

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOTOROLA SOLUTIONS, INC.,

Petitioner,

v.

STA GROUP LLC,

Patent Owner.

Case IPR2023-01294
U.S. Patent No. 8,831,664 B2

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

Submitted Electronically

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<i>Vitronics Corp. v. Conceptronic, Inc.</i> , 90 F.3d 1576 (Fed. Cir. 1996)	4

PETITIONER’S EXHIBIT LIST

EXHIBIT¹	Description of Documents
1001	U.S. Patent No. 8,831,664 (“’664 Patent”)
1002	Declaration of David H. Williams dated Aug. 21, 2023
1003	File History of the ’664 Patent
1004	U.S. Patent No. 5,754,960 to Stephen R. Downs et al., entitled “Display Console and User Interface for Multisite RF Trunked System” (filed Feb. 14, 1992, and issued May 19, 1998) (“Downs”)
1005	A System and Standards Definition for a Digital Land Mobile Radio System, TSB69, TIA/EIA Telecommunications Systems Bulletin (Nov. 1998) (“EDACS”)
1006	U.S. Patent Publication No. 2006/0147028 A1 to Jerry T. Hancock, entitled “Multi-Mode, Multi-Channel Psychoacoustic Processing for Emergency Communications” (filed Jan. 5, 2005, and published July 6, 2006) (“Hancock”)
1007	U.S. Patent Publication No. 2007/0197248 A1 to Jason A. Reich and Douglas M. Crockett, entitled “System and Method for Multiple Simultaneous Communication Groups in a Wireless System” (filed Feb. 17, 2006, and published Aug. 23, 2007) (“Reich”)

¹ Citations to issued patents (Exhibits 1001, 1004, 1010, 1017, and 1031) are made by column and line number. Citations to U.S., European, and Japanese patent application publications (Exhibits 1006, 1007, 1009, 1019-1021, and 1027-1028) and Exhibits 1002, 1014, and 1041 are made by paragraph number. Citations to International patent application publications (Exhibit 1008) and deposition (Exhibits 1037 and 1042) are made by page and line number. Citations to Exhibits 1005, 1012-1013, 1015-1016, 1018, 1022-1026, 1029-1030, 1033, 1036, and 1039-1040 are to the original page numbering in the exhibits. Citations to Exhibits 1003 and 1011 are to the page number added by the exhibit label.

EXHIBIT ¹	Description of Documents
1008	International Patent Publication No. WO 2004/034350 A1 to Chang-Eui Kim, entitled “Television Set and Method for Notifying a Disaster Situation” (filed Oct. 9, 2003, with priority to Oct. 9, 2002, and published Apr. 22, 2004) (“ Kim ”)
1009	Japanese Patent Publication No. 2006-340164 A to Yoshihiro Ishibashi, entitled “Emergency-Alert Broadcast Receiver and Method for Receiving Emergency-Alert Broadcasts” (filed June 3, 2005, and published Dec. 14, 2006) (Original Japanese Application, Translation, and Translator’s Affidavit) (“ Ishibashi ”)
1010	U.S. Patent No. 7,330,693 to Stephen Clifford Goss, entitled “Broadcast Channels for Wireless Telephony” (filed Sep. 17, 1999, and issued Feb. 12, 2008) (“ Goss ”)
1011	Letter from James Shimota, Partner, K&L Gates to Natalie Gonzales, Partner, Baker Botts L.L.P., RE: Plaintiff’s Infringement Contentions (Mar. 30, 2023).
1012	Opposition to Motion to Dismiss in <i>STA Group LLC v. Motorola Solutions, Inc.</i> , No. 2:22-cv-00381 (E.D. Tex. filed Jan. 17, 2023)
1013	Reply to Motion to Dismiss in <i>STA Group LLC v. Motorola Solutions, Inc.</i> , No. 2:22-cv-00381 (E.D. Tex. filed Feb. 7, 2023)
1014	Declaration of Sylvia D. Hall-Ellis, Ph.D., dated Aug. 20, 2023
1015	Ericsson, <i>Maintenance Manual, EDACS® C3 Maestro™ Console System with Enhanced Audio Enclosure</i> (Mar. 1995) (“ C3 Maestro ”)
1016	Department of Defense, Department of Defense Design Criteria Standard: Human Engineering, MIL-STD-1472F (Aug. 23, 1999) (“ DoD ”)
1017	U.S. Patent No. 5,081,669 to Laura L. Slaninka et al., entitled “Assignable Speakers for Channels at a Trunked Console Operator Position” (filed Aug. 27, 1990, and issued Jan. 14, 1992) (“ Slaninka ”)

EXHIBIT ¹	Description of Documents
1018	Motorola Inc., <i>CENTRACOM Gold Series Classic CRT User's Guide</i> (1998) ("CENTRACOM")
1019	U.S. Patent Publication No. US 2006/0184962 A1 to Scott Allan Kendall et al., entitled "Methods for Controlling Apparatuses Having an Emergency Alert Function" (filed Mar. 30, 2004, and published Aug. 17, 2006) ("Kendall")
1020	U.S. Patent Publication No. US 2007/0107009 A1 to Jin Pil Kim, entitled "Emergency Alert Signaling Method and Digital Television Receiver" (filed Nov. 9, 2006, with priority to Nov. 9, 2005, and published May 10, 2007) ("Kim")
1021	U.S. Patent Publication No. US 2006/0005219 A1 to Garry Owens, entitled "Standby Television Warning System" (filed July 2, 2004, and published Jan. 5, 2006) ("Owens")
1022	Telex-Vega, Signaling Product Company Model C-Soft User Configurable Version USB and Parallel Key Versions Radio Control Console Includes P25 Control Options Version 2.8x, Technical Manual (May 2005) ("C-Soft")
1023	TIA Standard, Project 25 Trunking Control Channel Messages – New Technology Standards Project – Digital Radio Technical Standards, ANSI/TIA-102.AABC-B-2005 (Jan. 12, 2005) ("P25 Standard")
1024	P25 Digital Wireless, Project 25 Statement of Requirements (Mar. 9, 2006) ("P25 SoR")
1025	Telex Communications, Inc. and Vega Signaling Products, <i>Price List</i> (effective Apr. 1, 2003), https://web.archive.org/web/20030401105942/http://vega-signaling.com/) ("C-Soft Price List")
1026	<i>Motorola Annual Report 1975</i> (1975) ("1975 Report")

