IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

VIDEOLABS, INC., *Plaintiff,*	§	
-v-	§	**6:22-CV-00720-ADA**
ASUS COMPUTER INTERNATIONAL, ASUSTEK COMPUTER, INC., *Defendants.*	§	

SPECIAL MASTER'S REPORT AND RECOMMENDATION REGARDING CLAIM CONSTRUCTION

Before the Court are the Parties' claim construction briefs: Defendants ASUS Computer International and ASUSTeK Computer, Inc.'s Opening and Reply briefs (ECF Nos. 47 and 50, respectively) and Plaintiff VideoLab, Inc.'s Response and Sur-Reply briefs (ECF Nos. 48 and 51, respectively). United States District Judge Alan D Albright referred this case to the undersigned on September 25, 2024. ECF No. 62. The undersigned provided preliminary constructions for the disputed terms one day before the hearing. The undersigned held the *Markman* hearing on December 20, 2024. During that hearing, the undersigned informed the Parties of the final constructions for most of the disputed terms. *Id.* This Report and Recommendation does not alter any of those constructions.

I. DESCRIPTION OF THE ASSERTED PATENTS

Plaintiff asserts U.S. Patent Nos. 7,219,027, 7,970,059, 8,208,542, and 8,291,236. The parties do not have any disputes with respect to the '059 Patent.

Ex. 2010

A. U.S. Patent No. 7,219,027

The '027 Patent is directed towards "[a]n operation monitor device for a hardware component [that] detects a load current that is changed due to the operation of the hardware component through a pulse width modulation (PWM) module; thereby generating a voltage variation." '027 Patent at Abstract. Figure 1 depicts operation monitor device 100 that comprises PWM module 110, monitoring unit 120, and control unit 130.

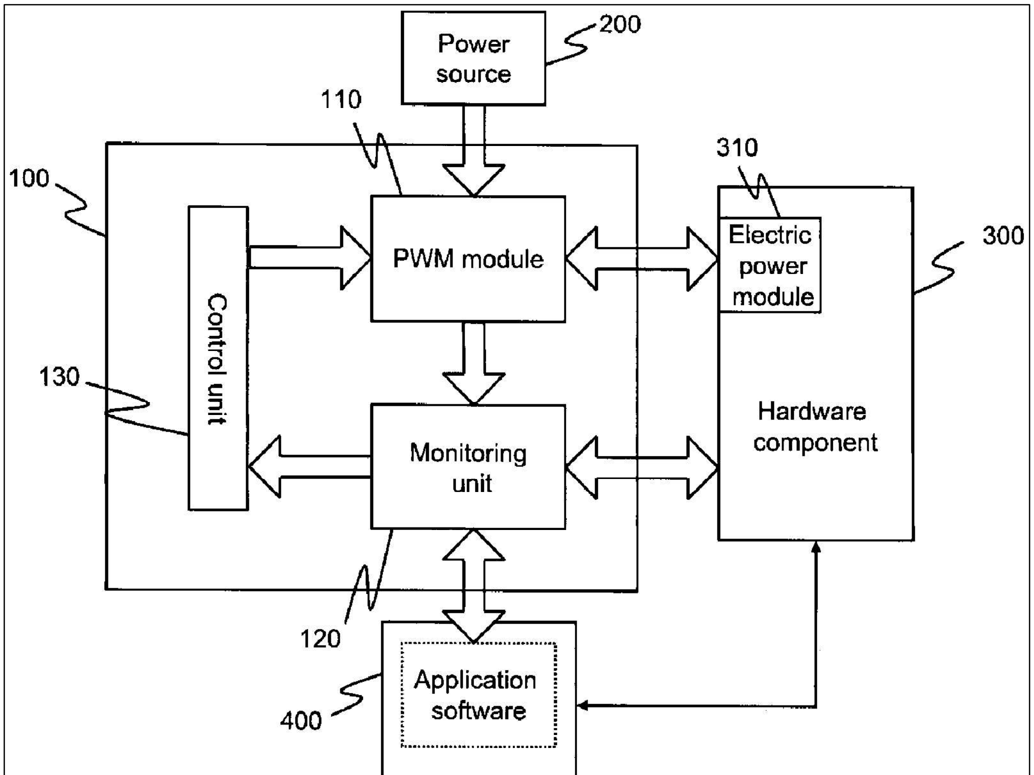

FIG.1

PWM module 110 receives power from power source 200 and provides output power according to a reference voltage to electric power module 310 in hardware component 300. *Id.* at 4:7–13. Hardware component 300 generates a load current that is "fed back to the PWM module 110," where "a current variation is obtained and then converted into a voltage variation" which is provided to monitoring unit 120. *Id.* at 4:17–20. Monitoring unit 120 generates a detecting result according to the voltage variation, and system 400 converts the detecting result into a practical current value. *Id.* at 4:20–23. System 400 generates a monitor signal according to the practical current value and sends it to monitoring unit 120. *Id.* at 4:24–28. Monitoring unit 120 "generates a modulating signal in response to the monitor signal" and sends it to controller 130, which "generates a new reference voltage according to the modulating signal, such that the PWM module 110 modulates the output voltage supplied to the hardware component 300 according to the reference voltage." *Id.* at 4:30–35.

In summary, "the load current changes as the load of the hardware component increases, such that the controller changes the generated reference voltage and further modulates the output voltage supplied to the hardware component by the PWM module, thus meeting the execution state of the hardware component and improving performance." *Id.* at Abstract.

B. U.S. Patent No. 8,208,542

The '542 Patent is directed towards a video encoding technique that uses a common reference picture for inter-picture prediction to perform motion estimation. '542 Patent at Abstract. Prior art and the claimed invention's video encoder divides a picture of an input image into blocks with a predetermined size. *Id.* at 9:28–34, 1:33–38. Prior art techniques and the claimed invention use inter-picture prediction, which compresses the data by predicting what other blocks look alike by using a "reference picture." *See, e.g.*, *id.* at 1:52–67. Prior art inter-picture prediction approaches used one or more reference pictures for each block. *See id.* at 2:50–61. One inefficiency with the prior art is that "it is highly possible that most of the blocks in the image data select the same picture as an optimal reference picture." *Id.* at 6:51–53. The specification describes that "it is possible to reduce the processing burden while maintaining a high coding efficiency by ***sharing a reference picture*** on a picture-by-picture basis, for instance." *Id.* at 6:53–56 (emphasis added).

