

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

REOLINK INNOVATION INC. and
SHENZHEN REOLINK TECHNOLOGY CO., LTD.,
Petitioner,

v.

THROUGHTTEK CO., LTD.,
Patent Owner.

IPR2024-00509
Patent RE47,842 E

Before MICHAEL J. STRAUSS, DAVID C. McKONE, and
SHEILA F. McSHANE, *Administrative Patent Judges*.

STRAUSS, *Administrative Patent Judge*.

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

I. INTRODUCTION

Reolink Innovation Inc. and Shenzhen Reolink Technology Co., Ltd. (collectively, “Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1–4 and 6–19 (the “challenged claims”) of U.S. Patent No. RE47,842 E (Ex. 1002, “the ’842 patent”). Throughtek Co., Ltd. (“Patent Owner”) did not file a preliminary response to the Petition. *See* Paper 3, 1.

Institution of an *inter partes* review is authorized by statute when “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). Upon consideration of the Petition and the evidence of record, we determine that Petitioner has established a reasonable likelihood of prevailing with respect to the unpatentability of at least one claim of the ’842 patent. Accordingly, for the reasons that follow, we institute an *inter partes* review of claims 1–4 and 6–19 of the ’842 patent.

A. *Real Parties-in-Interest*

Petitioner identifies itself, Reolink Innovation Inc., and Shenzhen Reolink Technology Co., Ltd., as the real parties-in-interest. Pet. 73. Patent Owner identifies itself, Throughtek Co., Ltd., as the real party-in-interest. Paper 4, 2.

B. *Related Matters*

Petitioner states “[t]he ’842 patent is the subject of [a] civil action [in the United States District Court of Delaware] captioned *ThroughTEK Co., Ltd. v. Reolink Innovation Inc.*, Case No. 1-23-cv-00218 (DDE).” Pet. 73.

Patent Owner identifies the same district court action as a related matter. Paper 4, 2. In that action, the District Court granted a Motion to Dismiss, finding that claims 1–4 and 6–19 of the ’842 patent are directed to patent-ineligible subject matter under 35 U.S.C. § 101. *ThroughTEK Co. v. Reolink Innovation Inc.*, No. CV 23-218-GBW, 2024 WL 1701841 (D. Del. Apr. 19, 2024). The District Court’s decision is currently on appeal to the Federal Circuit. *ThroughTEK Co., Ltd. v. Reolink Innovation Inc.*, Federal Circuit Docket No. 2024-1773 (May 3, 2024).

Petitioner further states the ’842 patent was also asserted in different districts against different defendants:

- *ThroughTEK Co., Ltd. v. Amcrest Technologies LLC*, Case No. 2-23-cv-00035 (E.D. Tex.); and
- *Throughtek Co Ltd v. Anker Innovations Co Ltd*, Case No. 2-23-cv-00515 (W.D. Wash.)

Pet. 73. Petitioner further states “[a]t least the WDWA litigation was terminated, and the docket of the EDTX litigation reveals an early posture (e.g., no *Markman* briefing, no depositions or expert discovery).” *Id.* at 74.

C. The ’842 Patent

The ’842 patent is titled “System and Method of Identifying Networked Device for Establishing a P2P Connection” and issued on February 4, 2020. The ’842 Patent is a reissue of U.S. Patent No. 9,787,498 issued October 10, 2017, maturing from U.S. Patent Application 13/950,281 filed July 25, 2013. Ex. 1002, codes (22), (64). The ’842 patent claims priority to Provisional Application 61/812,262 filed April 16, 2013 (“the ’262 provisional”). *Id.*, code (60).

The ’842 patent is directed to establishing a point to point (P2P) network connection between a terminal device (e.g., cell phone) and a

networked device (e.g., a webcam). Ex. 1002, 1:33–35, 2:4–6, 4:28–30. “[T]he networked device[] has an identification code (ID) and automatically connects to [a] management server and registers the identification code (ID) of the networked device in the management server.” *Id.* at 1:45–49. To establish a P2P connection between the networked device (e.g., webcam) and the terminal device (e.g., cell phone), “the terminal device can make a request to the management server to provide addressing information of a linking sever for connecting to the networked device by inputting the identification code (ID) of the networked device.” *Id.* at 1:49–54. To simplify input of a lengthy ID by the requesting terminal device (e.g., cellphone), the networked device (e.g., webcam) includes a barcode (e.g., quick response or “QR” code) corresponding to the networked device’s ID (*id.* at 2:14–16) and “[t]he terminal device includes an image capture unit which captures the barcode of the networked device for generating a connection request signal corresponding to the barcode” (*id.* at 2:17–19). In response to receiving a connection request and ID from the terminal device, “the network server identifies the networked device from [a] list of networked devices corresponding to the connection request signal and notifies the networked device that the terminal device is requesting to make a connection therewith.” *Id.* at 2:22–25. A P2P connection is then established between the terminal device (e.g., cell phone) and the networked device (e.g., webcam). *Id.* at 2:27–29.