EXHIBIT¹	Description of Documents
1027	U.S. Patent Publication No. US 2004/0070515 A1 to Raymond Burkley et al., entitled “First Responder Communications System” (filed July 2, 2003, and published Apr. 15, 2004) (“ Burkley ”)
1028	European Patent Application No. EP 1,613,105 A1 to Ryan Crawford, entitled “Transmission of Content in a Push-to-Talk System” (filed June 29, 2004, and published Jan. 4, 2006) (“ Crawford ”)
1029	Docket Control Order, <i>STA Group LLC v. Motorola Solutions, Inc.</i> , No. 2:22-CV-0381-JRG-RSP, ECF No.35 (E.D. Tex. Feb. 3, 2023)
1030	Katherine K. Vidal, Memorandum: Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (June 21, 2022)
1031	U.S. Patent No. 4,905,302 to Jeffrey S. Childress et al., entitled “Trunked Radio Repeater System” (filed June 3, 1987, and issued Feb. 27, 1990) (“ Childress ”)
1032	Parties’ Local P.R. 4-2 Disclosure of Preliminary Proposed Constructions of Claim Terms and Preliminary Identification of Extrinsic Evidence
1033	Plaintiff’s First Amended Disclosure of Asserted Claims and Infringement Contentions and Document Production Accompanying Disclosure Pursuant to P.R. 3-1 & 3-2, No. 2:22-CV-0381-JRG-RSP (E.D. Tex. June 15, 2023).
1034	Amended Docket Control Order, <i>STA Group LLC v. Motorola Solutions, Inc.</i> , No. 2:22-CV-0381-JRG-RSP, ECF No. 196 (E.D. Tex. Dec. 1, 2023)
1035	Email from Katharine.Burke@BakerBotts.com (Dec. 27, 2023)
1036	Supplemental Claim Construction Order, <i>STA Group LLC v. Motorola Solutions, Inc.</i> , No. 2:22-cv-00381-JRG-RSP, ECF No. 367 (E.D. Tex. June 4, 2024).

EXHIBIT¹	Description of Documents
1037	Excerpts from Deposition Transcript of Shmuel Shaffer, Ph.D. dated Mar. 7, 2024.
1038	Default Protective Order
1039	<i>Out-band/Out-of-Band Signaling</i> , The Telecommunications Illustrated Dictionary (2nd ed. 2002).
1040	PC Magazine, <i>Definition of: Signaling In/Out-of-Band</i> , PCMag.com (Jan. 19 2008), https://web.archive.org/web/20080119112709/http://www.pcmag.com/encyclopedia_term/0,2542,t=signaling+inout-of-band&i=51333,00.asp (last accessed Aug. 16 2024).
1041	Excerpts from Expert Report of Dr. Matthew A. Pooley Regarding Infringement of U.S. Patent Nos. 8,831,664, and 8,994,830, <i>STA Group LLC v. Motorola Solutions, Inc.</i> , No. 2:22-cv-00381-JRG-RSP (E.D. Tex. May 10, 2024).
1042	Deposition Transcript of Shmuel Shaffer, Ph.D. dated Oct. 1, 2024.

I. Introduction

The Petition demonstrates that all claims of the '664 patent are unpatentable. Patent Owner ("PO") purports to identify deficiencies in the Petition's grounds, but PO's arguments are not commensurate with the scope of the claims or the '664 Patent and mischaracterize the prior art.

II. Claim Construction

The following constructions were agreed by the parties or construed by the district court:

Term	Agreed Construction
Order of Steps (Claim 1)	The steps of the claim must be performed in the recited order.
"endpoint" (Claim 1)	"end-user device"
Term	E.D. Tex. Construction
"media stream[s]"	"audio or video or both, which may include associated data."

EX2004, 16, 42; *see also* EX1036, 1 ("Claim 16 of U.S. Patent No. 8,831,664 will be held to the construed order of steps for Claim 1 of the '664 Patent."). The prior art relied upon in the Petition's grounds renders the challenged claims obvious under these constructions. In arguing otherwise, PO applies a materially different interpretation of "media stream[s]" (EX1042, 217:7-219:12) as well as a new implied construction of "alert," as discussed herein.

III. Ground 1: *Downs-EDACS* renders claims 1-6, 8-9, and 11-20 obvious.

PO does not dispute that a POSITA would have and could have combined *Downs* and *EDACS*, or that *Downs-EDACS* discloses “monitoring media streams associated with channels in a communication environment” as recited in claim 1 (or the corresponding elements of claims 11 and 16). PO’s arguments, which focus on the “receiving” and “elevating” steps of claim 1, lack merit.

a. *Downs-EDACS* teaches “receiving an alert in one of the media streams.”

PO does not dispute that *Downs-EDACS* discloses receiving an alert. *See, e.g.*, Paper 19 (“POR”), 26 (“*EDACS* receives an alert through data ... over a control channel[]”); *id.* at 27 (“*EDACS* discloses a trunked radio system that receives emergency alerts....”); *id.* at 28 (acknowledging “alerts received over the control channel” in *EDACS*). Rather, PO argues that “*EDACS* does not receive voice or audio with the alert **over the control channel** and thus cannot be construed to receive an alert in one of the media streams.” *Id.* at 26.² PO is incorrect. As confirmed by PO’s expert and the ’664 patent’s specification, a POSITA would understand that control and working channels used together to receive an alert and communicate associated audio, teach the claimed “media stream.” EX1042, 183:18-188:9, 190:20-192:5, 216:14-217:2; EX1037, 37:9-38:8, 266:1-9.

² Emphases supplied and internal citations omitted throughout, unless noted.

PO's argument boils down to the assertion that because *EDACS*'s emergency alert is received on a control channel, and the audio is communicated on a working channel, "the alert in *EDACS* is not received ***in a media stream.***" POR, 29. PO's argument is not commensurate with the scope of the claims, which do not restrict the media stream to a "working channel," nor exclude an associated control channel. To the contrary, claim 9 recites that the claimed "media stream" can include "control packet[s]" and is not limited to user-perceptible media. EX1001, cl. 9. PO's argument also misapplies the construction of "media stream[s]" issued by the district court: "audio or video or both, ***which may include associated data.***" EX2004, 42; EX1042, 217:7-219:12. The italicized language, which PO ignores, permits the "media stream" to include associated control data, not merely "'audio or visual' data." POR, 29; EX1042, 217:7-219:12.

Notably, the claims recite "media streams associated ***with channels,***" contradicting PO's position that *EDACS*'s control channel and working channel together cannot teach the claimed "media stream."³ Nothing in the claim language or the district court's construction requires that the associated data (e.g., *EDACS*'s

³ Nothing in the '664 patent's claims or specification supports PO's assertion that the media streams must be "provided over single channels." POR, 30; EX1042, 160:19-161:4.

alert) be received on the same channel as the audio. Furthermore, PO identified nothing in the claim language or specification that would preclude “receiv[ing] an alert through data ... over a control channel[]” as PO argues. POR, 26.

PO’s argument is additionally flawed because it reads out a preferred embodiment, which is “rarely, if ever, correct....” *Vitronics Corp. v. Conceptronics, Inc.*, 90 F.3d 1576, 1583-84 (Fed. Cir. 1996). The specification expressly includes “out-of-band signaling” as a mechanism to transmit alerts, including where “the identification of the alert is provided in the header of a packet, ... in control packets, or in any other suitable location.” EX1001, 4:14–20. This disclosure was relied upon by the district court when construing “media stream[s].” EX2004, 42. Furthermore, dependent claim 9, which recites that the alert is received “in a control packet” of the media stream confirms that out-of-band signaling is within the scope of the independent claims. *See, e.g.*, EX1001, cls. 8, 9; EX1042, 101:21-102:1, 104:11-15, 127:16-128:3.