More specifically, to achieve the goals of maintaining high coding efficiency at a reduced processing burden, the specification recites that:

> the moving picture coding method according to the present invention codes each picture composing an input moving picture on a block-by-block basis and comprises: a common reference picture determination step of determining a picture shared for reference among a plurality of blocks on which coding is performed with reference to a coded picture; a predictive image generation step of generating a predictive image using the common reference picture; and a coding step of coding a current block to be coded using the predictive image.

Id. at 6:35–44. By using a common reference picture, "the processing burden can be reduced since the processing for selecting on a block-by-block basis a picture to be used as a reference picture from among a plurality of coded pictures is not required." *Id.* at 6:45–49. Given that "it is highly possible that most of the blocks in the image data select the same picture as an optimal reference picture[,]" "it is possible to reduce the processing burden while maintaining a high coding efficiency by sharing a reference picture on a picture-by-picture basis, for instance." *Id.* at 6:49–56.

C. U.S. Patent No. 8,291,236

The '236 Patent is directed towards improving "conditional access (CA) for systems such as a digital cable television system, a satellite television system, etc." '236 Patent at 1:7–9. Conditional access is "a technique for limiting the access of content (e.g., audiovisual works such as movies) to authorized users." *Id.* at 1:13–15. The specification describes that:

> In a CA system for digital television, the media content is scrambled (encrypted) using a standard algorithm before broadcasting. The key used for Scrambling/descrambling the media content in a CA System is called a control word (CW). The control word is securely provided to the subscribers through entitlement control messages and entitlement management messages. A security device uses the control word to descramble (decrypt) the received media content.

Id. at 1:17–24. The patent discloses "[m]ethods and apparatuses for bridging two security systems so that a primary security system can control premium content distribution to external devices secured by a secondary security system." *Id.* at 2:56–59. Figure 2A depicts an exemplary embodiment of the claimed invention. *Id.* at 6:8–10.

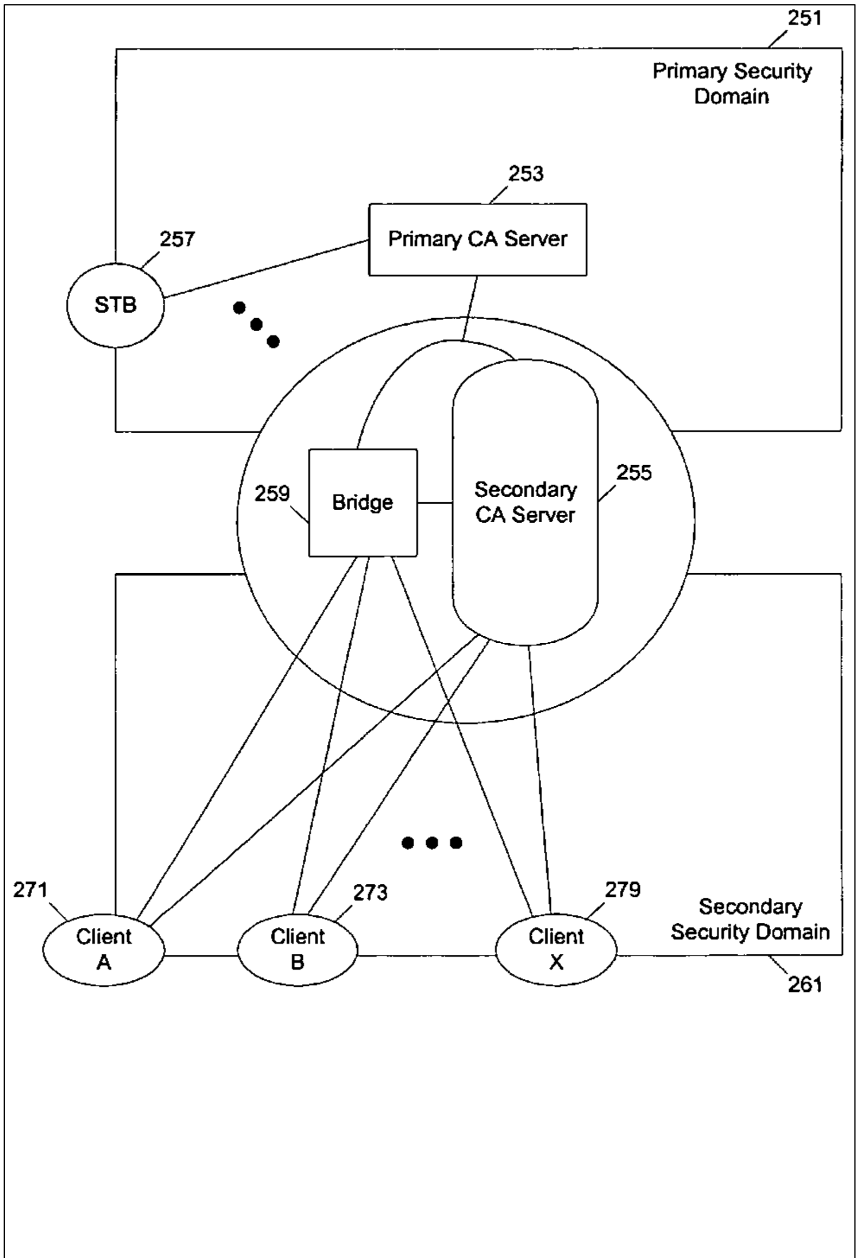

Fig. 2A

Primary CA server (253) "controls the access to the content in the primary security domain (251)" and "transmits entitlement management messages and entitlement control messages so that only authorized clients, such as a subscriber's set top box (e.g., 257) can access (decrypt) the CA protected content." *Id.* at 7:10–12, 7:13–17. Figure 2A depicts that secondary CA server (255) bridges primary security domain (251) and secondary security domain (261). *Id.* at 7:19–21. Secondary CA server (255) is "partially in the primary security domain (251), since the secondary CA server is capable of processing the control information for conditional access provided by the primary CA server (253)." *Id.* at 7:33–37. Secondary CA server (255) "acts as a client of the primary security domain (251)[.]" *Id.* at 7:37–38. In secondary security domain (261), secondary CA server (255), "[a]ccording to the access terms and conditions given by the primary CA server (253) … conditionally allows the secondary CA clients (e.g., 271, 273, ..., 279) to access the content." *Id.* at 7:40–43. In other words, secondary CA server (255) functions as a client in primary security domain (251), *e.g.*, by receiving security messages from primary CA server (253), and as a server for secondary CA clients (271, 273, … 279) in secondary security domain (261).

