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Patent No. 11,026,088
Patent Owner's Sur-Reply

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD. AND
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioners,

v.

MAXELL, LTD.,
Patent Owner

IPR2025-01307

U.S. Patent No. 11,026,088

PATENT OWNER'S SUR-REPLY TO PETITIONER'S REPLY

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

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PATENT OWNER'S EXHIBIT LIST

Exhibit #	Description
2001	Notice Letter to Samsung (July 7, 2021)
2002	Follow-up Notice Letter to Samsung (December 29, 2021)
2003	Docket Navigator Time to Trial Statistics for the Eastern District of Texas
2004	Docket Control Order, <i>Maxell, Ltd. v. Samsung Elecs. Co., Ltd.</i> , No. 5:25-cv-00052-RWS (E.D. Tex.)
2005	Jury Trial Transcript, Vol. 4, <i>Maxell, Ltd. v. Samsung Elecs. Co., Ltd.</i> , No. 5:23-cv-00092-RWS (E.D. Tex.)
2006	Complaint, <i>Maxell, Ltd. v. Samsung Elecs. Co., Ltd.</i> , No. 5:25-cv-00052-RWS (E.D. Tex.)
2007	Follow-up Notice Letter to Samsung (April 21, 2025)
2008	Law360 Article, "Maxell Settles Patent Suit Against Apple Over Mobile Tech"
2009	Law360 Article, "Maxell Scores \$43M EDTX Jury Win In ZTE Patent Trial"
2010	Law360 Article, "Maxell, Huawei Reach Terms To End Smartphone Patent Suit"
2011	Hudson Institute Article, "Google's Loss to Sonos Settles It, Big Tech Has an IP Piracy Problem"
2012	PatentRenewal.com Article, "which-companies-hold-the-most-patents-in-the-world"
2013	Motion for Partial Summary Judgment of Validity Based on Sotera Stipulations, <i>Maxell, Ltd. v. Samsung Elecs. Co., Ltd.</i> , No. 5:23-cv-00092-RWS (E.D. Tex.)
2014	Declaration of Dr. Radostin Pachamanov in Support of Patent Owner's Response
2015	Transcript of March 27, 2026 Deposition of Dr. Joseph A. Paradiso
2016	Transcript of August 7, 2026 Deposition of Mr. Michail Bletsas

LISTING OF CHALLENGED CLAIMS

Claim	Claim Text
[1pre]	A communication system comprising:
[1a]	a communication device;
[1b]	an access point device;
[1c]	a first communication terminal configured to connect to the communication device via the access point device and transmit a command to remotely control a display operation on the communication device connected with the first communication terminal; and
[1d]	a second communication terminal configured to, if having permission from the first communication terminal, establish a connection with the communication device to use the communication device;
[1e]	wherein, while the communication device outputs data received from the second communication terminal that has established the connection with the communication device and upon receiving, by the communication device, the command from the first communication terminal, the communication device is configured to control how to display the data received from the second communication terminal while maintaining the connection with the second communication terminal, and
[1f]	wherein, when the communication device receives information to terminate the permission from the first communication terminal, the

	communication device is configured to terminate the connection with the second communication terminal in accordance with the information to terminate permission received from the first communication terminal.
[2pre]	The communication system according to claim 1, wherein,
[2a]	for the permission, the first communication terminal transmits, to the second communication terminal, connection information necessary for a connection through short range communication with the second communication terminal, and the second communication terminal connects to the communication device by using the connection information.
[5pre]	The communication system according to claim 1, wherein,
[5a]	the first communication terminal displays information whether to terminate the permission on a display screen, receives an input operation for terminating the permission, and transmits the information to terminate the permission to the communication device in accordance with the input operation for terminating the permission.
[6pre]	The communication system according to claim 1, wherein,
[6a]	in a case that the communication device is able to receive information from the first communication terminal, the communication device controls the communication device in accordance with information from the first communication terminal,
[6b]	wherein, in a case that the communication device is unable to receive information from the first communication terminal, the communication device terminates the connection with the second

	communication terminal.
[7pre]	The communication system according to claim 1, wherein,
[7a]	for the permission, the first communication terminal transmits, to the second communication terminal, connection information necessary for a connection through short range communication with the second communication terminal, and
[7b]	the second communication terminal transmits address information on the second communication terminal to the first communication terminal,
[7c]	the first communication terminal transmits the address information on the second communication terminal to the communication device,
[7d]	the communication device registers the address information on the second communication terminal into a permission list,
[7e]	the second communication terminal connects to the communication device by using the connection information,
[7f]	upon confirming the permission is to be terminated, the first communication terminal causes the communication device to delete the address information on the second communication terminal from the permission list of the communication device, and,
[7g]	upon the address information on the second communication terminal being not registered in the permission list, the communication device terminates the connection with the second communication terminal.
[8pre]	The communication system according to claim 1, wherein,
[8a]	for the permission, the first communication terminal transmits, to the

	second communication terminal, connection information necessary for a connection through short range communication with the second communication terminal, and
[8b]	the second communication terminal transmits address information on the second communication terminal to the first communication terminal,
[8c]	the first communication terminal registers the address information on the second communication terminal into a permission list,
[8d]	the second communication terminal connects to the communication device by using the connection information,
[8e]	upon confirming the permission is to be terminated, the first communication terminal causes the communication device to delete the address information on the second communication terminal from the permission list, and
[8f]	the communication device performs communication for confirmation with the first communication terminal and,
[8g]	upon the address information on the second communication terminal being not registered in the permission list of the communication device, terminates the connection with the second communication terminal.
[9pre]	The communication system according to claim 1, wherein,
[9a]	for the permission, the first communication terminal requests a one-time password from the communication device, and the communication device responds with the one-time password,