EDACS, which PO attempts to exclude through its flawed construction of “media stream,” works precisely the same way as the ’664 patent’s descriptions of out-of-band signaling embodiments. *See* Paper 1 (“Petition”), 30-32; EX1002, ¶¶154-159. PO’s expert Dr. Shaffer conceded during cross-examination that a trunked radio system like *EDACS* transmits control information out-of-band. EX1042, 15:17-22. Indeed, Dr. Shaffer admitted that the ’664 patent covers the situation where a police officer presses an “alert button” on a radio, causing an alert

to be transmitted. *Id.* at 97:22-98:19, 99:21-100:12. This is identical to the functionality of *EDACS* relied upon in the Petition. Petition, 31.

Thus, PO’s arguments that “a media stream cannot include separate data being communicated over [a] control channel in combination with voice and data communicated over a working channel” are inconsistent with the claim language, the district court’s claim construction, the specification, and its expert’s own admissions. POR, 29-30; EX1001, 4:14–20; EX1042, 101:11-20, 148:8-149:1. Under the proper claim construction, *EDACS* discloses or at least renders obvious “receiving an alert in one of the media streams.”⁴

b. *Downs-EDACS* teaches “elevating a priority associated with the media stream receiving the alert.”

i. PO attacks the references individually.

The Petition relies on the *Downs-EDACS* combination. Petition, 32-36. In addressing the “elevating” limitation, PO presents separate arguments for how *Downs* and *EDACS* individually allegedly fail to disclose this limitation. However, obviousness cannot be overcome by attacking references individually where the challenge is based upon the teachings of a combination of references. *See Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019).

⁴ Ground 2 renders the claims obvious even under PO’s narrow interpretation. Petition, 48-50.

ii. EDACS discloses limitation 1[c].

PO argues that *EDACS* does not disclose “elevating a priority associated with a working channel **after** the working channel has been created, which is when the working channel includes voice and is considered a media stream by the [district court’s] Claim Construction Order.” POR, 33. PO’s argument that a media stream does not exist until voice is sent over the working channel is overly narrow and not supported by the district court’s claim construction, despite PO’s citation thereto. Unlike PO’s interpretation of “media stream” to only include voice sent on the working channel, the district court’s construction of “media stream[s]” includes “audio or video or both” and “associated data.” EX2004, 42. The construction does not require that audio be sent before associated data, as implied by PO’s narrow interpretation.

Regardless, as explained in the Petition and consistent with the district court’s construction, *EDACS* teaches “elevating a priority associated with the media stream receiving the alert” because “[t]he system **automatically assigns the highest priority to the talk group**” signals **after** receiving the emergency alert. EX1005, 43; Petition, 34 (“**Upon** receiving an emergency call request (alert)...”). A POSITA would have understood that the “talk group” in *EDACS* includes audible signals sent on the working channel, and that the elevated priority applies to those signals. Petition, 34 (explaining how the combined system would ensure “emergency calls are broadcast **louder**...”). Indeed, PO’s expert had no difficulty understanding this aspect of the

combination during cross-examination. EX1042, 79:21-80:13 (describing selection of a “virtual talk group” to increase volume so that the group’s communications can be heard “louder than the other people”); 124:7-12 (“Q Okay. So what the '664 Patent is saying here is that...it can coordinate an effective response that includes either an audio tone or a message being sent out-of-band, right? A Yeah.”), 118:2-20, 148:8-149:1.

Separately, *EDACS* discloses this limitation because once voice transmission has begun on a working channel, *EDACS* elevates priority of the media stream via message trunking. EX1005, 17; Petition, 42; EX1002, ¶ 139. With message trunking, “a channel is assigned for the duration of the conversation, or emergency” instead of the default transmission trunking where “a working channel is assigned for the duration of a caller’s transmission.” EX1005, 17, 29; EX1002, ¶ 139.

Thus, *EDACS* teaches the “elevating” limitation even under PO’s incorrect position that no media stream exists until after a working channel is allocated. POR, 32-33.

iii. *Downs* discloses limitation 1[c].

PO argues that *Downs* does not teach “elevating a priority” as claimed because “[s]ince the media stream terminates at *Downs*’ dispatcher console, the associated media stream is completely unaffected by any local priority elevation at *Downs*’ console.” POR, 34. However, the claim language merely requires elevating a priority “associated with the media stream.” The actions described in *Downs*—

adjusting the volume and changing the spatial direction—are exactly the types of actions described in the '664 patent. *See, e.g.*, EX1001, Abstract (“Elevating the priority can include increasing the volume of the media stream receiving the alert, changing a spatial direction for rendering the media stream receiving the alert[.]”); *id.* at cls. 2, 3; EX1042, 107:2-108:13, 111:4-15, 114:22-115:4.

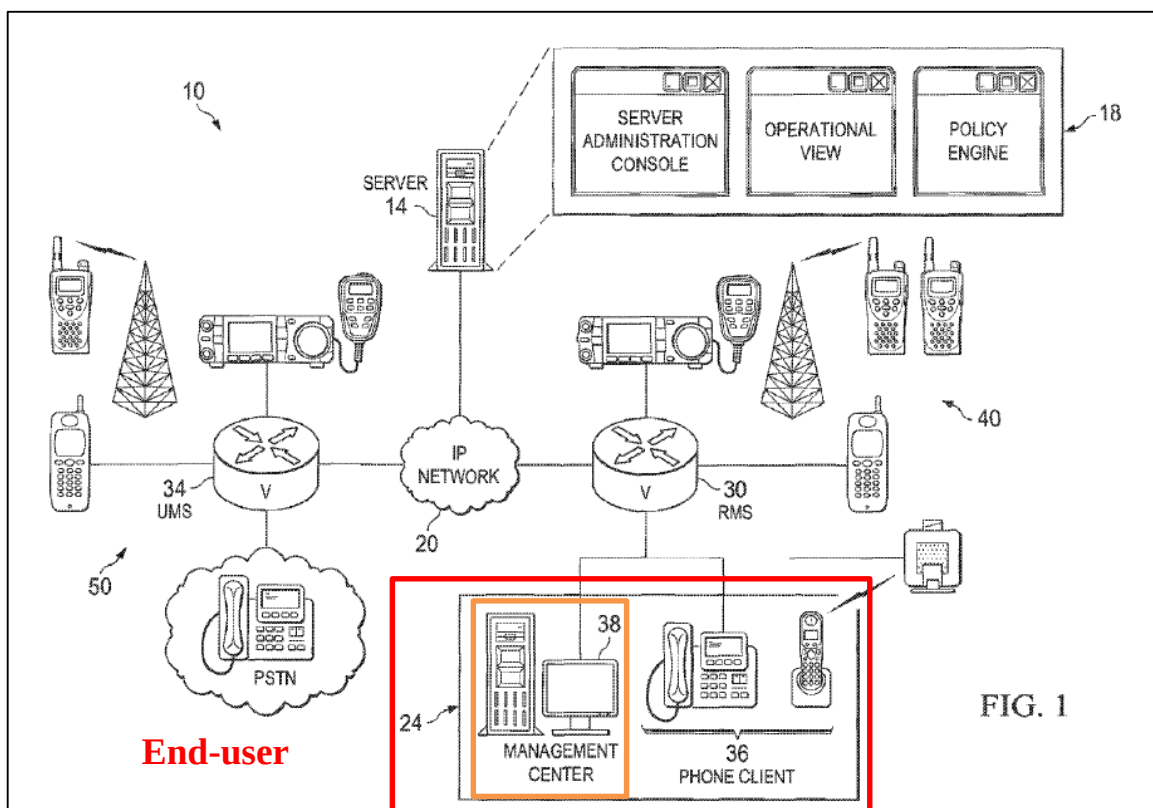
PO argues that *Downs* does not disclose this limitation because “*Downs* discloses an endpoint device” and “the manner in which the media stream itself is to be provisioned to the endpoint occurs ***before*** the media stream reaches the endpoint.” POR, 34-36 (emphasis in original).⁵ PO’s interpretation is inconsistent with the specification. EX1042, 107:2-108:13, 113:8-114:1, 114:22-115:4.