II. LEGAL STANDARD

A. General principles

The general rule is that claim terms are generally given their plain-and-ordinary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014), *vacated on other grounds*, 575 U.S. 959, 959 (2015) ("There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.") (internal quotation omitted). The plain-and-ordinary meaning of a term is the "meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips*, 415 F.3d at 1313.

The "only two exceptions to [the] general rule" that claim terms are construed according to their plain-and-ordinary meaning are when the patentee (1) acts as his/her own lexicographer or

(2) disavows the full scope of the claim term either in the specification or during prosecution. *Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). The Federal Circuit has counseled that "[t]he standards for finding lexicography and disavowal are exacting." *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014). To act as his/her own lexicographer, the patentee must "clearly set forth a definition of the disputed claim term" and "'clearly express an intent' to [define] the term." *Thorner,* 669 F.3d at 1365.

"Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent." *Phillips*, 415 F.3d at 1317. "[D]istinguishing the claimed invention over the prior art, an applicant is indicating what a claim does not cover." *Spectrum Int'l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1379 (Fed. Cir. 1998). The doctrine of prosecution disclaimer precludes a patentee from recapturing a specific meaning that was previously disclaimed during prosecution. *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). "[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable." *Id.* at 1325–26. Accordingly, when "an applicant's statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable." *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

A construction of "plain and ordinary meaning" may be inadequate when a term has more than one "ordinary" meaning or when reliance on a term's "ordinary" meaning does not resolve the parties' dispute. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co*., 521 F.3d 1351, 1361 (Fed. Cir. 2008). In that case, the Court must describe what the plain-and-ordinary meaning is. *Id.*

"Although the specification may aid the court in interpreting the meaning of disputed claim language . . ., particular embodiments and examples appearing in the specification will not generally be read into the claims." *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988). "[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

Although extrinsic evidence can be useful, it is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004)). Technical dictionaries may be helpful, but they may also provide definitions that are too broad or not indicative of how the term is used in the patent. *Id.* at 1318. Expert testimony may also be helpful, but an expert's conclusory or unsupported assertions as to the meaning of a term are not. *Id.*

B. Claim differentiation

Under the doctrine of claim differentiation, a court presumes that each claim in a patent has a different scope. *Phillips*, 415 F.3d at 1314–15. The presumption is rebutted when, for example, the "construction of an independent claim leads to a clear conclusion inconsistent with a dependent claim." *Id.* The presumption is also rebutted when there is a "contrary construction dictated by the written description or prosecution history." *Seachange Int'l., Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1369 (Fed. Cir. 2005). The presumption does not apply if it serves to broaden the claims beyond their meaning in light of the specification. *Intellectual Ventures I LLC v. Motorola Mobility LLC*, 870 F.3d 1320, 1326 (Fed. Cir. 2017).

C. Whether the Preamble is Limiting

Courts presume that the preamble does not limit the claims. *Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1358 (Fed. Cir. 2010). But "[i]n general, a preamble limits the invention if it recites essential structure or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim." *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)). "Conversely, a preamble is not limiting 'where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.'" *Catalina*, 289 F.3d at 808 (quoting *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)). The Federal Circuit has provided some "guideposts" regarding whether the preamble is limiting: (1) preamble provides antecedent basis, (2) preamble is essential to understand limitations or terms in the claim body, (3) preamble recites "additional structure or steps underscored as important by the specification," and (4) "clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art." *Id.*

D. Indefiniteness

"[I]ndefiniteness is a question of law and in effect part of claim construction." *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012). Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must "inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). If it does not, the claim fails § 112, ¶ 2 and is therefore invalid as indefinite. *Id.* at 901. Whether a claim is indefinite is determined from the perspective of one of ordinary skill in the art as of the time the application was filed. *Id.* at 911.

In the context of a claim governed by § 112, ¶ 6, the claim is indefinite if the claim fails to disclose adequate corresponding structure to perform the claimed functions. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1351–52 (Fed. Cir. 2015). The disclosure is inadequate when one of ordinary skill in the art "would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim." *Id.* at 1352. Computer-implemented means-plus-function claims are indefinite unless the specification discloses an algorithm to perform the function associated with the limitation. *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1319 (Fed. Cir. 2012).

E. Means-Plus-Function Claiming

A patent claim may be expressed using functional language. *See* 35 U.S.C. § 112 ¶ 6.[1] *Williamson*, 792 F.3d at 1347–49. In particular, § 112, ¶ 6 provides that a structure may be claimed as a "means . . . for performing a specified function" and that an act may be claimed as a "step for performing a specified function." *Masco Corp. v. U.S.*, 303 F.3d 1316, 1326 (Fed. Cir. 2002).

The presumption is that terms reciting "means" are subject to § 112, ¶ 6. *Williamson*, 792 F.3d at 1348. But if the term does not use the word "means," then it is presumed not to be subject to § 112, ¶ 6. *Id.* "That presumption can be overcome, but only if the challenger demonstrates that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function." *Samsung Elecs. Am., Inc. v. Prisua Eng'g Corp.*, 948 F.3d 1342 (Fed. Cir. 2020) (internal quotations removed) (citing *Williamson*, 792 F.3d at 1349). "The correct inquiry, when 'means' is absent from a limitation, is whether the limitation, read in light of the remaining claim language, specification, prosecution history, and

[1]The American Invents Act of 2011 changed the numbering of the relevant subsection from § 112, ¶ 6 to § 112(f). Because the substance of the subsection did not change, the undersigned will refer to the relevant subsection as § 112, ¶ 6 in keeping with the numeration at the time of the patent filing.

relevant extrinsic evidence, has sufficiently definite structure to a person of ordinary skill in the art." *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014), *overruled on other grounds by Williamson*, 792 F.3d at 1349.

When § 112 ¶ 6 applies, it limits the scope of the functional term "to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof." *Williamson*, 792 F.3d at 1347. Construing a means-plus-function limitation involves multiple steps. "The first step . . . is a determination of the function of the means-plus-function limitation." *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001). "[T]he next step is to determine the corresponding structure disclosed in the specification and equivalents thereof." *Id.* A "structure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." *Id.* The focus of the "corresponding structure" inquiry is not merely whether a structure is capable of performing the recited function, but rather whether the corresponding structure is "clearly linked or associated with the [recited] function." *Id.* The corresponding structure "must include all structure that actually performs the recited function." *Default Proof Credit Card Sys. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005). However, § 112, ¶ 6 does not permit "incorporation of structure from the written description beyond that necessary to perform the claimed function." *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999).