D. Illustrative Claim

Petitioner challenges claims 1–4 and 6–19 of the ’842 patent. Apparatus claim 1 and method claim 12 are independent claims. Claims 2–4 and 6–9 depend directly or indirectly from independent claim 1 and claims

13–19 depend directly or indirectly from independent claim 12. Claim 1, which is illustrative, is reproduced below, with bracketed designations added to claim limitations for reference purposes. *See* Pet. viii–ix.

[1.P] A system to identify a networked device for establishing a point-to point (P2P) connection, the system comprising

[1.1] a network server having a list of networked devices that are pre-registered in the network server, wherein the network server associates a corresponding identification of each networked device with a corresponding IP address of the networked device for enabling terminal devices to establish P2P connections with the plurality of networked devices;

[1.2] a first networked monitoring device, having a first identification embedded in the first networked monitoring device, wherein the first networked monitoring device registers the embedded first identification into the list of networked devices to associate a corresponding IP address of the first networked monitoring device with the first identification by connecting to the network server through the Internet;

[1.3] an image pattern, being attached on the first networked monitoring device and comprising the first identification for establishing a P2P connection with the first networked monitoring device; and

[1.4] a terminal device, wherein the terminal device generates a connection request signal when the image pattern is captured to the terminal device; and the terminal device transmits the connection request signal to the network server through the Internet,

[1.5] wherein the network server obtains the first identification according to the connection request signal and obtains the corresponding IP address of the first networked monitoring device according to the obtained first identification for establishing a P2P connection between the terminal device and the first networked monitoring device, wherein the network server respectively transmits hole-punching messages to the terminal device and the first networked monitoring device via the Internet to establish the P2P connection, and

[1.6] wherein the first networked monitoring device does not capture any image pattern associated with the terminal device for establishing the P2P connection between the terminal device and the first networked monitoring device.

Ex. 1001, 36:24–42.

E. Evidence and Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–4 and 6–19 of the ’842 patent are unpatentable based on the following grounds:

Claim(s) Challenged	35 U.S.C §	Reference(s)/Basis
1–3, 6, 10, 12–14, 17, 18	103 ¹	Lorex Guide, ² Kim ³
1–3, 6, 10, 12–14, 17, 18	103	Kim, Lorex Video ⁴
1–4, 6–19	103	Throughtek-2012, ⁵ Lorex Video

Pet. 1. Petitioner also relies on the Declaration of Harry Bims, Ph.D.
(Ex. 1001).

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, and was effective on March 16, 2013. Because the ’842 patent has an effective filing date after the effective date of the applicable AIA amendments, we refer to the post-AIA version of 35 U.S.C. § 103. *See* Ex. 1002, codes (60), (64).

² Lorex LNC100 Series User’s Guide Version 2.0 (2012), *available at* https://www.lorextechnology.com/downloads/ipcameras/LNC104/LNC100_SERIES_MANUAL_EN_R2_web.pdf (Ex. 1006, “Lorex Guide”).

³ US 2011/0082941 A1, published December 25, 2008 (Ex. 1007, “Kim”).

⁴ Lorex Technology Inc., “How-to Set Up and Connect the NEW Lorex LNC100 Series IP Network Camera” (Oct. 19, 2012), *available at* <https://www.youtube.com/watch?v=DPaIWj2f65I> (Ex. 1008, “Lorex Video”).

⁵ Certified English translation of German Utility Model No. DE202012101164U1 (June 6, 2012) (Ex. 1017, “Throughtek-2012”).

At this stage of the proceeding, Patent Owner does not introduce testimonial evidence concerning the patentability issues.

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Relying on the testimony of Dr. Bims, Petitioner proposes that a person of ordinary skill in the art at the time of the '842 patent would have been a person having a bachelor's degree in electrical engineering and two years of work experience with network and communication technologies. Pet. 11 (citing Ex. 1001 ¶¶ 15–16). Patent Owner has not provided any proposed qualifications for a person of ordinary skill in the art.

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). The level of ordinary skill in the art is also reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). We adopt the assessment offered by Petitioner for the purposes of this Decision because it is consistent with the '842 patent and the asserted prior art.

B. Claim Construction

In this *inter partes* review, claims are construed using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b) (2021). Under the principles set forth by our reviewing court, the “words of a claim ‘are

generally given their ordinary and customary meaning,” as would be 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 (Fed. Cir. 2005) (en banc) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “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).

Petitioner asserts “no claim elements need a formal construction for purposes of resolving the controversy in this proceeding.” Pet. 11 (citing Ex. 1001, ¶ 55; *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011), *Google Inc. v. Intellectual Ventures II LLC*, 701 Fed. Appx. 946, 956 (Fed. Cir. 2017)). Petitioner states “[a]ll claim terms should be construed according to the *Phillips* standard.” *Id.* (citing *Phillips*, 415 F.3d at 1303; 37 C.F.R. §42.100). Patent Owner presents no proposed claim constructions at this time.