The specification discloses an embodiment in which management center 38, an endpoint (end-user device) used by a dispatcher, “can promptly identify an event alert and coordinate a suitable response autonomously,”⁶ such as by “moving the alert message to the primary channel and marginalizing all the other channels” and/or “turning the volume down on every other channel.” EX1001, 4:2-7; EX1042,

⁵ This argument relies on the “provisioned to” language in claim 1 and does not apply to claims 11 and 16. POR, 35.

⁶ This is described as an alternative to working “in conjunction with a server that would assist in provisioning the appropriate channels.” EX1001, 4:6-9.

80:18-82:2, 107:2-108:13, 113:8-114:1, 114:22-115:4, 119:13-120:8. The specification states that “management center 38 is an example of a [push-to-talk] PTT device” and is a component of element 24 of Figure 1 (annotated below), which is described in the ’664 patent as “end-user equipment.” EX1001, 2:50-52, 3:19-24; EX1042, 80:18-82:2, 107:2-108:13, 113:8-114:1; *see also* EX1001, 53-55 (describing “push-to-talk telephones” as an example of an endpoint).

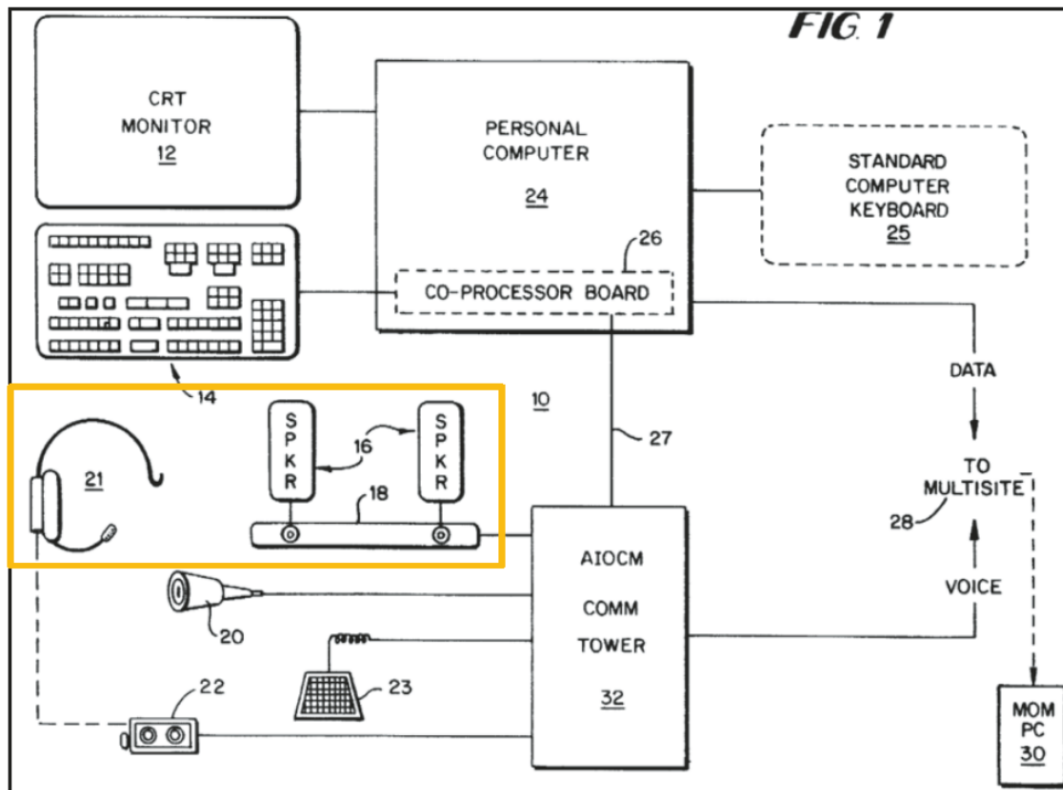


Thus, the specification teaches management center 38 is an endpoint dispatch console in the communication environment and plainly discloses an embodiment in which this endpoint identifies an event alert and coordinates a suitable response autonomously. EX1001, 2:19-20, 4:2-7; EX1042, 80:18-82:2, 107:2-108:13, 113:8-114:1, 119:13-120:8. This disclosure contradicts PO’s argument that adjustments to

how the media stream is provisioned must be made before the media stream reaches the endpoint.⁷

Even if PO was correct that “the manner in which the media stream itself is to be provisioned to the endpoint occurs **before** the media stream reaches the endpoint,” *Downs* still discloses this limitation. POR, 34-36. *Downs* discloses end-user devices associated with its dispatch console including interface components such as a monitor, speakers, and headphones. EX1004, 3:51-4:5, 5:3-35; EX1042, 74:18-75:15. *Downs*’ dispatch console “elevate[s] the priority associated with the media stream” **before** it is provisioned to endpoint devices such as the speakers and headphones. See EX1002, ¶163 (“Such an auditory adjustment further *elevates the priority of the talk group’s signals (media stream) receiving the alert, such that it can be clearly heard over other, lower-priority media streams through speakers 16 or headset 21 used at the dispatcher console (endpoint in the communication environment)* as shown in Figure 1 below.”) (cited figure reproduced below).

⁷ As discussed for Ground 7, the claims do not require that the provisioning be done externally from the endpoint. *Infra*, §VI.b.