[9b]	the first communication terminal transmits, to the second communication terminal, connection information including the one-time password necessary for a connection through short range communication with the second communication terminal, and
[9c]	the second communication terminal connects to the communication device by using the connection information including the one-time password.
[10pre]	The communication system according to claim 1, wherein,
[10a]	for the permission, the second communication terminal performs short range communication with the communication device,
[10b]	the communication device transmits, to the second communication terminal, connection information necessary for a connection, and
[10c]	the second communication terminal transmits address information on the second communication terminal to the communication device,
[10d]	the communication device registers the address information on the second communication terminal into a permission list,
[10e]	the second communication terminal connects to the communication device by using the connection information,
[10f]	upon confirming the permission is to be terminated, the first communication terminal causes the communication device to delete the address information on the second communication terminal from the permission list of the communication device, and,
[10g]	upon the address information on the second communication terminal being not registered in the permission list, the communication device

	terminates the connection with the second communication terminal.
[11pre]	The communication system according to claim 1, wherein,
[11a]	for the permission, the second communication terminal requests a one-time password from the communication device through short range communication with the communication device, and
[11b]	the communication device transmits connection information including the one-time password necessary for a connection to the second communication terminal, and
[11c]	the second communication terminal connects to the communication device by using the connection information including the one-time password.
[12pre]	The communication system according to claim 1, wherein,
[12a]	for the permission, the first communication terminal transmits, to the second communication terminal, connection information necessary for a connection through short range communication with the second communication terminal, the second communication terminal connects to the communication device by using the connection information, and
[12b]	in the short range communication, the first communication terminal displays a bar code representing the connection information on a display screen thereof and the second communication terminal captures an image of the bar code with a camera to read the connection information.
[13pre]	The communication system according to claim 1, wherein,
[13a]	the second communication terminal controls the communication

	device while maintaining the connection with the communication device, and
[13b]	the first communication terminal controls the communication device while maintaining the connection with the communication device via the access point.
[14pre]	A communication terminal comprising:
[14a]	a wireless connection interface configured to connect to a communication device via an access point device; and
[14b]	a controller configured to control the wireless connection interface and to transmit a command to remotely control a display operation on the communication device connected with the communication terminal,
[14c]	wherein the controller is configured to transmit permission to establish a connection for the communication device and another communication terminal,
[14d]	wherein, while the communication device outputs data received from the another communication terminal that has established the connection with the communication device, the controller is configured to transmit the command to control how to display the data while the communication device and the another communication terminal are connected, and
[14e]	wherein, when the controller transmits information to terminate the permission from the communication terminal, the controller is configured to transmit the information to terminate the connection with the another communication terminal to the communication device.

[15pre]	A communication device comprising:
[15a]	a wireless connection interface configured to connect to a communication terminal and another communication terminal; and
[15b]	a controller configured to control the wireless connection interface,
[15c]	wherein the wireless connection interface is configured to connect to the communication terminal via an access point device,
[15d]	wherein the controller is configured to control to establish a connection with the another communication terminal, if having permission from the communication terminal, and control data received from the another communication terminal,
[15e]	wherein, while the controller controls the data received from the another communication terminal and upon receiving at the wireless communication interface, from the communication terminal, a command to remotely control how the data received from the another communication terminal is displayed, the controller is configured to control the data received from the another communication terminal in accordance with the command from the communication terminal while maintaining the connection with the another communication terminal, and
[15f]	wherein, when the wireless communication interface receives information to terminate the permission from the communication terminal, the controller is configured to terminate the connection with the another communication terminal.

Patent Owner Maxell, Ltd. ("Patent Owner") respectfully submits this Sur-Reply in response to the Reply filed by Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. ("Petitioner") (Paper 20) in the *inter partes* review of U.S. Patent No. 11,026,088 ("088 Patent"). Patent Owner requests that the Board confirm the patentability of challenged claims 1, 2, and 5-15 for the reasons set forth below.

I. IMPROPER NEW EVIDENCE

As a threshold matter, the Board should strike or disregard the Declaration of Michail Bletsas (Ex. 1049) and the new exhibits filed with Petitioner's Reply (Exs. 1050–1056 and Ex. 1047). Patent Owner identifies three independent reasons these materials are improper: (1) they violate 37 C.F.R. § 42.23(b); (2) they are paradigmatic gap-filling that attempts to cure an inadequate Petition; and (3) Petitioner's own briefing confirms the impropriety through an irreconcilable internal inconsistency. Section 42.23(b) provides that "[a] reply may only respond to arguments raised in the corresponding ... patent owner response[.]" See *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (upholding the Board's exclusion of petitioner's reply brief and accompanying expert declaration that contained a new invalidity theory and evidence). The impermissible materials do not respond to arguments Patent Owner

raised—they attempt to fill a gap that existed in the Petition from the outset. The Petition's only support for connection maintenance during frequency-band switching was a single conclusory sentence in the Paradiso declaration asserting that the connection is maintained as the image transmission mode changes from the low frequency band to the high frequency band. Ex. 1003 at ¶ 83. No explanation, no citation to Iwami, and no identification of any mechanism. Patent Owner's Response did not inject the connection-maintenance issue; it merely pointed out that the Petition never carried its burden. The Bletsas Declaration is therefore not a "response" to Patent Owner's arguments—it is an attempt to supply the technical support the Petition was always required to provide and never did.