We determine that we need not expressly construe any claim terms to resolve the parties’ disputes on the current record. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the

extent necessary to resolve the controversy.”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

C. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103 if “the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective date of the claimed invention to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103 (2011); *see also 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 ordinary skill in the art; and (4) when in evidence, objective indicia of nonobviousness.⁶ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

D. Asserted Obviousness of Claims 1–3, 6, 10, 12–14, 17, and 18 Over Lorex Guide and Kim

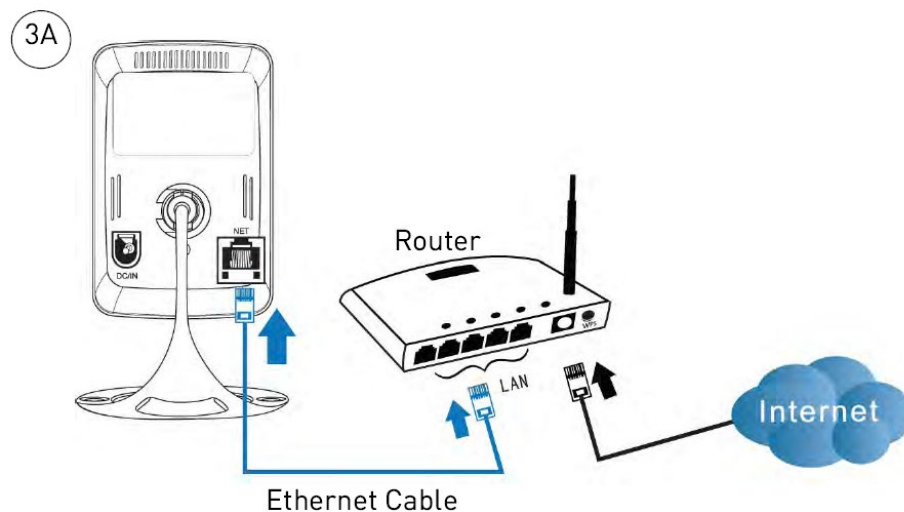
Petitioner contends that claims 1–3, 6, 10, 12–14, 17, and 18 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of the Lorex Guide and Kim. Pet. 16–36. In support, Petitioner also relies upon the Bims Declaration. Ex. 1001. At this time, Patent Owner does not present any arguments on the merits of Petitioner’s showing of obviousness under this ground.

⁶ Neither party has submitted any objective evidence of nonobviousness at this juncture.

We begin our discussion with brief summaries of the Lorex Guide and Kim, and then address the evidence and arguments presented.

1. Lorex Guide (Ex. 1006)

The Lorex Guide is a user's guide for the Lorex branded LNC100 series of wireless network camera models that describes the camera's features, technical specifications, system requirements, setup, configuration, and operation. Ex. 1006, 1, 7, 11–15. The Lorex Guide discloses that a user connects to the camera using Lorex software installed on a computer (e.g., PC, MAC), tablet (e.g., iPad), or smartphone (e.g., iPhone, Android device). *Id.* at 5–20. The Lorex Guide instructs a user to first connect the camera to the user's local network (LAN) router using an Ethernet cable, with the router providing network connectivity to the Internet as shown in the corresponding figure reproduced below. *Id.* at 4.

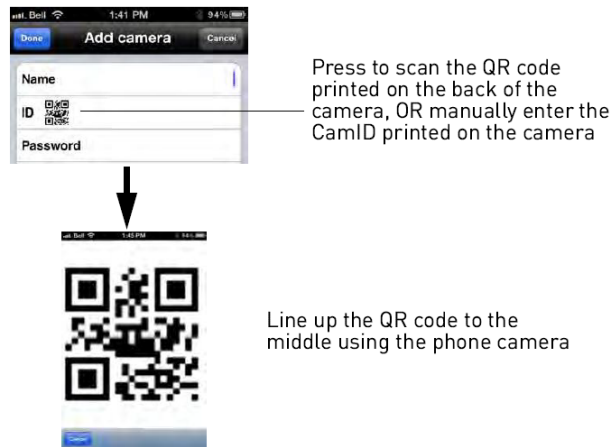


The figure above depicts a webcam connected to a LAN port of an Internet-connecting router. Ex.1006, 4.

According to one configuration that uses the Lorex Ping iPhone application software installed on an iPhone, a camera is connected to the network by scanning a “QR code printed on the back of the camera using the

camera on the phone.” *Id.* at 13. Scanning the QR code automatically enters the CamID as an alternative to “[m]anually enter[ing] the CamID printed on the camera” as depicted below. *Id.*

5. Under **ID**, press the QR code button () and line up the QR code printed on the back of the camera using the camera on the phone. The CamID will automatically be entered.



- **OR:** Manually enter the **CamID** printed on the camera.

The figure above depicts a screen shot of a Lorex Ping App running on an iPhone for scanning a QR code printed on the back of a webcam.

Ex. 1006, 13.

The user is then instructed to “[t]ap the name of the camera in the Camera List [of the Lorex Ping iPhone application] to connect [the iPhone] to the camera.” *Id.* at 14.