For § 112, ¶ 6 limitations implemented by a programmed general-purpose computer or microprocessor, the corresponding structure described in the patent specification must include an algorithm for performing the function, *i.e.*, the corresponding structure is a processor + algorithm. *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339,1349 (Fed. Cir. 1999). In this situation, the corresponding structure is not a general-purpose computer but rather the special purpose computer programmed to perform the disclosed algorithm. *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008). The algorithm may be described in "any understandable terms," such as "as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure." *Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013). Federal Circuit caselaw does not require that the patent describe an algorithm "if the selection of the algorithm or group of algorithms needed to perform the function in question would be readily apparent to a person of skill in the art." *Aristocrat Techs. Australia Pty Ltd. v. Multimedia Games, Inc.*, 266 F. App'x 942, 947-48 (Fed. Cir. 2008).

Finally, § 112, ¶ 6 does not apply when the claim itself describes the algorithm. *St. Isidore Rsch., LLC v. Comerica Inc.*, No. 2:15-CV-1390-JRG-RSP, 2016 WL 4988246, at *13 (E.D. Tex. Sept. 19, 2016).

III. LEGAL ANALYSIS

A. Term #1: "An operation monitor device for a hardware component, for controlling an output voltage required by the hardware component, wherein the hardware component is operated within a system"

Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
#1: "An operation monitor device for a hardware component, for controlling an output voltage required by the hardware component, wherein the hardware component is operated within a system" U.S. Patent No. 7,219,027, Claim 1	No construction necessary. Plain and ordinary meaning.	Limiting

Proposed by Defendants		

The Parties' Positions:

Defendants contend that the preamble is limiting because it (1) provides antecedent basis for three terms that appear in the claim body and (2) provides "necessary structure for the remaining limitations." Opening at 4. With respect to the former, Defendants contend that the preamble provides antecedent basis for "hardware component," "output voltage," and "system." *Id.* at 5.

With respect to the latter, Defendants contend that the preamble "identifies the specific arrangement of hardware components and how they relate to each other in the system" and that "[w]ithout the preamble, the remaining claim elements lack the necessary relationship that gives them meaning in the context of the claimed invention." *Id.* As an example, Defendants contend that "operation monitor for a hardware component" clarifies that "each subsequent limitation forms part of the operation monitor device that operates on this hardware component." *Id.* Defendants contend that without the preamble, the "subsequent limitations would be divorced from their contextual arrangement." *Id.* (citing *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.,* 868 F.2d 1251, 1257 (Fed. Cir. 1989)).

In its response, Plaintiff contends that the presumption is that the preamble is not limiting, and Defendants have not overcome that presumption. Response at 1 (citing *Georgetown Rail Equip. Co. v. Holland L.P.,* 867 F.3d 1229, 1236 (Fed. Cir. 2017)).

With respect to Defendants' argument that the preamble provides antecedent basis for three terms in the claim body, Plaintiff contends that each term is "readily understandable as used in the body of the claim, and the preamble does not add additional context essential to understand their meanings." *Id.* at 2 (citing cases). Plaintiff further contends that the "mere use of terms from the preamble in the claim body does not make the preamble limiting." *Id.* (citing *Panasonic Corp. v. Magna Int'l Inc.,* No. 6-21-cv-00319, 2022 WL 625089, at *18 (W.D. Tex. Mar. 3, 2022)).

With respect to Defendants' argument that the preamble provides necessary structure, Plaintiff contends that "the claim body describes a structurally complete invention of 'a pulse width modulation module,' 'a monitoring unit' for, *inter alia*, exchanging information with 'the system'; and 'a controller.'" *Id.* Plaintiff contends that the "preamble merely gives a name to the structurally complete invention," such that "[r]emoving the preamble's 'an operation monitor device for a hardware component,' does not leave the reader at a loss for the structure of the invention, as [Defendants] contend[]." *Id.*

In its reply, Defendants contend that Plaintiff "does not dispute that three limitations in the body of the claim derive their antecedent basis from the preamble[.]" Reply at 1.

With respect to the whether the claim describes a structurally complete invention, Defendants contend that Plaintiff provides "provides no support for its assertion that the claim body, on its own, describes a 'structurally complete invention.'" *Id.* More specifically, Defendants contend that:

> [Plaintiff] has not identified how the body of the claim can establish any of the required structural relationships found only in the preamble of 1) "an operation monitor ***for*** a hardware component," that is 2) "for controlling an output voltage ***required by*** the hardware component, and 3) "wherein the hardware component is operated ***within a system***."

Id. (emphases in Defendants' brief).

Defendants contend that, by contrast, the preamble "establishes that the hardware component operates ***within*** the system, which therefore excludes a hardware component that is remote from the system" and that provides "further structural relationships later in the claim such as receiving a detecting result from the monitoring unit, and sending a 'monitor signal' to the monitoring unit in response." *Id.* at 1-2 (emphasis in Defendants' brief).

In its sur-reply, Plaintiff contends that the first two structural relationships Defendants identify ("an operation monitor for a hardware component" and "for controlling an output voltage required by the hardware component") "plainly state a purpose or intended use for the invention and do not establish any particular structural relationship, much less a required one." Sur-Reply at 1. Plaintiff contends that the third relationship ("wherein the hardware component is operated within a system") is "not necessary to understand the structure of the claimed device." *Id.* Plaintiff contends that, by contrast, "the body defines a "structurally complete invention" of a device comprising a pulse width modulation module, a monitoring unit, and a controller." *Id.* at 1–2.

The Undersigned's Analysis

After reviewing the parties' arguments and considering the applicable law, the undersigned concludes that the preamble is partially limiting, namely, that "hardware component," "output voltage," and the "system" in the preamble are limiting, but that the rest of the preamble is not for the reasons that follow. *Cochlear Bone Anchored Sols. AB v. Oticon Med. AB*, 958 F.3d 1348, 1355 (Fed. Cir. 2020) ("A conclusion that some preamble language is limiting does not imply that other preamble language, or the entire preamble, is limiting."). ***First***, the preamble is presumed not to be limiting. *Am. Med. Sys.,* 618 F.3d at 1358.

Second, while the preamble is presumed not to be limiting, it may be limiting if it provides antecedent basis for a claim term that appears in the body of the claim. *Catalina*, 289 F.3d at 808. Here, there is no debate that "hardware component," "output voltage," and the "system" in the preamble provide antecedent for said claim terms that appear in the body. Therefore, these terms are limiting under *Catalina*. *Id.*

Third, the claim body recites a structurally complete invention, so the remainder of the preamble is not limiting. *Id.* More specifically, with respect to the first two relationships that Defendants identify ("an operation monitor for a hardware component" and "for controlling an output voltage required by the hardware component"), the undersigned agrees with Plaintiff that those two relationships merely describe a purpose or intended use of the invention, and thus are not limiting. *Id.* With respect to the third relationship ("wherein the hardware component is operated within a system"), the undersigned agrees with Plaintiff that that limitation is not necessary to understand the claimed invention.