The Bletsas Declaration (Ex. 1049) is precisely such improper new testimony. It was not part of the Petition, was not authored by Dr. Paradiso, and introduces an entirely new technical theory—that Layer-4 TCP/UDP sessions persist through Layer-2 Wi-Fi channel switching via CSA, ECSA, and TDLS mechanisms—to address a claim element the Petition never adequately supported. Ex. 1049 at ¶¶ 22–43. Critically, Mr. Bletsas himself confirmed at deposition that neither CSA, ECSA, nor TDLS was mentioned in the Petition: "No, I don't see any mention of those in the petition." Ex. 2016 (Bletsas Dep.) at 84:15–16; *see also id.* at 83:19 ("I don't think they were described"). Mr. Bletsas also conceded that his

entire purpose in raising these mechanisms was rebuttal: “my reason for mentioning those is to counterargue against Dr. Pachamanov’s statement.” Ex. 2016 (Bletsas Dep.) at 83:6–10. This admission confirms that the Bletsas Declaration introduces an entirely new technical theory that was never part of the Petition—the very definition of improper gap-filling. Moreover, Mr. Bletsas admitted he never even read Dr. Paradiso’s declaration. *Id.* at 23:6–9. Thus, the Bletsas Declaration cannot be characterized as a response to Patent Owner’s arguments; it is an independent technical theory developed after the fact to shore up deficiencies in the Petition that Mr. Bletsas never reviewed. Even on its own terms, Mr. Bletsas’s TCP-persistence theory is qualified: when asked whether TCP sessions persist despite Layer-2 disruptions, he answered “Yes... As long as timing restraints aren’t violated, they persist.” *Id.* at 67:11–24. This concession undermines his entire theory—if timing constraints are violated (as they would be during Iwami’s “several seconds” reconnection period), the TCP session does *not* persist. This is classic gap-filling: Petitioner recognized after seeing Patent Owner’s Response that its original position was untenable, and sought to shore it up with an entirely different technical explanation—a theory Dr. Paradiso never mentioned. *Compare* Ex. 1003 at ¶ 83, with Ex. 1049 at ¶¶ 23–29; *see Intelligent Bio-Sys., Inc.*, 821 F.3d at 1369 (holding the PTAB did not abuse its discretion in refusing to consider petitioner’s reply brief

that contained new arguments that “could have been presented earlier”).

Moreover, Mr. Bletsas's TCP-persistence theory addresses the wrong communication channel entirely—a fundamental defect that Section V.B addresses in detail. In brief: in a Miracast system such as Iwami's, the UIBC (User Input Back Channel) carries control commands over TCP, while the media stream carrying actual display content operates over RTP/UDP. Ex. 1050, Section 4.10.1. Mr. Bletsas's opinions about TCP session persistence are directed at the control channel, not the media stream relevant to the claimed “display control.” His opinions also rely on seven new technical exhibits (Exs. 1050–1056) that never appeared in the Petition—precisely the type of new evidence that § 42.23(b) bars.

Exhibit 1047 (a DLNA Wikipedia article used as a deposition exhibit) is likewise new evidence first introduced at the Reply stage to support a motivation-to-combine argument that should have been fully developed in the Petition. The Petition cited no DLNA Wikipedia article; its appearance now represents an impermissible attempt to shore up an underdeveloped motivation theory after seeing Patent Owner's Response. The Board routinely excludes such evidence.

Petitioner's own briefing confirms the impropriety through an internal inconsistency. The Reply simultaneously argues that Dr. Pachamanov's frequency-switching testimony is “waived” under 37 C.F.R. § 42.6(a)(3), and then addresses

it “solely as a precaution” with entirely new expert testimony from Mr. Bletsas. Paper 20 at 23–25. This is internally contradictory: if the argument is truly waived, Petitioner needs no rebuttal evidence; if not waived (and it is not, because the Patent Owner's Response (Paper 18) addressed connection maintenance at pages 36–40 and in Ex. 2014 at ¶¶ 128–131), then Petitioner cannot introduce new expert testimony at the Reply stage when it had every opportunity to address this issue in the Petition but chose not to. Either way, Ex. 1049 and Exs. 1050–1056 are improper.

Patent Owner respectfully requests that the Board disregard these materials. Nevertheless, Patent Owner briefly addresses the merits of the Bletsas opinions below (Section V.B) solely to demonstrate that even if considered, they fail to cure the fundamental deficiency: the Petition never carried its burden of showing that Iwami discloses or suggests maintaining a connection during frequency-band switching. *See Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (“the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable...” and ““with particularity... the evidence that supports the grounds for the challenge to each claim.””).