Thus, even under PO's narrow reading of the claims *Downs* discloses an adjustment is made **before** the media stream is provisioned to "speakers 16 or headset 21 used at the dispatcher console (*endpoint in the communication environment*).” EX1002, ¶163; EX1042, 48:17-50:14, 74:18-75:15, 107:19-108:13.

c. *Downs-EDACS* teaches “an adjustment is made to how the media stream is provisioned to an endpoint.”

For the reasons discussed above, PO's argument regarding the “adjustment” limitation of claim 1 directly contradicts the specification. POR, 36-38; *supra*, §III.b.iii. PO argues that *Downs* does not disclose this limitation because the adjustments allegedly occur “**after** the emergency signal reaches *Downs*' console,” which “is an endpoint.” POR, 37-38. However, as previously discussed, the

specification discloses an embodiment in which “management center 38,” an “end-user” device, “can promptly identify an event alert and coordinate a suitable response autonomously.” EX1001, 4:2-7, 2:51-52; EX1042, 80:18-82:2, 107:2-108:13, 113:8-114:1, 119:13-120:8; *supra*, §III.b.iii.

Thus, the “volume settings 86” of *Downs*, which are “set such that emergency calls are broadcast louder from the dispatcher speakers than other calls,” (EX1004, 6:474-53; Petition, 35) discloses this limitation in an analogous manner to the ’664 patent’s description that management center 38 can “turn[] the volume down on every other channel” in response to “identify[ing] an event alert.” EX1001, 4:5-7; EX1042, 27:5-28:4, 114:22-115:4.

Additionally, as discussed, *Downs* in fact discloses that an adjustment is made ***before*** the media stream is provisioned to “speakers 16 or headset 21 used at the dispatcher console (*endpoint in the communication environment*).” EX1002, ¶163; EX1042, 48:17-50:14, 74:18-75:15, 107:19-108:13, 173:1-14. Thus, *Downs* discloses this limitation under any plausible interpretation.

Notably, PO’s argument in this proceeding is inconsistent with its infringement theory in the district court, which is improper. *See Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001) (“A patent may not, like a ‘nose of wax,’ be twisted one way to avoid anticipation and another to find infringement.”) (internal citations omitted). In district court, PO argues that multiple software products perform this limitation by sorting an incident list in

response to user selections. See EX1041, ¶¶254, 264. PO asserts that “by sorting the priority column appropriately, the software may ‘elevat[e] a priority associated with the media stream receiving the alert, such that an adjustment is made to how the media stream is provisioned to an endpoint,’ by bringing a high priority/severity value incident to the top of the incident list.” EX1041, ¶254.

In other words, PO argues that end-user software, responding to the local sorting settings applied by the user, practices this limitation. In direct conflict with the statements made in the POR, this occurs on an end-user device “*after* the [alleged] media steam is received and information from the media steam is acted upon by a dispatcher,” and “the media stream” is not “further provision[ed]...to another endpoint.” POR, 37-38; EX1042, 173:16-174:6.

Ultimately, each of PO’s arguments fails to distinguish the claims of the ’664 patent from *Downs-EDACS*.

IV. Ground 2: *Downs-EDACS-Childress* renders claims 1-6, 8-9, and 11-20 obvious.

a. *Downs-EDACS-Childress* teaches “receiving an alert in one of the media streams.”

As an initial matter, PO’s arguments for Ground 2 attack *Childress* individually, instead of in combination with *Downs-EDACS*, which is insufficient to establish non-obviousness. See *Bradium Techs.*, 923 F.3d at 1050.

Furthermore, PO’s arguments focus on *Childress*’ control channel, while the Petition relies on *Childress*’ disclosure that “all mobiles of the called group” receive

an “emergency group call confirmation message” containing a “Message/Transmission Trunking” bit and a 12-bit “Group ID” on a working channel. Petition, 50; *see also* EX1031, 28:42-58; EX1002, ¶214. PO accuses Petitioner of overstating *Childress*’ disclosure (POR, 39) but does not dispute that *Childress* teaches such a confirmation message sent on a working channel (the same channel used to communicate audio).

PO offers no meaningful rebuttal to the Petition’s and Mr. Williams’ position that, in the combined *Downs-EDACS-Childress* system, “it would have been obvious to a POSITA that a single working channel with a ‘Message Trunking’ bit, or a ‘Group Emergency’ ID would indicate an *alert* to the receiving unit along with voice data for the emergency call.” Petition, 50; *see also* EX1002, ¶214. PO fails to explain why the confirmation message sent on *Childress*’ working channel does not teach receiving an alert in one of the media streams as broadly described and claimed in the ’664 patent. *See, e.g.*, EX1001, 7:41-53 (an alert may be “any type of message or signal” and the process “may involve delay mechanisms, where one alert is sent along at a later time”); EX1042, 97:22-98:10, 101:11-20. Rather, PO states that “this simply is not the case.” POR, 41. Such conclusory argument is insufficient to rebut the Petition’s showing of obviousness.

PO contends that “[a] POSITA would understand that the claimed ‘alert’ must originate in the media stream.” POR, 41. PO does not explain what it contends is required for an alert to “originate” in the media stream beyond what is disclosed in

Childress or point to any support in the '664 patent.⁸ Rather, PO rehashes its flawed argument from Ground 1 (based on separate control and working channels) to argue that *Childress*' alert does not "originate in the media stream."⁹ POR, 41-42. But PO does not dispute that the confirmation message in *Childress* is communicated on the working channel, which also communicates audio, and thus "originates in the media stream" under PO's interpretation. EX1037, 266:1-9.

b. Motivation to Combine

PO's motivation to combine arguments for Ground 2 lack merit. POR, 42-46. The Petition did not merely rely on "broad problems or objectives in the field," or the fact that *Childress* and *EDACS* are analogous art. POR, 43-44. Rather, the Petition identified specific motivations for implementing *Childress*' confirmation message in the *Downs-EDACS* combination, including compliance with APCO standards. Petition, 49-50. As explained by Mr. Williams, "[a] POSITA would have been motivated to implement *Childress*'s digital control signals in the Down[s]-

⁸ The cited portions of Dr. Shaffer's declaration do not address an alert "originat[ing] in the media stream." See EX2005, ¶¶31, 128, 130.

⁹ The '664 patent's description of "out-of-band signaling" contradicts PO's argument. *Supra*, §III.a; EX1039, 3; EX1040, 1; EX1001, 4:14-16, cls. 8-9; EX1042, 8:20-9:5, 15:17-22, 101:21-102:1, 104:11-15, 127:16-128:3; EX1037, 257:15-259:2.

EDACS Standard combination in order to define the control signals used in EDACS, but not explicitly described, and to ensure that the system ‘meets and, in many areas, surpasses all of the existing APCO-16 requirements’ laid out by the Association of Public-Safety Communications Officers, Inc.” EX1002, ¶210 (citing EX1031, 2:29-38, 4:59-61); *see also* Petition, 49 (citing EX1002, ¶210). Mr. Williams also identified “efficiency and interoperability benefits” that would result from the combination. Petition, 49 (citing EX1002, ¶210). PO does not dispute these specific motivations or even mention compliance with the APCO standard in its argument.

