from the hub to device B to complete the network commissioning process includes source and destination addresses, and that one of ordinary skill in the art would have understood that such address information would have included the data recited in claim 8. *Id.* at 70 (citing Ex. 1005, 15:48–16:18, 26:41–42, Fig. 5B; Ex. 1003 ¶¶ 471–476).

Claims 7 and 8 depend from claim 6, discussed above. By virtue of their dependence, if Petitioner has not established that claim 6 is obvious over Suumäki, claims 7 and 8 cannot be shown to have been obvious over Suumäki. Thus, we determine that Petitioner has not demonstrated by a preponderance of the evidence that dependent claims 7 and 8 are unpatentable.

iv) Claims 9, 10, 12, 15, 17 and 18

Claim 9 recites, in part, visual and audio indications of the status of the commissioning process are generated, with claim 17 reciting similar subject matter. Petitioner asserts that Suumäki indicates that its devices can include a “display,” “speaker,” or other output device, and persons of ordinary skill in the art would have understood that a new connection status would have been indicated to the user on such a display. Pet. 70–71, 72

(citing Ex. 1005, 22:39–45, 23:33–45; Ex. 1003 ¶¶ 477–484, 490). We agree with Petitioner that claims 9 and 17 would have been obvious over Suumäki for the reasons asserted by Petitioner.

Claim 10 recites, in part, an application that has program instructions allowing for commission of target devices, with claims 12 and 18 reciting similar subject matter. Petitioner asserts that Suumäki employs “program logic” and executed “instructions” to carry out its connection setup method. Pet. 42, 43 (citing Ex. 1005, 23:39–47, 24:43–49; Ex. 1003, ¶¶ 338–343, 485). We agree with Petitioner that claims 10, 12 and 18 would have been obvious over Suumäki for the reasons asserted by Petitioner.

Claim 15 recites, in part, that the communication network includes a wireless local area network. Petitioner asserts that Suumäki teaches that the network joined by the new device can be an “IEEE 802.11 wireless local area network (WLAN).” Pet. 72 (citing Ex. 1005, 1:39–51, 3:32–40; Ex. 1003 ¶¶ 487–489). We agree with Petitioner that claim 15 would have been obvious over Suumäki for the reasons asserted by Petitioner.

v) Conclusions Regarding Dependent Claims 2, 3, 5–10, 12, 15, and 17–19

We have considered Petitioner’s evidence and arguments with respect to dependent claims 2, 3, 5–10, 12, 15, and 17–19, including the relevant testimony of Dr. Schmidt. We conclude that Petitioner has demonstrated by a preponderance of the evidence that dependent claims 2, 3, 5, 9, 10, 12, 15, 17, and 18 are unpatentable, but has not demonstrated by a preponderance of the evidence that dependent claims 6–8 and 19 are unpatentable.

III. CONCLUSION⁷

Having reviewed all the evidence and arguments of record, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–3, 5–12, and 15–19 of the '615 Patent are unpatentable. In summary:

Claims	35 U.S.C. §	Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–3, 5–12, 15–19	103(a)	Roberts, Asokan	1–3, 9–12, 15–18	6–8, 19
1–3, 5–12, 15–19	103(a)	Suumäki	1–3, 9–12, 15–18	6–8, 19
Overall Outcome			1–3, 9–12, 15–18	6–8, 19

IV. ORDER

In consideration of the above it is:

ORDERED that claims 1–3, 5, 9–12, and 15–18 of the '615 Patent are unpatentable; and

FURTHER ORDERED that claims 6–8 and 19 of the '615 Patent are not unpatentable; and

⁷ 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. 16,654 (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).

IPR2023-00806

Patent 11,050,615 B2

FURTHER 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.

IPR2023-00806

Patent 11,050,615 B2

For PETITIONER:

K. Patrick Herman

Alyssa Caridis

ORRICK, HERRINGTON & SUTCLIFFE LLP

P52PTABDocket@orrick.com

A8CPTABDocket@orrick.com

For PATENT OWNER:

Erika Harmon Arner

Cory C. Bell

Alissa E. Green

Umber Aggarwal

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP

erika.arner@finnegan.com

cory.bell@finnegan.com

alissa.green@finnegan.com

umber.aggarwal@finnegan.com