II. CLAIM CONSTRUCTION

A. “Access Point Device”

Petitioner continues to press its unduly narrow construction that an “access point device” must be “a transceiver that connects the LAN to a wired network.” Paper 20 at 5–7. This construction finds no support in the intrinsic record, is inconsistent with the plain and ordinary meaning of the term, and is contradicted by Petitioner's own expert.

Under *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc), claim terms are given their plain and ordinary meaning as understood by a person of ordinary skill in the art in the context of the patent specification. The '088 Patent specification describes the access point device 107 with a wireless LAN interface and notes that it connects to “for example, a wired LAN interface” in the Figure 7 embodiment. Ex. 1001 at 31:34–40. The phrase “for example” is the antithesis of a limitation—it signals that the wired LAN interface is merely one illustrative configuration, not a definitional requirement. The claims themselves impose no wired-network requirement; they refer simply to an “access point device” without any wired-connection modifier.

Petitioner's Reply attacks Dr. Pachamanov's opinion as “unsupported,” but Dr. Pachamanov's construction is grounded in the claim language, the

specification's description of the access point device at Ex. 1001 at 3:32–38, and the WDS/mesh examples discussed at paragraphs 79–81 of Dr. Pachamanov's Declaration. Moreover, Petitioner's prior expert, Dr. Paradiso, confirmed in deposition that the claim language "may be open to wired or wireless..." Ex. 2015 at 58:14–61:23. Dr. Paradiso further agreed that "access point device" has a plain and ordinary meaning. *Id.* at 52:8–17. This un rebutted testimony from Petitioner's own expert fatally undermines the narrow wired-network construction. The Board should apply the plain and ordinary meaning without importing a limitation the claims do not require and the specification does not mandate.

B. Limitation [6b]

Patent Owner maintains that no special construction of limitation [6b] is necessary—the plain language speaks for itself. Ex. 1048 at 167:5–21, 168:1–22 (Dr. Pachamanov explaining that opining no construction is necessary is simply disagreement with a proposed construction, not a failure to construe). Petitioner's Reply attacks Dr. Pachamanov's redirect testimony regarding [6b], but the attack is misdirected. The claim language itself—"wherein, in a case that the communication device is unable to receive information from the first communication terminal, the communication device terminates the connection with the second communication terminal"—plainly requires a causal and responsive relationship: the inability to

receive information triggers termination. Petitioner's assertion that the claim "does not limit the kind of information" conflates the type of information with the functional requirement that the information be causally tied to the connection-termination decision. Even if the "kind" of information is not limited, the claim plainly requires that the absence of that information be the reason for termination—not a mere coincidence.

Petitioner's position reduces to the assertion that any information transmission between devices satisfies limitation [6b]. But this reading renders the limitation meaningless. The claim requires a specific supervisory relationship in which the communication device's decision to maintain or terminate the second terminal's connection depends on ongoing information receipt from the first terminal—a designed supervisory mechanism, not a network failure.

III. GROUND 1 — MOTIVATION TO COMBINE

A. Iwami's Purpose and Field Are Fundamentally Different from the '088 Patent

Petitioner asserts that Iwami is "directly analogous" to the '088 Patent because both involve wireless communication among multiple devices. Paper 20 at 8–9. This superficial framing obscures fundamental differences in purpose, topology, and architecture that defeat any particularized motivation to combine.

Iwami solves a specific problem: optimizing bandwidth allocation and

display-region control for real-time image transmission in a Miracast/RTSP peer-to-peer display system, primarily in an educational setting. Ex. 1004 at ¶¶ [0003]–[0010]. Its topology is point-to-point between source devices and a sink device, with a control device managing which source's content appears on the display.

In contrast, the '088 Patent addresses an entirely different problem: organizational security and trust hierarchy—specifically, enabling a first terminal (administrator) to grant and revoke a second terminal's (guest's) temporary access to a communication device while ensuring security for an organization's network. Ex. 1001 at 4:20–50; Abstract. The '088 Patent envisions an external user—such as an employee of a different company—temporarily accessing an organization's resources, including the network itself. *Id.* at 4:38–45 (“user B, such as an employee of the company B outside the company A”). That is why revocation of access is central to the '088 Patent's design: the system must ensure that temporary access does not become permanent or uncontrolled. The '088 Patent's architecture is fundamentally a permission-based access-control system with a supervisory trust relationship, not a bandwidth-optimization display protocol.

A POSITA would not look to a display-streaming optimization reference designed for classroom presentations to solve an access-control and permission-management problem for organizational network security. The mere fact that both

references involve wireless communication among multiple devices does not supply the particularized, fact-specific motivation required by *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Petitioner has never articulated why a POSITA seeking to solve the specific security and permission-management problem of the '088 Patent would have turned to Iwami's Miracast display-switching system as a starting point.

The Reply also fails to address Patent Owner's point that Iwami's control device 740 manages display regions and streaming modes—it does not manage access permissions or trust relationships. In Iwami, the “control” is over which source's video stream appears on which portion of the display and whether the connection mode is direct P2P or routed through the access point. *See* Ex. 1048 at 75:6–76:16. This is display-layout management, not security-permission management. A POSITA would not conflate these fundamentally different types of “control.” Ex. 2014 at ¶¶ 125-127.