2. Kim (Ex. 1007)

Kim describes establishing a peer-to-peer connection between network devices or nodes, such as a smart phone and a video camera, using TCP or UDP hole punching to establish a direct tunnel between peer nodes. Ex. 1007 ¶¶ 52, 66, 69. Kim further describes a network server that stores a node’s “virtual address, a network address, and a network connection type on an ID basis” as shown in Figure 5 reproduced below. *Id.* ¶ 75.

FIG. 5

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ID	Virtual address			Network address		NAT address		Network connection type
	Virtual IP	Network prefix	prefix length	IP	Port	IP	Port	
Abc@xyz.com	x.x.x.x	-	-	192.168.1.2	1000	100.1.1.2	1024	NAT-Full Cone
.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
def@zyx.com	y.y.y.y	1.1.2.0	24	192.168.2.2	2000	200.1.1.2	2024	NAT-Restricted Cone

The table above depicts server “mapping to an ID (abc@xyz.com, def@zyx.com) of a peer node, a virtual address, a network address, a NAT [Network Address Translation] address, and a network connection type.”

Ex. 1007 ¶ 75.

3. Discussion

a. Claim 1

The Petition asserts that the combination of Lorex Guide and Kim teaches all the limitations of claim 1, and that there is a rationale to combine the references. Pet. 16–49. Below we consider the claim 1 limitations and rationale to combine in turn.

- i. *Limitation 1.P: “A system to identify a networked device for establishing a point-to point (P2P) connection, the system comprising”*

Petitioner argues that the Lorex Guide-Kim combination would have rendered obvious a system for establishing a P2P connection between peer nodes as set forth in the preamble of claim 1. Pet. 19 (citing Ex. 1001 ¶ 72). In particular, Petitioner contends that the Lorex Guide’s description of “a

system for establishing a connection between an IP camera^[7] and a user/terminal device (e.g., iPhone, iPad, or Android device)” teaches the subject matter of the preamble. *Id.* (citing Ex. 1006, 12–20). Petitioner further contends that the preamble is taught by Kim’s “techniques for establishing a P2P connection between peer nodes . . . in combination with Lorex Guide.” *Id.* (citing Ex. 1007 ¶¶ 6, 18, 23).

On the preliminary record before us and in the absence of any counterargument from Patent Owner, we are persuaded for purposes of this Decision that Petitioner makes a sufficient showing with respect to the preamble of claim 1, i.e., claim element 1.P.⁸

- ii. *Limitation 1.1: “a network server having a list of networked devices that are pre-registered in the network server, wherein the network server associates a corresponding identification of each networked device with a corresponding IP address of the networked device for enabling terminal devices to establish P2P connections with the plurality of networked devices”*

Petitioner contends that claim limitation 1.1 is taught by the combination of Lorex Guide and Kim. Pet. 19 (citing Ex. 1001 ¶¶ 73–76). In particular, Petitioner argues that a person of ordinary skill in the art (POSITA) would have understood that Lorex Guide’s IP camera would be connected to the Internet using an Internet-connected server in establishing a connection with a smartphone. *Id.* at 20 (citing Ex. 1001 ¶ 73; Ex. 1006, iv, 1, 4, 5, 7, 9, 11, 33, 34, 43, 55, 59, 85, 107, 129, 132, 137, 139, 149, 150).

⁷ Petitioner refers to the Lorex Guide’s wireless network camera as an “IP [(Internet Protocol)] Camera.” *See, e.g.*, Pet. 19.

⁸ We need not determine whether the preamble of claim 1 is limiting because Petitioner has shown on a preliminary basis that Lorex Guide teaches the preamble.

Petitioner further argues that “[e]ven if Lorex Guide did not suggest a network server having all of the ‘list of devices’/functionality recited in Element [1.1], the predictable Lorex Guide-Kim combination would have provided the claimed network server.” *Id.* In particular, according to Petitioner, Kim’s server stores and manages the network addresses of peer nodes, stores the IP addresses and IDs (i.e., Kim’s “CamID”) of preregistered devices, and provides direct communication using P2P Layer 4. *Id.* (citing Ex. 1007 ¶¶ 6, 10, 11–13, 20, 21, 39, 40, 43, 47, 54–76, 78–84, 94–98, Figs. 1–3, 5, 6; Ex. 1001 ¶¶ 74, 75). With reference to Kim’s Figure 5, Petitioner identifies “information in which a direct tunnel can be set between the two peer nodes P1 and P2” including a peer node’s virtual, network, and NAT addresses. *Id.* at 21 (quoting Ex. 1007; ¶ 83 citing Ex. 1007 ¶¶ 13, 84, Fig. 6).

On the preliminary record before us and in the absence of any counterargument from Patent Owner, we are persuaded for purposes of this Decision that Petitioner makes a sufficient showing with respect to claim limitation 1.1.