Rather, PO asserts that a POSITA would not be motivated to combine *Childress* with *Downs-EDACS* because “*EDACS* already addresses the ‘problem’ of transmitting emergency group message requests in a trunked radio system[.]” POR, 45. PO’s arguments, however, do not address the confirmation message sent on the working channel described in *Childress*. Instead, PO focuses on disclosure in *EDACS* regarding signaling on the control channel and argues that there would be no motivation to combine “because *EDACS* already solves the ‘challenge’ that allegedly exists.” POR, 45. But the Petition relies on *Childress* for its teachings regarding the confirmation message sent on the working channel and its contents. Petition, 49-50. PO points to no allegedly overlapping disclosure in *EDACS* for this feature of *Childress* and fails to identify any “teachings of *EDACS* [that] would cause a POSITA to proceed in a different direction and not look to *Childress*” for this

feature. POR, 45. Having failed to address the relevant feature the Petition proposes combining with *Downs-EDACS*, PO's arguments do not undermine the combination.

V. Grounds 3-6

PO does not present separate argument for Grounds 3-6, relying on its arguments for Ground 1. POR, 46-47. Because PO's Ground 1 and 2 arguments fail, Grounds 3-6 are unrefuted.

VI. Ground 7: *Kim* renders claims 1-2, 6-9, 11-12, 15-17, and 20 obvious.

PO does not dispute that *Kim* discloses “monitoring media streams associated with channels in a communication environment” and “receiving an alert in one of the media streams” as recited in limitations 1[a] and 1[b] (or the corresponding elements of claims 11 and 16). Rather, PO focuses on limitation 1[c], which recites “elevating a priority associated with the media stream receiving the alert, such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication system.” PO's arguments are inconsistent with the scope of the claims and rely on importing elements from the specification.

As an initial matter, PO alleges that the “arguments throughout” Section XI.A addressing Ground 7 are “applicable to the elevating limitations found in claims 1, 11, and 16.” POR, 49 n.9. However, at least the arguments in Sections XI.A.1, XI.A.3, and XI.A.4 are based on the “provisioned to an endpoint” language found only in claim 1. *Compare* EX1001, cl. 1 *with* EX1001, cls. 11, 16. Accordingly,

those arguments cannot save claims 11 and 16. Regardless, all of PO's arguments lack merit.

a. *Kim* discloses “elevating a priority associated with the media stream receiving the alert.”

PO argues that *Kim* does not elevate a priority associated with the media stream receiving the alert because “[i]n response to receiving the broadcast data, [*Kim*’s] television’s controller adjusts the television’s settings.” POR, 51. PO asserts in conclusory fashion that “[a]t no point does *Kim* elevate a priority, or make any other adjustment or modification, associated with the media stream receiving the alert,” but fails to explain why the actions described in *Kim* are not within the scope of the claims. POR, 51.

PO acknowledges that *Kim* teaches powering on the television, increasing volume, and changing a channel, and does not dispute that these actions in *Kim* occur in response to receiving an alert in one of the media streams. POR, 51-52. As recognized by the Board, PO admitted that at least some of these actions meet the claim language:

That an emergency broadcast arguably has already been prioritized in *Kim* by the time the TV is turned on, its channel is changed, or its volume is increased, does not negate that **such actions elevate a priority associated with the broadcast emergency. Indeed, some of the actions described in *Kim* — namely, increasing the volume and changing the channel—are identical to those that Patent Owner concedes meet the claim language.**

Paper 12, 18-19 (citing Paper 8, 2) (emphasis added). Indeed, the '664 patent states that “[e]levating the priority can include increasing the volume of the media stream receiving the alert, changing a spatial direction for rendering the media stream receiving the alert, identifying a primary channel and rendering the alert message to the primary channel,” etc. EX1001, Abstract; EX1042, 60:16-61:9, 107:2-108:13, 111:4-15, 114:22-115:4. Thus, *Kim* discloses the “elevating” limitation.

PO’s attempt to distinguish *Kim* because its television endpoint “**reacts** to received broadcast television signals by adjusting endpoint settings[]” fails. POR, 48. PO implies that “**reacts**” is somehow different from “elevating a priority,” but fails to articulate any meaningful distinction. *Id.* The '664 patent repeatedly describes the adjustments made to elevate a priority as **reactions**. See, e.g., EX1001, 2:13-23 (describing that “the method also includes **reacting** to an alert message by adjusting one of the channels for the endpoint”), 6:11-13 (describing “increas[ing] the volume of the channel” as a “reaction”), 8:12-14 (describing a “combination” of “response reactions” to receiving an alert). And nothing in the claims requires “control over” the media streams themselves. POR, 48. Accordingly, reacting to received alerts as disclosed in *Kim* is within the scope of the “elevating” limitation. POR, 48.

b. *Kim* teaches “elevating a priority ... such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.”

PO argues that *Kim* fails to disclose this limitation because, according to PO, an endpoint cannot adjust how the media stream is provisioned to itself. POR, 49. This amounts to little more than the same “endpoint” argument previously discussed for the dispatch console in *Downs*. *Supra*, §III.b.iii. The argument fails for analogous reasons to those discussed for Ground 1.

PO argues that because claim 1 recites “***provisioned to an*** endpoint in the communication environment[,]” the claimed “adjustment must occur before the endpoint receives the media stream.” POR, 50. As discussed above, the claim language and specification do not support PO’s narrow interpretation. *Supra*, §III.c.