B. Iwami's Embodiments Are Not Modular Building Blocks

Petitioner's Reply introduces “alternative theories” that selectively combine features from Iwami's separate embodiments. Paper 20 at 10–12. But the Petition bore the burden of establishing that a POSITA would have understood these embodiments to be interchangeable, modular components that could be freely

recombined. It failed to do so, and the Reply cannot cure that deficiency.

The record confirms Iwami's embodiments are distinct systems for different operational modes. Dr. Paradiso admitted he does not believe Iwami explicitly states embodiments can be combined. *See* Ex. 2015 at 107:21–108:8. He confirmed that Iwami's second embodiment omits source-sink security authentication entirely. Ex. 2015 at 128:17–129:3. Shared hardware diagrams do not mean the embodiments were designed as mix-and-match building blocks; they reuse a common platform for different functional configurations.

Petitioner fails to explain how features from Iwami's first embodiment (peer-to-peer Miracast streaming) could be combined with features from the second embodiment (classroom control) to yield the claimed invention. The first embodiment lacks any control device analogous to device 740; the second embodiment lacks the security authentication features described in the first. Selectively borrowing features from different embodiments without an articulated technical rationale is impermissible hindsight. *See In re Stepan Co.*, 868 F.3d 1342, 1346 (Fed. Cir. 2017).

C. The Structural Incompatibility Between Iwami and Kim Remains Unresolved

Petitioner retreats in its Reply to characterizing Kim as providing only a “concept” of message-based commands, asserting that the specific UPnP primitives

(MulticastStart(), Join(), Leave()) are not required for the combination. Paper 20 at 12–15. This retreat is both an admission of defeat and a hallmark of hindsight. If Kim's specific technical contribution—its UPnP multicast event architecture—is not what the combination borrows, then what exactly does the combination borrow from Kim? The answer is nothing that Iwami does not already possess. Iwami has its own rich messaging protocol: RTSP messages M1–M12 (Figures 14–16), plus switching commands using either the control device or the sink device. Samsung has never explained the threshold question: *why* would a POSITA see any technical need to add Kim's multicast-specific messages to Iwami's system, which already has messages, device control, mode switching, and connection management? The only “need” for Kim is claim-matching—specifically, Kim's Leave() message is needed to map the termination limitation. But that is a paradigmatic hindsight rationale that *KSR* forbids: working backward from the claims to identify a reference that fills a gap, rather than forward from a technical problem that a POSITA would actually have sought to solve.

Kim's contribution to the proposed combination is its one-to-many UPnP multicast architecture (SUBSCRIBE, JOIN, LEAVE events). This is structurally incompatible with Iwami's point-to-point Miracast/RTSP protocol. Iwami uses direct Wi-Fi Direct connections for real-time image transmission; Kim manages

multicast streams across a UPnP home network. These are fundamentally different networking paradigms.

Petitioner attempts to bridge this gap with Ex. 1047 (a DLNA Wikipedia article) and a “parent-child analogy.” Paper 20 at 13–14. Ex. 1047 is improper new evidence. Even if considered, generic DLNA compatibility does not demonstrate how a POSITA would integrate Kim’s multicast model into Iwami’s point-to-point architecture.

Dr. Paradiso’s own deposition testimony confirms this gap cannot be bridged. Dr. Paradiso admitted that “Iwami doesn’t seem to mention Multicast.” Ex. 2015 at 103:5–6. Without any multicast capability in Iwami, a POSITA would have had no technical pathway to incorporate Kim’s UPnP multicast architecture into Iwami’s point-to-point system. Furthermore, Kim does not use the word “permission” in any form relevant to the claimed invention. Dr. Paradiso conceded that “[b]eyond just the ability to send the information to the renderers to join or to leave, there’s nothing that talks about permission in Kim as such.” Ex. 2015 at 164:9–15. And critically, Kim’s `Leave()` function is a *voluntary* departure notification from a renderer—a device choosing to stop receiving multicast content. See Ex. 1006, ¶ [0046]. It is not a security-based revocation triggered by a supervisory first terminal’s failure to maintain authorization. Kim’s `Leave()` is user-

initiated departure; the '088 Patent's termination is administrator-initiated revocation.

IV. GROUND 1 — CLAIM ELEMENTS

A. Limitations [1d], [14c], and [15d] — Permission to Connect

Petitioner's Reply presents what it characterizes as "two theories" for mapping these limitations. Paper 20 at 15–18. Neither succeeds.

First, the "group management table" theory was not the primary or adequately-supported mapping in the Petition. The Petition bore the burden of articulating its claim mappings with the particularity required by 35 U.S.C. § 312(a)(3). The group management table was, at most, a passing reference that was not developed with sufficient specificity to constitute a proper ground. The Reply's attempt to resurrect this theory through deposition testimony (Ex. 1048 at pp. 150-53) cannot cure the Petition's failure. *See* Paper 20 at 14. A petitioner cannot use reply briefing to develop inadequately-presented petition theories; deposition testimony elicited after institution does not substitute for the petition's obligation to map each claim element with particularity.