- iii. *Limitation 1.2: “a first networked monitoring device, having a first identification embedded in the first networked monitoring device, wherein the first networked monitoring device registers the embedded first identification into the list of networked devices to associate a corresponding IP address of the first networked monitoring device with the first identification by connecting to the network server through the Internet”*

Petitioner contends that the combined teachings of Lorex Guide and Kim teach or suggest claim limitation 1.2. Pet. 21 (citing Ex. 1001 ¶¶ 77–79). According to Petitioner, both Lorex Guide and Kim describe peer nodes with embedded IDs. *Id.* at 21–22 (citing Ex. 1001 ¶¶ 77–79; Ex.

1006 ¶ 13; Ex. 1007 ¶¶ 56, 59, 63, 64, 75, 81, Fig. 5). Petitioner further asserts that an embedded address of Kim’s first networked monitoring device is registered in a server’s list of networked devices and that the server “associates a registered peer node’s ID with multiple IP addresses, including IP addresses contained in the peer node’s virtual address, network address, and NAT address.” *Id.* at 22 (citing Ex. 1001 ¶ 78; Ex. 1007 ¶¶ 40–42, 54–60, 67, 68, 74, 75, 78, Figs. 2–3, 5–6). According to Petitioner, “[t]he server and peer nodes are connected through a public network (e.g., the Internet), and the registration of Kim’s embedded ID is performed by the first networked monitoring device connecting to the network server through the Internet.” *Id.* at 23 (citing Ex. 1007 ¶¶ 38, 45, 46, Fig. 1; Ex. 1001 ¶ 78).

On the preliminary record before us and in the absence of any counterargument from Patent Owner, we are persuaded for purposes of this Decision that Petitioner makes a sufficient showing with respect to claim limitation 1.2.

- iv. Limitation 1.3: “an image pattern, being attached on the first networked monitoring device and comprising the first identification for establishing a P2P connection with the first networked monitoring device; and”*

Petitioner contends that the combined teachings of the Lorex Guide and Kim teach or suggest claim limitation 1.3. Pet. 23 (citing Ex. 1001 ¶¶ 80–82). Petitioner argues that the Lorex Guide discloses obtaining a “CamID” of a wireless network (i.e., “IP”) camera using a phone to scan a QR code printed on the back of the camera (i.e., “attached” to the camera) and establish a connection between the camera and the phone. *Id.* (citing Ex. 1006 ¶¶ 11, 13, 16, 19; Ex. 1001 ¶¶ 80, 81). Petitioner further argues that “[t]o the extent [the] Lorex Guide does not expressly state that the

connection between the IP camera and the IP phone is a P2P connection, the predictable Lorex Guide-Kim combination provides such a P2P connection as taught in Kim.” *Id.* at 24 (citing Ex. 1007 ¶¶ 5, 18, 78–89, Fig. 6; Ex. 1001 ¶ 82.).

On the preliminary record before us and in the absence of any counterargument from Patent Owner, we are persuaded for purposes of this Decision that Petitioner makes a sufficient showing with respect to claim limitation 1.3.

- v. *Limitation 1.4: “a terminal device, wherein the terminal device generates a connection request signal when the image pattern is captured to the terminal device; and the terminal device transmits the connection request signal to the network server through the Internet,”*

Petitioner contends that the combined teachings of the Lorex Guide and Kim teach or suggest claim limitation 1.4. Pet. 24–26 (citing Ex. 1001 ¶¶ 83–85). Petitioner argues that the Lorex Guide’s disclosures of a smartphone that (i) has an imbedded camera that captures a QR code printed on an IP camera and (ii) “transmits information to connect the [smartphone] to the IP camera when the QR code is scanned” teaches the claimed terminal device. *Id.* at 25 (citing Ex. 1006, 12–20; Ex. 1001 ¶ 83). According to Petitioner, Lorex Guide’s terminal device is disclosed to communicate with an IP camera through the Internet. *Id.* (citing Ex. 1006, 7, 59, 12–20).

Petitioner further argues that the connection of limitation 1.4 is taught by Kim’s disclosure of “a terminal device (e.g., ‘P1’ in FIG. 6) that transmits a ‘tunnel query request’ message that includes an ID of the first networked monitoring device (e.g., ‘P2’ in FIG. 6) to the network server 100” to provide direct communications with peer node P2. Pet. 25 (citing Ex. 1007, ¶¶ 80–81, Fig. 6; Ex. 1001 ¶ 84. According to Petitioner, “[t]he network

server and P1 are connected through a public network (e.g., the Internet), indicating that the ‘tunnel query request’ message is transmitted by P1 to the server through the Internet.” *Id.* (citing Ex. 1007 ¶¶ 38, 45, 46, Fig. 1; Ex. 1001 ¶ 84). Petitioner argues that “the Lorex Guide-Kim terminal device would predictably transmit such a connection request signal [as taught by Kim’s tunnel query request] ‘when’ the QR code is captured by following the connection procedure described in Lorex Guide.” *Id.* at 26 (citing Ex. 1002, 13–14; Ex. 1001 ¶ 85).

On the preliminary record before us and in the absence of any counterargument from Patent Owner, we are persuaded for purposes of this Decision that Petitioner makes a sufficient showing with respect to claim limitation 1.4.