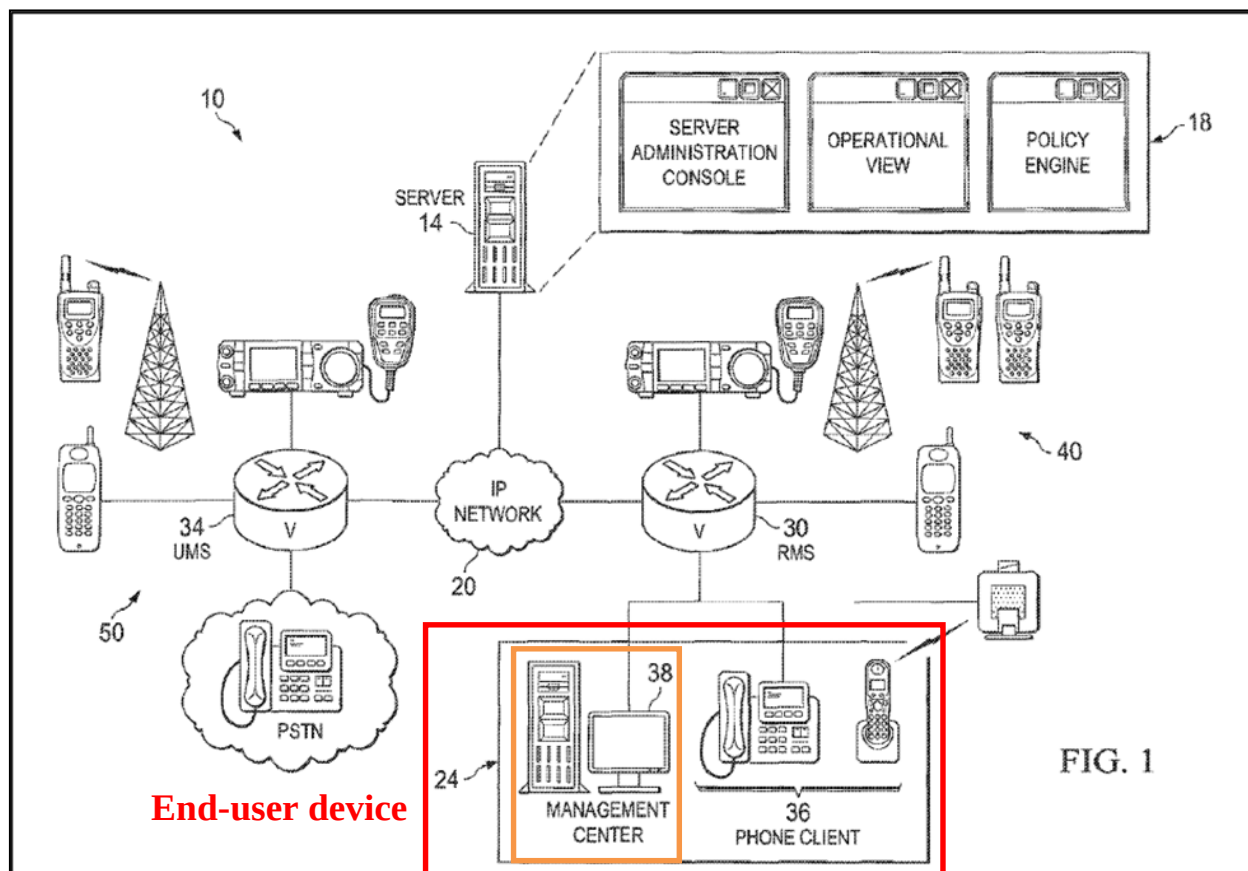
First, PO improperly relies on an embodiment in the specification to limit the claims. *See Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 867 (Fed. Cir. 1985) (“[P]articular limitations or embodiments appearing in the specification will not be read into the claims.”) (citations omitted). PO relies on an example embodiment involving a universal media service (UMS) element that, according to PO, “controls the relative volume of each media stream, which are streamed to the management center.” POR, 50. The ’664 patent expressly discloses that, in this embodiment, “the provisioning is being done ***externally***, and the individual endpoints do not have to be capable of managing these alert messages.” POR, 50-51 (quoting EX1001, 5:50-52). Claim 1, however, does not recite a UMS element or that the provisioning

must be done “externally,” contradicting PO’s argument that the claims require such a technique. See EX1001, cl. 1. Moreover, by emphasizing that “the provisioning is done externally” in the UMS embodiment, the ’664 patent suggests that adjustments to how the media stream is provisioned need not be made external to the endpoint.

Second, as discussed for Ground 1, the specification discloses an embodiment in which an endpoint—management center 38—autonomously adjusts how the media stream is provisioned to the endpoint, after the endpoint receives the media stream (similar to the operation of *Kim*’s television). *Supra*, §III.b.iii; EX1001, 4:6-9; EX1042, 80:18-82:2, 113:8-114:1, 114:22-115:4, 119:13-120:8. For example, the ’664 patent describes that “management center 38 can promptly identify an event alert and coordinate a suitable response autonomously,” such as by “moving the alert message to the primary channel and marginalizing all the other channels” and/or “turning the volume down on every other channel.” EX1001, 4:4-9¹⁰; EX1042, 27:5-28:4, 114:22-115:4; see also EX1001, 3:21-26. This “management center 38 is an example of a PTT device” and is a component of “end-user equipment” as shown by

¹⁰ This is described in the ’664 patent as an alternative to performing the provisioning “in conjunction with a server.” EX1001, 4:6-9.

element 24 of Figure 1 (annotated below). EX1001, 2:51-52; EX1042, 80:18-82:2, 113:8-114:1.



Kim's system functions in an analogous manner to the '664 patent's management center 38 by receiving emergency warning broadcast data inserted in the received broadcast signal and coordinating a suitable response, which discloses limitation 1[c]. Petition, 69-72; EX1002, ¶¶268-272.

c. *Kim* operates as claimed in the '664 patent.

PO's argument that "*Kim* is incapable [of] adjusting 'how the media stream is *provisioned to an endpoint* in the communication environment[]'" because of alleged fundamental differences between the '664 patent and *Kim* fails. POR, 53.

PO relies on alleged distinctions between a “message-based system” versus a “channel-based system” and a hierarchical system versus dynamic alert identification across channels. POR, 53, 56. But the claims do not recite these features. As for channels, the independent claims merely require monitoring media streams associated with channels in a communication environment, and PO does not dispute that *Kim* discloses this. PO’s other arguments based on unclaimed features lack merit.¹¹

i. PO’s alleged distinction between message-based and channel-based systems is immaterial.

PO attempts to distinguish *Kim*’s alleged “message-based” system from the ’664 patent’s alleged “channel-based” system. POR, 53-56. PO argues that *Kim*’s “message-based system receives and processes each received message in the same way—independent of the channel” while the ’664 patent’s “**channel-based** system—dynamically manages media streams over a plurality of channels.” POR, 55 (emphasis original). The argument is unavailing.

The terms “message-based” and “channel-based” are not used in the ’664 patent. See EX1001. The ’664 patent describes both messages and channels. See,

¹¹ PO’s arguments depend on the “provisioned to” language in claim 1 and are not applicable to claims 11 and 16. POR, 53 (alleging differences “highlighted by the ‘provisioned to’ claim language”).

e.g., EX1001, Abstract. So does *Kim*. See, *e.g.*, EX1008, 2:1-4:25; EX1002, ¶¶261-272. No claim recites “dynamically manag[ing] media streams over a plurality of channels” (POR, 55) or controlling “the media stream itself” (POR, 53). No claim requires the UMS element described in the specification that PO relies on to support this argument. POR, 55-56. And no claim recites elements that would preclude receiving and processing each received message in the same way (or doing so “independent of the channel”). POR, 55. PO’s argument that the claimed adjustment must occur “independent of any settings of the endpoint” (POR, 56) has been shown above to be inconsistent with the specification and claim language of the ’664 patent. *Supra*, §III.c. PO’s argument is not commensurate with the broad scope of the claims.