Second, the outdoor-use permission theory based on Iwami's paragraph [0407] fails because it conflates a routing parameter with the claimed permission. As Dr. Pachamanov explained, Iwami's outdoor-use flag is a routing/location

parameter tied to the access point, not a gate enabling/disabling second terminal use. *See* Ex. 2014 at ¶¶ 117–118. The claims require that the first communication terminal actively authorize or deny the second terminal's connection—and later terminate that authorization. *See* elements [1d], [1f], [14c], [14e], [15d], [15f]. Iwami's outdoor-use flag merely indicates whether connection via an access point other than AP 701 is permitted—it is not a message from an active gatekeeper that initiates and controls whether the second terminal may use the communication device. Ex. 1048 at 129:19–131:22; 134:6–13 (“Iwami... has no analogous mechanism”). The intervening steps in Iwami between the outdoor-use flag and any eventual connection—including P2P group negotiation, WPS handshake, IP reassignment, and RTSP session setup—break any causal chain between the flag and the claimed “permission.”

Petitioner's Reply also fails to identify where in Iwami the claimed “permission” is actually “transmitted” from the first terminal to the communication device. The outdoor-use flag describes a setting within the terminal's own configuration parameters—not a message from control device 740 to access point 701 instructing it to permit or deny a particular terminal's connection. Ex. 1048 at 110:14–17 (“it's not access control... not really permission in same sense as the '088 patent.”). Petitioner's reliance on the “retention unit” storing previously-

granted devices likewise fails—a stored record of devices that were already connected is not an active first-terminal grant or termination. Nor does Kim supply the missing permission or termination element. Dr. Paradiso conceded that “[b]eyond just the ability to send the information to the renderers to join or to leave, there’s nothing that talks about permission in Kim as such.” Ex. 2015 at 164:9–15; Ex. 2014 at ¶¶ 121–122, 136–140.

B. Limitations [1c], [1e], [14b], [14d], and [15e] — Display Control While Maintaining Connection

The claimed limitations assign two distinct roles: under [1c], the first terminal transmits a command to remotely control a display operation on the communication device; under [1e], the communication device controls how to display the second terminal’s data upon receiving that command—all while the connection with the second terminal is maintained. Iwami fails both requirements. First, regarding command direction, Iwami’s control device 740 does not transmit a display-control command to the communication device (sink 730); rather, it sets the communication mode in the source device. Ex. 1004 at ¶ [0264] (“control unit 747 performs control such that communication mode is set in source device based on order/images displayed”); *see also* Ex. 2014 at ¶¶ 126–127. Thus, in Iwami, the entity determining the display arrangement is control device 740—not the communication device—and 740’s command targets source-device mode, not a display operation

on the sink. See Ex. 1048 at 60:1–62:14 (Dr. Pachamanov distinguishing claim element 1[c] from Iwami by explaining that “the control device 740 controls directly the source device, it sets something there.”). Second, regarding connection maintenance, the display-control event itself threatens the connection—and in Iwami, it does. Iwami’s display-control mechanism operates by switching the frequency band, which can interrupt the existing Wi-Fi Direct connection between device 701 and the source terminal. Iwami’s design goal is to “reconnect” or “mask delay” after the disruption, not to maintain the connection through the switch. Ex. 1004 at ¶¶ [0312]–[0314].

Iwami itself reveals why the connection can be interrupted. The frequency-band switch in Iwami’s FIG. 22 can disrupt the existing Layer-2 association. Iwami’s solution is *not* to maintain the connection through the switch, but to reconnect quickly or mask the delay so the user does not perceive an interruption. Ex. 1004 at ¶¶ [0312]–[0314]. This is a reconnect-and-mask-delay architecture, not an affirmative-maintenance architecture. The distinction is dispositive: the claims require maintaining the connection, not recovering from its loss. Significantly, Mr. Bletsas never disputed that the frequency-band switch drops the connection in the ordinary case. His entire declaration concedes this point implicitly by offering supplemental mechanisms (CSA, ECSA, TDLS) to *avoid* the disruption. But Iwami

never requires these mechanisms, and the Petition never disclosed them. Tellingly, Mr. Bletsas confirmed at deposition that Dr. Pachamanov's analysis was correct for the specific conditions present in Iwami: "Dr. Pachamanov in his declaration examined how plain old WiFi works without taking into consideration all these other mechanisms." Ex. 2016 (Bletsas Dep.) at 81:25–82:9. This admission is fatal: without the supplemental mechanisms that neither Iwami nor the Petition discloses, Dr. Pachamanov's analysis is correct—the frequency-band switch interrupts the connection.

Mr. Bletsas's deposition testimony further confirms this understanding. When asked about Iwami's paragraph 314, Mr. Bletsas did not dispute that Iwami describes accelerating the establishment of a *new* connection:

Q. So is paragraph 314 then describing a reconnection—or a new connection scenario... so that... the user feels as though that connection was continuously maintained?

A. ... It talks about how you can accelerate the establishment of a connection.

Q. Of a new connection?

A. Could be a new connection, yes."

Ex. 2016 (Bletsas Dep.) at 76:2–15. He confirmed that the steps described in Iwami—P2P Device Discovery, Service Discovery, GO Negotiation, and the four-way handshake—are "steps for establishing a new connection," not for maintaining

an existing one. *Id.* at 72:16–73:2. He also agreed that “several seconds” would be “a significant amount of time in this context.” *Id.* at 73:25–74:2. In short, the switch drops the connection unless supplemented by optional mechanisms that Iwami never requires and the Petition never disclosed—which is precisely *not* teaching “maintaining the connection.”