- vi. *Limitation 1.5 “wherein the network server obtains the first identification according to the connection request signal and obtains the corresponding IP address of the first networked monitoring device according to the obtained first identification for establishing a P2P connection between the terminal device and the first networked monitoring device, wherein the network server respectively transmits hole-punching messages to the terminal device and the first networked monitoring device via the Internet to establish the P2P connection, and”*

Petitioner contends that the combined teachings of the Lorex Guide and Kim teach or suggest claim limitation 1.5. Pet. 26 (citing Ex. 1001 ¶¶ 86–89). Petitioner asserts that Kim’s “server 100 receives the ‘tunnel query request’ message from the terminal device (e.g., P1 in FIG. 6), and the ‘tunnel query request message includes an ID of the peer node P2.’” *Id.* (quoting Ex. 1007 ¶¶ 81–82). According to Petitioner, “[t]he ID carried in the tunnel request message of the predictable Lorex Guide-Kim combination can be the Lorex Guide IP camera’s ‘CamID’ obtained by

reading the captured image of the QR code printed on the IP camera with the terminal device (e.g., the iPhone, iPad, or Android device).” *Id.* (citing Ex. 1006 12–20; Ex. 1001 ¶ 86).

Petitioner further contends that the virtual, network, and NAT addresses stored by Kim’s server teach IP addresses of a networked monitoring device that are transmitted to the terminal device in the tunnel query. Pet. 27–28 (citing Ex. 1007⁹ ¶¶ 78–84, Figs. 5, 6). Petitioner further contends that “the server includes the virtual, network, and NAT addresses (each of which includes an IP address) of the terminal device (e.g., P1) in the ‘tunnel query notification’ message and transmits this message to the first networked monitoring device (e.g., P2).” *Id.* (citing Ex. 1007 ¶ 83, Fig. 6). Petitioner still further argues that Kim’s “server’s mapping of peer IDs to the peers’ respective virtual, network, and NAT addresses allows the server to look-up and obtain these addresses (including the respective IP addresses) for inclusion in the ‘tunnel query response’ and ‘tunnel query notification’ messages.” *Id.* at 28 (citing Ex. 1007 ¶¶ 71–76, 80–84, Fig. 5; Ex. 1001 ¶ 88). According to Petitioner, Kim’s disclosure that “[t]he peer nodes P1 and P2, having received a tunnel query response message and a tunnel query request message, respectively, exchange a message for punching a TCP or UDP hole (S614)” teaches a server transmitting hole punching messages to establish a P2P connection. *Id.* at 28–29 (citing Ex. 1007 ¶¶ 18–19, 66, 83, 84, Fig. 6; Ex. 1007 ¶ 89).

⁹ Although Petitioner sometimes cites to Ex. 1006 (i.e., the Lorex Guide) when discussing Kim, we understand the citations are properly to Exhibit 1007.

On the preliminary record before us and in the absence of any counterargument from Patent Owner, we are persuaded for purposes of this Decision that Petitioner makes a sufficient showing with respect to claim limitation 1.5.

- vii. *Limitation 1.6: “wherein the first networked monitoring device does not capture any image pattern associated with the terminal device for establishing the P2P connection between the terminal device and the first networked monitoring device.”*

Petitioner contends that the combined teachings of Lorex Guide and Kim teach or suggest claim limitation 1.6. Pet. 29 (citing Ex. 1001 ¶¶ 90–93). Petitioner argues that the Lorex Guide “direct[s] the user to acquire the ‘CamID’ of the IP camera by capturing an image of a QR code . . . without the need to scan any image pattern on the user’s phone.” *Id.* (citing Ex. 1006 12–20). According to Petitioner, “throughout the entire step-by-step user-guide instructions, [the] Lorex Guide never once instructs the user to use the IP camera to capture any image pattern associated with the terminal device (e.g., the iPhone, iPad, or Android device) for establishing a connection between the IP camera and the terminal device.” *Id.* at 29–30 (citing Ex. 1001 ¶¶ 91–92). Thus, Petitioner argues that the negative limitation of the networked device (e.g., IP camera) not capturing any image pattern associated with the terminal device (e.g., iPhone) for establishing the P2P connection is disclosed or suggested by the Lorex Guide. *Id.* (citing Ex. 1001 ¶¶ 90–93).

On the preliminary record before us and in the absence of any counterargument from Patent Owner, we are persuaded for purposes of this Decision that Petitioner makes a sufficient showing with respect to claim limitation 1.6.