Thus, it is unclear what relevance PO’s alleged distinction has to the question of whether ***the claims*** of the ’664 patent would have been obvious. As explained in the Petition, *Kim* operates as claimed in the independent claims of the ’664 patent. It is undisputed that *Kim* “monitor[s] media streams associated with channels in a communication environment” and “receiv[es] an alert in one of the media streams.” EX1001, cl. 1; Petition, 66-68; EX1002, ¶¶ 261-264. And, as shown above and in the Petition, *Kim* discloses “elevating a priority associated with the media stream receiving the alert” in the same ways described in the ’664 patent. *Supra*, §VI.a. That is all that is required to render claims 11 and 16 obvious. Contrary to PO’s arguments, *Kim* elevates a priority “such that an adjustment is made to how the

media stream is provisioned to an endpoint in the communication environment” and therefore renders claim 1 obvious. *Supra*, §VI.b.

ii. PO’s alleged distinction between a hierarchical system and dynamic alert identification is immaterial.

PO’s argument that *Kim* provides a hierarchical system without dynamic alert identification across channels (which PO apparently contends the ’664 patent’s claims require) fails to distinguish the ’664 patent’s claims from *Kim*. POR, 56. The word “dynamic” does not appear in the ’664 patent’s specification or claims. *See* EX1001. The claims do not require a UMS element, which PO argues performs this functionality. POR, 56-57. Nothing in the claims excludes a so-called “hierarchical system” that compares received information to information stored in memory or requires “dynamic” alert identification across channels. The claims merely require “receiving an alert in one of the media streams.” PO does not dispute that *Kim* teaches this.

PO’s argument also misunderstands *Kim*. PO asserts that “*Kim* provides a hierarchical system, which receives broadcast signals of a ***predetermined*** emergency-warning broadcast channel.” POR, 56. This is incorrect. *Kim* provides an example where:

If the channel ‘s’ starts broadcasting an emergency-warning broadcast program on the condition that a TV viewer currently views a TV program of the channel ‘r’, the broadcasting station changes the channel code ‘r’ to the other channel code ‘s’ in such a way that it can

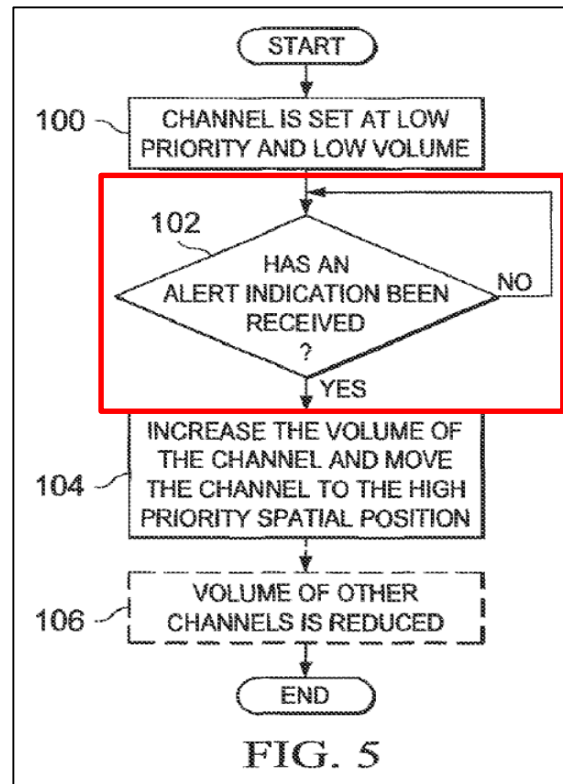
compulsorily control the TV viewer of the channel r' [sic] to view the emergency-warning broadcast program of the channel 's'. In other words, the broadcasting station can freely change a current channel code to another channel code if needed.

EX1008, 30:4-13; EX1002, ¶ 279; Petition, 73-74. Thus, there is no requirement in *Kim* that the “emergency-warning broadcast channel” be “**predetermined**.” Moreover, PO has not shown that a predetermined emergency-warning broadcast channel would be outside the scope of the claims.

PO also attempts to distinguish *Kim* by arguing that *Kim*'s controller “merely compare[s] received data” to determine if an alert has been received while, according to PO, “the '664 Patent provides a novel mechanism that identifies and responds to alerts **within** the media stream.” POR, 56. It is again unclear what PO believes the distinction to be. The alert received in *Kim* is “**within** the media stream.” POR, 56. *Kim*'s channels are “composed of video data, audio data, and auxiliary data (i.e., emergency-warning broadcast data).” EX1008, 29:25-30:4.

Furthermore, the claims do not require any particular “novel mechanism” for identifying an alert. The claims recite “receiving an alert in one of the media streams.” The method by which this is accomplished is not specified in the claims or specification. Rather, the specification broadly states that “communication system 10 can readily identify this alert message and respond in any number of

ways” and depicts this as step 102 in Figure 5 (annotated below). EX1042, 97:22-98:10, 101:11-20.



Neither this description, nor Figure 5, preclude comparing data to answer the question posed by step 102 in Figure 5 above. Thus, PO’s assertion that the ’664 patent claims a “novel mechanism” while excluding data comparisons lacks support in the intrinsic record.

VII. Grounds 8 and 9

PO relies exclusively on its arguments regarding *Kim* in Ground 7 to refute Grounds 8-9. As those arguments fail to distinguish *Kim*, Grounds 8-9 are unrefuted.

VIII. Conclusion

The Board should cancel the challenged claims as unpatentable.

October 15, 2024

Respectfully Submitted,

/Eliot D. Williams/

Eliot D. Williams (Reg. No. 50,822)

BAKER BOTTS L.L.P.

700 K Street, N.W.

Washington, D.C. 20001-5692

Tel: 202-639-1334

eliot.williams@bakerbotts.com

*Attorneys for Petitioner, Motorola Solutions,
Inc.*

CERTIFICATE OF SERVICE

In accordance with 37 C.F.R. § 42.6(e), the undersigned certifies that on October 15, 2024, a complete and entire copy of the **PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE** and Exhibits 1036-1042 were served on Patent Owner via email at the following correspondence addresses:

Jason.Engel.PTAB@klgates.com

Kyle.Kantarek@klgates.com

Nolan.Hubbard@klgates.com

Dennis.Majewski@klgates.com

Brenna.Legaard@klgates.com

Clare.Frederick@klgates.com

Date: October 15, 2024

/Eliot D. Williams/

Eliot D. Williams (Reg. No. 50,822)
BAKER BOTTS L.L.P.
700 K Street, N.W.
Washington, D.C. 20001-5692
Tel: 202-639-1334
eliot.williams@bakerbotts.com

*Attorneys for Petitioner, Motorola Solutions,
Inc.*

CERTIFICATION UNDER 37 C.F.R. § 42.24(d)

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the word count under § 42.24(c) for the foregoing Petition for *Inter Partes* Review totals 5,575 words, within the 5,600 word limit allowed under § 42.24(c)(1).

Date: October 15, 2024

/Eliot D. Williams/
Eliot D. Williams (Reg. No. 50,822)
BAKER BOTTS L.L.P.
700 K Street, N.W
Washington, D.C. 20001-5692
Tel: 202-639-1334
eliot.williams@bakerbotts.com

*Attorneys for Petitioner, Motorola Solutions,
Inc.*