Fourth, with respect to Defendants' argument that the preamble "establishes that the hardware component operates within the system" and provides "further structural relationships later in the claim such as receiving a detecting result from the monitoring unit, and sending a 'monitor signal' to the monitoring unit in response," the undersigned disagrees. More specifically, assuming that Defendants are correct that preamble establishes these additional structural relationships, that is not the standard for whether a preamble is limiting. Rather, Federal Circuit caselaw requires that the "[i]n general, a preamble limits the invention if it recites ***essential structure*** or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim." *Catalina*, 289 F.3d at 808 (emphasis added) (quoting *Pitney Bowes*, 182 F.3d at 1305). Conversely, a preamble is not limiting where the claim body recites a structurally complete invention. *Id.* Here, Defendants have not identified anything in the preamble that is "essential structure" or demonstrated that the claim body is somehow incomplete with the limitations in the preamble. Rather, Defendants only appear to identify ***additional*** **structural limitations** that further limit an already complete invention. By way of analogy, the additional structural limitations are akin to the limitation in a dependent claim which only serves to further limit the scope of already independent claim that is already structurally complete.

Defendants assert that the preamble must be limiting because it requires that the hardware component operates within the system (as compared to operating outside the system). But the location of the hardware component with respect to the system does not change whether the claim body recites a complete invention. At most, requiring that the hardware component be inside the system is akin to adding another limitation to an independent claim.

For the third and fourth reasons, the undersigned concludes that Defendants have not overcome the presumption that the rest of the preamble is not limiting.

Therefore, for the reasons described above, the undersigned recommends that the preamble is not limiting except for "hardware component," "output voltage," and "system."

B. Term #2: "a judging device to judge if a common reference picture is to be selected or not when coding a plural-block image unit made up of a plurality of blocks"

Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
#2: "a judging device to judge if a common reference picture is to be selected or not when coding a plural-block image unit made up of a plurality of blocks" U.S. Patent No. 8,208,542, Claim 1 Proposed by Defendants	No construction necessary. Plain and ordinary meaning, i.e., logic that determines prediction mode by judging if a common reference picture is to be selected or not when coding a plural-block image unit made up of a plurality of blocks. Not subject to 35 U.S.C. § 112, ¶ 6. Alternatively, to the extent this term is subject to § 112, ¶ 6: **<u>Function:</u>** judge if a common reference picture is to be	Subject to 35 U.S.C § 112 ¶ 6. **<u>Function:</u>** to judge if a common reference picture is to be selected or not when coding a plural-block image unit made up of a plurality of blocks **<u>Structure:</u>** none (claim is indefinite)

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	selected or not when coding a plural-block image unit made up of a plurality of blocks. **Structure:** motion estimation unit 101, the specification's description thereof (see, e.g., cols. 6:35-56, 7:1-13, 9:17-27, 9:35-10:8, 11:33-51, 13:7-30, 20:40-41, 20:47-48, FIGS. 6, 7, 9-13, 20, 22), and equivalents thereof.	

The Parties' Positions whether §112, ¶ 6 Applies:

Defendants contend that the term "judging device" is "entirely functional and therefore subject to construction as a means-plus-function limitation." Opening at 10. Defendants contend that the presumption that § 112, ¶ 6 does not apply is overcome because the term "does not connote a specific structure or class of structures to a POSITA and is not 'used in common parlance or by persons of skill in the pertinent art to designate structure.'" *Id.* (quoting *MTD Prod. Inc. v. Iancu*, 933 F.3d 1336, 1341 (Fed. Cir. 2019)). More specifically, Defendants contend that "this limitation does not include any particular structure, but instead merely characterizes the 'judging device' only by the function it performs[.]" *Id.* at 10–11. Defendants contend that "judge" does not impart any particular structure to "device," a nonce word. *Id.* at 11 (citing cases). Rather, Defendants contend that "the 'judging device' limitation only imparts the 'functionality' it provides, which is precisely the type of term that Congress intended to be governed by 35 U.S.C. § 112, ¶ 6 when it enacted the provision." *Id.* at 12 (citing *Williamson*, 792 F.3d at 1347).

Defendants contend that, as of the alleged April 2002 priority date, there was "no well-understood structure for 'judg[ing] if a common reference picture is to be selected or not when coding a plural-block image unit made up of a plurality of blocks.'" *Id.* at 12 (citing Opening, Ex. G (Orchard Decl.) at ¶¶ 14, 31, 36–39).

In its response, Plaintiff contends that, because this term does not use the word "means," the presumption is that § 112, ¶ 6 does not apply. Response at 8 (citing *Williamson*, 792 F.3d at 1349)).

Plaintiff contends that Defendants are incorrect that a "POSITA could not understand the structure of the 'judging device' because 'the common reference picture is the alleged advance of the patent over the prior art.'" *Id.* at 9. Rather, Plaintiff contends that a POSITA "would understand that the available prediction modes evolve and expand as coding methods improve." *Id.* Plaintiff contends that a POSITA would "readily understand that a new prediction mode (*i.e.*, selecting a common reference picture) could be included in the set of available prediction modes and its use determined using known technique[.]" *Id.*

Plaintiff contends that a POSITA would understand that "judging device" "refers to known structures in video encoders for determining a prediction mode[,]" and thus does not invoke § 112, ¶ 6. *Id.* at 10. More specifically, Plaintiff contends that Claim 1 describes that the "judging device" is within the "image coding unit" (which divides a picture into blocks and predictively codes each block), "select[s] a reference picture from among reference pictures on a block basis," and provides "describing information which identifies the selected reference picture." *Id.* Plaintiff contends that, from this description, a POSITA would "understand that the "image coding unit"—and by extension the "judging device"—refers to a block-based video encoder." *Id.* (citing Response, Ex. 1 (Richardson Decl.) at ¶ 69).

Plaintiff contends that Claim 1 "also establishes that the 'judging device' determines whether to use a new type of prediction mode or another known prediction mode." *Id.* Plaintiff contends that a POSITA would understand from the selection of a "reference picture" in Claim 1 that inter-prediction is used to perform predictive coding. *Id.* at 11. Plaintiff contends that from Claim 1's addition of "common" before "reference picture," a POSITA would understand that the claim is directed towards a new type of inter-prediction. *Id.* Plaintiff further contends that a POSITA would understand that "'common reference picture' is a reference picture that is commonly shared by at least some of the blocks in a plural block image unit." *Id.* (citing Response, Ex. 1 (Richardson Decl.) at ¶ 63). Plaintiff contends that by using a "common reference picture" for multiple blocks, the claimed invention can omit "reference picture information" for at least one block. *Id.* at 12.