viii. Reasons to Combine the Lorex Guide and Kim

Petitioner asserts multiple reasons for combining the teachings of the Lorex Guide with the teachings of Kim. Pet.16–19. Petitioner contends, with Dr. Bim providing supporting testimony, that incorporating Kim’s hole-punching technique into the Lorex Guide’s user/terminal device was understood to be “particularly beneficial when the endpoints of the connection are positioned behind respective NATs or firewalls.” *Id.* at 16 (citing Ex. 1001 ¶¶ 63–64). In particular, Petitioner contends, with Dr. Bim providing supporting testimony, that (1) “a POSITA would have understood that implementing [the] Lorex Guide’s system to include a conventional ‘network server’ that facilitates hole-punching (as suggested by Kim) would have advantageously allowed ‘for direct communication between a monitoring device and a terminal device in an IP network with a firewall.’” *Id.* at 17 (citing Ex. 1001 ¶ 66). Petitioner further argues that (2) implementing the system of the Lorex Guide to use a network server and hole punching allows Kim’s network server to “conveniently work with an ‘existing application’ like [the] Lorex Guide’s ‘Ping’ app to advantageously ‘construct[] a direct communication environment for . . . a video camera.’” *Id.* (quoting Ex. 1007 ¶ 123). Similarly, Petitioner argues, with Dr. Bim providing supporting testimony, that (3) incorporating a network server that implements hole-punching advantageously “renders it ‘unnecessary for each application service to form a special session,’ thereby improving ‘flexibility’ in ‘operating each service.’” *Id.* at 18 (quoting Ex. 1007 ¶ 122; citing Ex. 1001 ¶ 68). Petitioner further argues that (4) the combination “would beneficially allow the server to confirm whether a direct tunnel can be

formed between the IP camera and user's/terminal device.” *Id.* (citing Ex. 1007 ¶¶ 78–83, 94–99, 14–18, Figs. 6, 8; Ex. 1001 ¶ 69).

In addition to arguing several teachings, suggestions, or motivations in the prior art that would have led a POSITA to modify the teachings of the Lorex Guide to incorporate the teachings of Kim, Petitioner argues, with Dr. Bim providing supporting testimony, that “both [the] Lorex Guide and Kim are directed to connecting network endpoint devices (e.g., peer devices) including smart phones and cameras” and “a POSITA would have been sufficiently skilled to implement such a combination given the predictable electrical/network components and the relatively advanced state of the art at the time.” *Id.* (citing Ex. 1001 ¶ 70). Thus, according to Petitioner, “a POSITA would have had a reasonable expectation of success in achieving the Lorex Guide-Kim combination.” *Id.* at 19 (citing Ex. 1001 ¶¶ 70–71).

At this stage of the proceeding, we credit Dr. Bim’s testimony that a skilled artisan would have had reasons to combine the teachings of the Lorex Guide and Kim. Thus, on the preliminary record before us and in the absence of any counterargument from Patent Owner, we are persuaded for purposes of this Decision that Petitioner makes a sufficient showing that a skilled artisan would have had reasons, with rational underpinning, to combine the teachings of the Lorex Guide and Kim, with a reasonable expectation of success.

ix. Conclusion as to Claim 1

We are persuaded that Petitioner has preliminarily demonstrated a rationale to combine the Lorex Guide and Kim and that there is sufficient evidence provided that the combination of the references teaches all the limitations of claim 1. Accordingly, we determine that Petitioner has demonstrated that there is a reasonable likelihood that it would prevail in showing that the subject matter of claim 1 would have been obvious over the combination of Lorex Guide and Kim.

b. Independent Claim 12

Petitioner references its arguments for claim 1 for the teaching of all the limitations of independent claim 12. Pet. 32–34. For the reasons discussed in Section II.D.3.a above with respect to claim 1, we conclude that Petitioner additionally shows a reasonable likelihood of prevailing with respect to claim 12.

c. Dependent Claims 2, 3, 6, 10, 13, 14, 17, and 18

For dependent claims 2, 3, 6, 10, 13, 14, 17, and 18, Petitioner argues, with citations to the Lorex Guide and Dr. Bim’s testimony, that the Lorex Guide teaches each of the claims’ additional limitations. Pet. 28–32, 34–37. We have considered the preliminary record before us and, in the absence of any counterargument from Patent Owner, we are persuaded for purposes of this Decision that Petitioner makes a sufficient showing with respect to claims 2, 3, 6, 10, 13, 14, 17, and 18.

E. Additional Grounds

Petitioner also asserts that (i) claims 1–3, 6, 10, 12–14, 17, and 18 would have been obvious over the combination of Kim and the Lorex Video (Pet. 37–57), and that (ii) claims 1–4 and 6–19 would have been obvious over the combination of Throughteck-2012 and the Lorex Video (Pet. 57–68).

1. Kim and the Lorex Video (Ex. 1008)

The Lorex Video is a video recording of a commercial demonstration of “how quick and easy it is to set up [Lorex’s] new wireless network cameras, the LNC100 series.” Lorex Video, 0:07–0:13.¹⁰ The video demonstrates the steps required for a user to connect the Lorex Wireless Network Camera to the Internet through an Ethernet cable connected to a local router. *Id.* at 0:31–0:54. The video demonstrates connecting an iPhone to the camera by downloading and running the Lorex Ping App, adding the wireless network camera to the app’s camera list using the Ping App and iPhone to scan a QR code on the back of the wireless network camera, and entering a password. *Id.* at 0:55–1:36. A screen shot of the video (at time 1:17) is reproduced below showing a user scanning a QR code appearing on the back of the Lorex Wireless Network Camera using an iPhone running the Lorex Ping App. The picture-in-picture inset in the lower left of the figure additionally shows the Lorex Wireless Network Camera connected via a white ethernet cable to a router to provide Internet connectivity.