Petitioner's Reply introduces the Bletsas Declaration (Ex. 1049) to argue that TCP/UDP sessions persist through channel switching. But Mr. Bletsas's analysis addresses the wrong communication channel. In the Wi-Fi Display (Miracast) architecture that Iwami employs, there are two distinct channels: (1) the UIBC (User Input Back Channel), which carries control commands over TCP; and (2) the media stream, which carries display content over RTP/UDP. Ex. 1049 at ¶ 29. Mr. Bletsas confirmed the media stream is communicated over UDP and the control channel (UIBC) is over TCP. Ex. 2016 (Bletsas Dep.) at 59:20-23; 60:23-61:4. Mr. Bletsas's TCP-persistence theory is therefore directed at the control channel, not the media transport that carries the actual displayed data. Critically, unlike TCP, UDP is “connectionless” with no retransmission mechanism—if a UDP packet is lost, it “is gone effectively unless the application layer re-requests it.” *Id.* at 54:6–19. The media stream cannot be “maintained” through a disruption; streaming applications merely conceal loss with “jitter buffers and error-concealment techniques.” *Id.* at

64:21–24. Thus, even if TCP sessions on the UIBC could survive a channel switch, this would not establish that the media stream is maintained through the frequency-band transition.

Mr. Bletsas's reliance on TDLS fares no better. TDLS is optional in Iwami's architecture—merely one item on Iwami's menu of alternatives at paragraph [0076]. Iwami's Figure 38 includes “TDLS USE” flags precisely because TDLS is a configurable option, not a guaranteed feature. Ex. 1004 at FIG. 38. Mr. Bletsas confirmed TDLS's optional nature at his deposition: “it's not requiring TDLS... Not every access point supports TDLS,” and in a source-sink setup “you are going to use WiFi Direct.” Ex. 2016 (Bletsas Dep.) at 79:8–19. Critically, Mr. Bletsas admitted that Iwami discusses TDLS in the context of *establishing* connections, not maintaining them: “in the purposes of Iwami, we can assume that they are concerned mostly about how you initially establish the connection.” Ex. 2016 (Bletsas Dep.) at 80:7–21. This admission is fatal to Petitioner's reliance on TDLS: even Petitioner's own expert concedes that Iwami's discussion of TDLS addresses connection *establishment*, not connection *maintenance*.

Mr. Bletsas's CSA/ECSA theory is equally flawed. CSA and ECSA move all stations on a BSS to a new channel simultaneously. Ex. 1051 at § 10.9.8. But Iwami's FIG. 22 contemplates a split-frequency display architecture where different

source devices operate on different bands simultaneously. Ex. 1004 at ¶¶ [0287]–[0288]. CSA cannot maintain this split-frequency configuration because it forces all devices onto the same channel, destroying the topology that Iwami's display-control mechanism depends upon. Mr. Bletsas confirmed this at his deposition: a CSA/ECSA announcement causes devices to “move altogether to that target channel.” Ex. 2016 (Bletsas Dep.) at 69:18-24. Mr. Bletsas does not address how CSA/ECSA can maintain Iwami's split-frequency topology when these mechanisms collapse all devices onto a single channel.

Samsung's same-band alternative theory is itself a new theory raised in the Reply; the Petition's theory was expressly a low-to-high band change. Ex. 1003 at ¶¶ 82–83. This same-band alternative cannot be introduced at the Reply stage. Moreover, even a same-band switch requires disconnecting from one P2P group and reconnecting—Iwami does not teach maintaining the connection through any channel transition.

Petitioner's Reply mischaracterizes Dr. Pachamanov's deposition testimony as a “fatal” admission that sink 730 receives a command from 740. Paper 20 at 16–17. It is neither an admission nor fatal. Dr. Pachamanov never denied that information eventually reaches the sink—he confirmed, as stated in paragraph 127 of his declaration, that Iwami does not describe the sink receiving a display-control

command from the control device and then in response controlling how it displays second terminal data. Ex. 1048 at 71:12-22. His consistent position is that Iwami describes that information is transmitted to the sink, but “does not say it is directly sent from 740 to 730”—control device 740 sets the mode for the source, not the sink. Ex. 1048 at 77:18–80:16; *see also* Ex. 1048 at 86:3–89:8 (explaining that the control device controls the mode in the source device and indirectly that information eventually reaches the sink device). This is not a reversal; it is the same point made in his declaration (Ex. 2014 at ¶¶ 126–131).

Moreover, Mr. Bletsas’s own deposition testimony undermines Petitioner’s position on connection maintenance. Mr. Bletsas conceded that during a Layer-2 disruption caused by a frequency-band switch, video data transmitted over UDP would be lost: “Q. So if there is a Layer-2 disruption during a frequency band switch, the video data being transmitted during that disruption would be lost, correct? A. Yes, you can make that statement.” Ex. 2016 (Bletsas Dep.) at 63:8–12. This admission confirms that the media stream carrying actual display content—which uses RTP over UDP—cannot be “maintained” through a Layer-2 disruption; at best, the system recovers from loss through error concealment. In sum, the Petition never carried its burden on the “while maintaining connection” element, and its command-direction mapping is equally deficient. The Bletsas declaration,

even if considered, addresses the wrong channel (TCP/UIBC rather than RTP/UDP media), relies on mechanisms incompatible with Iwami's architecture (CSA/ECSA in a split-frequency system), and invokes optional features not taught for the relevant event (TDLS). The proper remedy is confirmation of patentability.