Based on the above, Plaintiff contends that a POSITA would "understand 'judging device' to connote sufficient structure from the plain language of the claims." *Id.* Plaintiff contends that the claim language includes "a detailed description of its inputs, outputs, and connections[.]" *Id.*

In its reply, Defendants contend that "[t]here is no evidence that the term 'judging device' is used in common parlance by a POSITA at all; in fact, all evidence is to the contrary." Reply at 6.

Defendants contend that while Plaintiff bases its argument on "whether 'prediction modes' and how to 'cho[ose] from a set of available prediction modes' were known.[,]" Claim 1 does not use the term "prediction modes[,]" and "use of a common reference picture is never referred to as a 'prediction mode' or equated with a choice of 'prediction modes.'" *Id.* Defendants contend that "[e]valuating a POSITA's knowledge of various known prediction modes has no bearing on the critical question of whether a POSITA would have understood the term 'judging device' as having sufficiently definite meaning as the name for structure." *Id.* Defendants contend that "if it were so obvious to a POSITA to use these methods to implement a judging device, then why did [Plaintiff's expert] fail to mention them in his ITC declarations?" *Id.* at 7.

With respect to Plaintiff's argument that Claim 1 discloses the structure of "judging device," Defendants contend that the ITC twice rejected that argument. *Id.* Defendants further contend that Plaintiff's "argument restates the agreed *function* rather than provide any evidence of structure." *Id.* (emphasis in Defendants' brief).

In its sur-reply, with respect to Defendants' argument that Plaintiff's expert failed to mention known method to implement a judging device, Plaintiff contends that its expert "identified known methods for determining prediction modes in his prior declarations." Sur-Reply at 3 (citing prior declarations).

With respect to Defendants' argument that "'judg[ing] if a common reference picture is to be selected or not' does not refer to determining a prediction mode[,]" Plaintiff contends that "[i]t was not necessary for the '542 Patent to specifically label the use of a common reference picture for inter-prediction as a new prediction mode because it is obvious to a POSITA." *Id.* (citing Sur-Reply, Ex. 3 (Richardson Rebuttal Decl.) at ¶¶ 13–17, 28–29). Plaintiff contends that the '542 Patent "clearly distinguishes between prior art inter-prediction modes and new inter-prediction modes that use a common reference picture." *Id.* (citing Sur-Reply, Ex. 3 (Richardson Rebuttal Decl.) at ¶ 14). Plaintiff contends that "[t]he use of a common reference picture to perform inter-prediction is an inventive aspect of the '542 Patent and a POSITA would readily understand that it is a new prediction mode." *Id.* (citing Sur-Reply, Ex. 3 (Richardson Rebuttal Decl.) at ¶ 14). More specifically, Plaintiff contends that "[b]y judging whether to select a common reference picture, the 'judging device' determines whether to use a new inter-prediction mode," as prior art inter-prediction modes did not use a common reference picture. *Id.* Plaintiff further contends that "[t]he determination to use a common reference picture must be reflected in the prediction mode (PredType) coded with the block to inform the decoder of the prediction mode it should use to decode the block." *Id.* (citing Sur-Reply, Ex. 3 (Richardson Rebuttal Decl.) at ¶ 17).

Plaintiff contends that Defendants do not "refer to any technical evidence to rebut [Plaintiff's] position that a POSITA would understand that the 'judging device could be implemented by known structures, using known techniques, for determining a prediction mode." *Id.* at 6.

Plaintiff contends that using a "common reference picture" reduces both the processing burden and number of bits required to store and transmit data. *Id.* at 8.

The Undersigned's Analysis Whether § 112, ¶ 6 Applies:

After reviewing the parties' arguments and considering the applicable law, the undersigned agrees with Plaintiff that the term is not subject to § 112, ¶ 6 for the reasons that follow. ***First***, the presumption is that § 112, ¶ 6 does not apply. *Williamson*, 792 F.3d at 1348.

Second, Claim 1 describes the structure of the "judging device," namely as one component within a block-based video encoder. More specifically, Claim 1 also describes that the "imaging code unit" divides a picture into blocks, selects a reference picture on a block basis, and predictively codes each block. '542 Patent at 24:20–24. Claim 1 further describes that the "imaging coding unit" describes "information which identifies the selected reference picture[.]" *Id.* The undersigned agrees with Plaintiff that, based on the language in Claim 1, a POSITA would understand that the "image coding unit" is a block-based video encoder, which was a type of structure known in the art. *See, e.g.,* Response, Ex. 1 (Richardson Decl.) at ¶¶ 25–27.

Claim 1 further describes that the "judging device" is within the "image coding unit." '542 Patent at 24:25–26 ("wherein the image coding unit includes: a judging device"). Therefore, the "judging device" is within the "image coding unit," which is a type of structure known in the art.

Given that the "judging device" is a component within the "imaging coding unit," this indicates that the "judging device," like the "imaging coding unit," is a physical component, which further supports the undersigned conclusion that claim recites sufficient structure to prevent the application of § 112, ¶ 6. *TEK Glob., S.R.L. v. Sealant Sys. Int'l, Inc.*, 920 F.3d 777, 786 (Fed. Cir. 2019) ("Although connoting precise physical structure is not a necessary condition to avoid § 112, ¶ 6 application, it is generally sufficient.") (internal citations omitted).