¹⁰ Our citations here are to the time stamps on the video of the Lorex Video.



The figure above is a screen shot of the Lorex Video at time 1:17 demonstrating use of an iPhone to scan a QR code on the back of the Lorex Wireless Network Camera.

Petitioner’s mapping of the Kim-Lorex Video combination is very similar to its mapping of the Lorex Guide-Kim combination, with the Lorex Video cited for most of the aspects of claim 1 for which Petitioner cites the Lorex Guide. Pet. 12–30, 38–50. We recognize that in its mapping of the Lorex Guide and Kim, Petitioner presents the Lorex Guide as the primary reference, while in its mapping of Kim and the Lorex Video, Petitioner presents Kim as the primary reference. However, “where the relevant factual inquiries underlying an obviousness determination are otherwise clear, characterization . . . of prior art as ‘primary’ and ‘secondary’ is merely a matter of presentation with no legal significance.” *In re Mouttet*, 686 F.3d 1322, 1333 (Fed. Cir. 2012). On the preliminary record before us and in the absence of any counterargument from Patent Owner, we are persuaded for purposes of this Decision that Petitioner makes a sufficient showing that

claim 1 would have been obvious over the Kim-Lorex Video combination for the same reasons as given for the Lorex Guide-Kim combination, discussed above.

2. Throughtek-2012 (Ex. 1017) and the Lorex Video

Throughtek-2012 is a certified English language translation of German utility model application DE202012101164U1 (Exhibit 1016) published June 6, 2012, i.e., less than one year prior to the April 16, 2013, filing date of the '842 patent's provisional application. Ex. 1017, code (43); Ex. 1002, code (60). According to Petitioner, the disclosure and drawings of Throughtek-2012 are substantially the same as those of the '842 patent. Pet. 58 (citing Ex. 1001, ¶¶ 154–155). Thus, Petitioner argues that “Throughtek-2012 effectively anticipates all elements of the '842 patent, except for the negative limitation recited in Elements [1.6] and [12.6], which is equally lacking from the similar specifications of Throughtek-2012 and the later April 13, 2016 provisional application.” *Id.*

Although the disclosures of the Specification and Throughtek-2012 are not the same, we have not discerned, and Patent Owner has not yet argued, that the differences are material. Petitioner's mapping of Throughtek-2012 and the Lorex Video to claim 1 is sufficient, on this record, to show that the combination teaches each limitation of claims 1–4 and 6–19, and that a skilled artisan would have had reasons, with rational underpinning, to combine the teachings of Throughtek-2012 and the Lorex Video, with a reasonable expectation of success. Pet. 60–68. Thus, on the current record, Petitioner makes a prima facie case that Throughtek-2012 and the Lorex Video would have rendered claims 1–4 and 6–19 obvious.

Petitioner argues that the '842 patent is not entitled to the benefit of the '262 provisional and, thus, that the '842 patent is entitled to an effective filing date no earlier than September 20, 2016, the date that claim limitations 1.6 and 12.6 were added via amendment. Pet. 8–11. We need not address this issue at this time. Once Petitioner has met its initial burden of production to show a *prima facie* case of obviousness over Throughtek-2012 and the Lorex Video, as it has done in the Petition, the burden of production shifts to Patent Owner to argue or produce evidence that Throughtek-2012 and/or the Lorex Video is not prior art because the asserted claims are entitled to the benefit of a filing date prior to the dates of Throughtek-2012 and/or the Lorex Video. *See Dynamic Drinkware, LLC v. National Graphics, Inc.*, 800 F.3d 1375, 1379–80 (Fed. Cir. 2015). Patent Owner has not yet alleged or presented evidence that the challenged claims are entitled to an earlier filing date. Thus, we need not resolve that issue. As to the burden of persuasion we note that it remains on Petitioner throughout this proceeding. *See id.* at 1379 (“In an *inter partes* review, the burden of persuasion is on the petitioner to prove ‘unpatentability by a preponderance of the evidence,’ 35 U.S.C. § 316(e), and that burden never shifts to the patentee.”).

III. CONCLUSION

For the foregoing reasons, we determine that the information presented establishes a reasonable likelihood that Petitioner would prevail in showing at least one of claims 1–4 and 6–19 of the '842 patent is unpatentable under 35 U.S.C. § 103. At this stage, because we find that

Petitioner’s showing as to obviousness over the Lorex Guide and Kim for claims 1–3, 6, 10, 12–14, 17, and 18 is sufficient for institution, we will address at trial all of Petitioner’s grounds. 37 C.F.R. § 42.108(a) (“When instituting . . . review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”); *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1359–60 (Fed. Cir. 2018) (interpreting the relevant statutory provisions, in light of *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1352–53, 1359–60 (2018), to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

IV. ORDER

Accordingly, it is:

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is hereby instituted as to claims 1–4 and 6–19 of the ’842 patent on the grounds set forth in the Petition; and

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

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Patent RE47,842 E

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