V. GROUND 2–5

A. Ground 2 (Claims 2, 12) — Iwami/Kim/Liansky

Petitioner characterizes Patent Owner's Liansky objection as merely about "labels." Paper 20 at 25–26. This mischaracterizes Patent Owner's argument, which is structural. In Liansky, the display screen shows a QR code and the mobile device captures it—meaning the device displaying authentication information corresponds to the "second terminal," while the device capturing the code corresponds to the "first terminal." This creates a structural role inversion: in the claims, the first terminal transmits authentication information to the communication device; in Liansky, the information flow runs in the opposite direction.

Petitioner's Reply asserts that Liansky teaches the general "concept" of visual authentication. But the claims require specific structural relationships. The first terminal must transmit authentication information to the communication device; the communication device must use that information to authenticate the second terminal. Liansky reverses this flow. The three-party trust model of the '088

Patent—supervisor, access point, guest—is absent from Liansky, where authentication occurs bilaterally.

B. Ground 3 (Claims 7, 8, 10) — Iwami/Kim/Liansky/Weiser

Weiser's whitelist/blacklist mechanism operates at a proxy or firewall—a network intermediary filtering traffic based on predetermined rules. This is architecturally distinct from the claimed communication device, which grants or denies permission based on address information actively transmitted by the first terminal. The claims require dynamic, first-terminal-controlled registration; Weiser's static, administrator-configured rules do not disclose this relationship.

C. Ground 4 (Claims 9, 11) — Iwami/Kim/Liansky/Kato

Petitioner's reliance on Kato suffers from both the Liansky role-inversion problem identified above and an independent structural mismatch. Kato describes an apparatus-centric one-time password (OTP) login system—a two-party authentication model in which a user device authenticates directly to a server using a one-time password. The claims, by contrast, require a three-device relay architecture: a first terminal transmits authentication information to a communication device, which uses that information to authenticate a second terminal. Kato's OTP is generated and verified within a single bilateral authentication exchange; it is not relayed through an intermediary communication

device for use in authenticating a separate third device. Petitioner has not sufficiently explained how Kato's two-party OTP system maps onto the claimed three-device authentication relay.

D. Ground 5 (Claim 6) — Iwami/Kim/Dowling

Petitioner's Reply introduces a new claim-construction argument distinguishing "information" from "permission" to salvage its Dowling mapping. Paper 20 at 28–29. This distinction is a new claim-construction theory raised for the first time in the Reply and should be disregarded under § 42.23(b) as an argument that could and should have been raised in the Petition.

On the merits, Dowling's heartbeat mechanism detects physical presence through periodic signals—a passive monitoring mechanism, not an affirmative permission-control communication from a supervisory terminal. *See* Ex. 2015 at 86:4–8 (Dr. Paradiso explaining that "if the display unit does not receive a keep alive from one of the terminals, then it can terminate the connection..."). The claims require that a first terminal transmit information that controls whether the communication device grants or terminates the second terminal's connection—an active supervisory relationship in which the first terminal's communication directly determines connection status. Dowling's heartbeat passively monitors whether devices are present; it does not transmit information from a supervisory terminal for

the purpose of controlling permission. The distinction between passive presence detection and active permission control is fundamental to the claimed invention.

VI. CONCLUSION

For the foregoing reasons, Patent Owner respectfully requests that the Board: (1) strike or give no weight to Petitioner's improperly submitted new evidence, including the Bletsas Declaration (Ex. 1049), Exhibits 1050-1056, and Exhibit 1047; and (2) confirm the patentability of challenged claims 1, 2, and 5-15 of U.S. Patent No. 11,026,088.

Dated: August 12, 2026

Respectfully submitted,

/ Robert G. Pluta/

Robert G. Pluta (Reg. No. 50,970)
Amanda S. Bonner (Reg. No. 65,224)
MAYER BROWN LLP
71 S. Wacker Drive
Chicago, IL 60606
Telephone: (312) 701-8641
rpluta@mayerbrown.com

Saqib J. Siddiqui (Reg. No. 68,626)
Matthew A. Stanford (Reg. No. 74,391)
MAYER BROWN LLP
1999 K Street NW
Washington, D.C. 20006
Telephone: (202) 263-3000

Counsel for Maxell, Ltd.

CERTIFICATION PURSUANT TO 37 C.F.R. § 42.24(d)

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that this Patent Owner's Sur-Reply complies with the type-volume limitation of 37 C.F.R. § 42.24(c)(4). The word count application of the word processing program used to prepare this Sur-Reply indicates that it contains 5,321 words, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a).

Respectfully submitted,

/Robert G. Pluta/

Robert G. Pluta (Reg. No. 50,970)

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CERTIFICATE OF SERVICE

The undersigned certifies that on the date indicated below, a true and correct copy of the foregoing Patent Owner's Sur-Reply was served via electronic mail on the following counsel of record for Petitioner:

James Heintz
Jim.heintz@us.dlapiper.com

Nicholas Panno
Nicholas.panno@us.dlapiper.com

Dated: August 12, 2026

/Robert G. Pluta/

Robert G. Pluta (Reg. No. 50,970)

Counsel for Maxell, Ltd.