Furthermore, the undersigned agrees with Plaintiff that a POSITA, reading the claim language's disclosure of both "reference pictures," which are associated with inter-prediction prediction modes, and a "common reference picture," which is disclosed in this patent as a new type of inter-prediction, would understand that the input to the "judging device" is, *inter alia*, what type of prediction mode will be used, *i.e.*, conventional modes that do not use a common reference picture or the claimed mode that does. *See, e.g.*, '542 Patent at 24:20–24, 24:29–36. More specifically, Claim 1 describes that the judging device outputs an indication that the "common reference picture is to be selected." *Id.* at 24:26–27. The term "reference picture" is term of art. *See, e.g.*, *id*. at 1:52–55. The '542 Patent describes that the choice of the reference picture depends on the type of inter-picture prediction being used. *Id.* ("In the MPEG, a reference picture to be used is determined uniquely depending on the type of inter-picture prediction and an arbitrary reference picture cannot be selected."). As such, a POSITA would understand that Claim 1's usage of "reference picture" indicates that Claim 1 uses a type of inter-prediction. Furthermore, because the specification describes that the "common reference picture" is used in the claimed inter-picture prediction mode, a POSITA would understand Claim 1 might use a new type of inter-prediction. Claim 1, by implication, describes that if the new type of inter-prediction will **not** be used, then the judging device outputs an indication that the common reference picture will **not** be selected. *See, e.g.*, *id.* at 24:26–30. Therefore, a POSITA, would understand that Claim 1 discloses the input (indication as to the type of prediction mode that will be used), output (indication if a common reference picture is to be selected or not), and the operation (to determine whether a common reference picture is to be selected from a group of reference pictures for a group of blocks based on what type of prediction mode will be used to predictively code the blocks). Based on that, the undersigned concludes that the claim recites sufficient structure to prevent the application of § 112, ¶ 6. *Apple*, 757 F.3d at 1299, *rev'd on other grounds by Williamson*, 792 F.3d 1339 ("Structure may also be provided by describing the claim limitation's operation, such as its input, output, or connections.").

Finally, while the claim language does not necessarily expressly recite the sufficiently definite structure, it is worth nothing that the undersigned did not consult the specification as that structure, at worst, is present by implication such that a POSITA only needs to review the claim. *MTD Prod.*, 933 F.3d at 1344 (if the specification could provide sufficient structure to defeat the application of § 112, ¶ 6, then this approach "would seem to leave § 112, ¶ 6 without any application: any means-plus-function limitation that met the statutory requirements, *i.e.*, which includes having corresponding structure in the specification, would end up not being a means-plus-function limitation at all").

<u>The Parties' Positions Regarding the Construction:</u>

In its response, Plaintiff contends that a POSITA "would understand that the 'judging device' is 'logic that determines the prediction mode by judging if a common reference picture is to be selected or not when coding a plural-block image unit made up of a plurality of blocks.'" Response at 6.

In its reply, Defendants contend that Plaintiff proposed the above construction for the first time in its Response. Reply at 3. Defendants further contend that Plaintiff's proposed construction has at least three problems. Defendants first contend that Plaintiff's proposed construction replaces "device" with a nonce word "logic," which illustrates that this term should be subject to § 112, ¶ 6. *Id.* Defendants contend that "logic' does not appear in the '542 Patent. *Id.* at 4.

Defendants second contend that there is no intrinsic support for "for determining a prediction mode." *Id.* More specifically, Defendants contend that the specification "never equates 'judg[ing] if a common reference picture is to be selected or not' with a choice of prediction mode[.]" *Id.* Defendants further contend that "[t]he determined prediction type in the first embodiment—'plural reference picture interpolation'—does not provide any indication that a common reference picture is used." *Id.* (citing Reply, Ex. I (Orchard Rebuttal Decl.) at ¶¶ 27–28).

Defendants next contend that "there is no support anywhere in the '542 Patent for [Plaintiff's] assertion that 'selecting a common reference picture' is disclosed as a 'new prediction mode.'" *Id.* Rather, Defendants contend that "[i]f the use of a common reference mode were a new prediction mode, the '542 Patent would have said so." *Id.* at 5.

Defendants further contend that the "claim language further undermines [Plaintiff's] claim that a POSITA would understand a 'common reference picture' as a new prediction mode." *Id.* More specifically, Defendants contend that "Claim 1 requires the judging device 'to judge *if a* *common reference picture*'—not a 'common reference picture *mode*' and not a 'common reference picture *prediction type*'—is to be selected or not." *Id.* (emphases in Defendants' brief).

Defendants finally contend that Plaintiff's proposed construction is nonsensical as it does not follow that judging that a common reference picture is to be selected means that a prediction mode is determined. *Id.*

In its sur-reply, Plaintiff contends that it did "identif[y] its construction when the parties mutually exchanged revised proposed claim constructions." Sur-Reply at 2. Otherwise, the remainder of Plaintiff's arguments are summarized above.

<u>The Undersigned's Analysis Regarding the Construction:</u>

After reviewing the parties' arguments and considering the applicable law, the undersigned agrees with Plaintiff that this term should be construed according to its plain-and-ordinary meaning for the reasons that follow. ***First***, the "heavy presumption" is that terms should be construed according to their plain-and-ordinary meaning. *Azure Networks*, 771 F.3d at 1347. ***Second***, Defendants do not expressly allege lexicography or disclaimer, which are the only two exceptions to the general rule that a term should be construed as having its plain-and-ordinary meaning. *Thorner*, 669 F.3d at 1365.

Third, the claim language itself explains the operation of the "judging device." Namely, Claim 1 recites "a judging device to judge if a common reference picture is to be selected or not when coding a plural-block image unit made up of a plurality of blocks[.]" '542 Patent at 24:26–28. The undersigned does not see anything in that claim language that is either unclear or ambiguous such that a lay jury cannot understand and apply that claim language. *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1366 (Fed. Cir. 2004) ("The district court simply must give the jury guidance that can be understood and given effect by the jury once it resolves the issues of fact which are in dispute.").

Fourth, given the simplicity and clarity of the claim language, the undersigned concludes that providing a construction for this term would be an "obligatory exercise in redundancy." *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997); *see also C.R. Bard*, 388 F.3d at 863 ("merely rephrasing or paraphrasing the plain language of a claim by substituting synonyms does not represent genuine claim construction") (internal quotations marks omitted).

Therefore, for the reasons described above, the undersigned recommends that the term is not subject to § 112, ¶ 6 and should be construed according to its plain-and-ordinary meaning.

C. Term #3: "a selecting device to select, if it is judged by said judging device that a common reference picture is to be selected, one common reference picture to be commonly referred to, from among plural reference pictures, the common reference picture being only one reference picture that is selected from among the plural reference pictures and is assigned commonly to each of the plurality of blocks of the plural-block image unit"

Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
#3: "a selecting device to select, if it is judged by said judging device that a common reference picture is to be selected, one common reference picture to be commonly referred to, from among plural reference pictures, the common reference picture being only one reference picture that is selected from among the plural reference pictures and is assigned commonly to each of the plurality of blocks of the plural-block image unit" U.S. Patent No. 8,208,542, Claim 1	No construction necessary. Plain and ordinary meaning. Not subject to 35 U.S.C. § 112, ¶ 6. Alternatively, to the extent this term is subject to § 112, ¶ 6: **Function:** select, if it is judged by said judging device that a common reference picture is to be selected, one common reference picture to be commonly referred to, from among plural reference pictures, the common reference picture being only one reference picture that is selected from among the	Subject to 35 U.S.C § 112 ¶ 6 **Function:** select, if it is judged by said judging device that a common reference picture is to be selected, one common reference picture to be commonly referred to, from among plural reference pictures, the common reference picture being only one reference picture that is selected from among the plural reference pictures and is assigned commonly to each of the plurality of blocks of the plural- block image unit **Structure:** none (indefinite)

Proposed by Defendants	plural reference pictures and is assigned commonly to each of the plurality of blocks of the plural-block image unit **Structure:** motion estimation unit 101, default reference picture number generation unit 201/203/205, multi-picture buffer 108, the specification's description thereof (see, e.g., cols. 9:35-10:20; 10:43-11:51; 13:7-15:7, 20:40-41, 20:47-48, FIGS. 6, 7, 9-13, 20, 22), and equivalents thereof	

The Parties' Positions whether §112, ¶ 6 Applies:

Defendants contend that there is a interrelationship between this term and the prior term ("judging device") as the "judging device" provides information that the "selecting device" uses to perform the selection. Opening at 16.

Defendants further contend that like "judging device," "selecting device" is "recited in purely functional language." *Id.* Defendants contend that two ITC judges previously held that this term is indefinite. *Id.* at 16–17.

Defendants contend that while the presumption that § 112, ¶ 6 does not apply, "that presumption is overcome here because the term 'selecting device' does not connote specific structure to a POSITA, and the surrounding language is entirely functional." *Id.* at 17 (citing Opening, Ex. G (Orchard Decl.) at ¶¶ 47–51). Defendants further contend that this term simply replaces "means" with "device." *Id.*

In its response, Plaintiff contends that the ITC judges did not independently determine that this term found that this term was subject to § 112, § 6, but rather determined it was subject to § 112, ¶ 6 "based on its interconnection with 'judging device.'" Response at 16.

Plaintiff contends that because this term does not use the word "means," the presumption that § 112, ¶ 6 does not apply. *Id.*

Plaintiff contends that, as described above with respect to "judging device," a POSITA "would readily understand the term 'selecting device' to refer to well-known structures commonly used for inter-prediction." *Id.* (citing Response, Ex. 1 (Richardson Decl.) at ¶¶ 87–89). In summary, Plaintiff contends that the selection of a "common reference picture" from a group of reference pictures, implies that the claimed invention uses an inter-prediction mode. Plaintiff contends that a POSITA "would understand this language to connote sufficient structure as there were well-known interpicture prediction techniques for selecting a reference picture from a reference picture list to be used for performing inter-prediction." *Id.* (citing Response, Ex. 1 (Richardson Decl.) at ¶ 93; '542 Patent at 1:54–60).

Plaintiff further contends that a POSITA "would also understand 'selecting device' to connote sufficiently definite structure, particularly as the claim language defines its connections to other elements in the claims." *Id.* (citing Response, Ex. 1 (Richardson Decl.) at ¶¶ 90–97). More specifically, Plaintiff contends that the claim language describes that the "selecting device" is structure that resides within the "imaging coding unit." *Id.* Plaintiff contends that a POSITA would understand that the "imaging coding unit" refers to a block-based video encoder capable of inter-picture prediction. *Id.* Furthermore, Plaintiff contends that the input to the "selecting device" is the output of the "judging device," namely an indication whether a "common reference picture" should be selected. *Id.* Plaintiff contends that the output of the "selecting device" is the selected "common reference picture." *Id.* Based on this, Plaintiff contends that "[t]he connections between the 'selecting device' and other claim elements confirm the structural nature of the 'selecting device.'" *Id.* at 18 (citing *Apple*, 757 F.3d at 1299).

In its reply, Defendants contend that, like "judging device," this term uses purely functional language. Reply at 9. Defendants further contend that "[t]here is no evidence that 'selecting device' had a common meaning to the POSITA as a designation of structure." *Id.*

By contrast, Defendants contend that Plaintiff asserts that "the choice to use a common reference picture is purportedly what distinguishes the invention from the prior art[,]" but that the "prior art structures it identifies actually were known to a POSITA to be used to select a common reference picture." *Id.* As such, Defendants contend that there is insufficient structure to prevent the application of § 112, ¶ 6. *Id.*

In its sur-reply, Plaintiff contends that Defendants do not dispute that "structures for selecting a reference picture from a set of references pictures … were understood to be used as part of the process of predictive coding using inter-prediction." Sur-Reply at 9. Plaintiff further contends that Defendants do not assert that "there are any substantive technical differences between the selection of a reference picture as known in the prior art and the selection of a common reference picture, as claimed." *Id.*

Plaintiff contends that, at bottom, Defendants assert that a POSITA "cannot understand this term to connote sufficient structure unless a structure performing an identical function was already known." *Id.* Plaintiff contends that, however, "it would be readily apparent to a POSITA that the known structures for selecting a reference picture could be used to select a common reference picture, as claimed." *Id.* (citing Sur-Reply, Ex. 3 (Richardson Rebuttal Decl.) at ¶¶ 28, 30–32).

The Undersigned's Analysis Whether § 112, ¶ 6 Applies:

After reviewing the parties' arguments and considering the applicable law, the undersigned agrees with Plaintiff that the term is not subject to § 112, ¶ 6 for the reasons that follow. ***First***, the presumption is that § 112, ¶ 6 does not apply. *Williamson*, 792 F.3d at 1348.

Second, the undersigned agrees with Plaintiff that a POSITA would understand that the "selecting device" refers to known structures that select a reference picture from a group of reference pictures.

Third, as was the case for the "judging device," given that the "selecting device" is a component within the "imaging coding unit," this indicates that the "selecting device," like the "imaging coding unit," is a physical component, which supports that the claim recites sufficient structure to prevent the application of § 112, ¶ 6. *TEK Glob.*, 920 F.3d at 786 ("Although connoting precise physical structure is not a necessary condition to avoid § 112, ¶ 6 application, it is generally sufficient.") (internal citations omitted).

Fourth, a POSITA would understand that Claim 1 discloses the input (whether a common reference picture will be selected or not), output (the common reference picture), and operation (selecting a common reference picture from a group of reference pictures for a group of blocks to be used to predictively code the blocks). Based on that, the undersigned concludes that the claim recites sufficient structure to prevent the application of § 112, ¶ 6. *Apple*, 757 F.3d at 1299 ("Structure may also be provided by describing the claim limitation's operation, such as its input, output, or connections.").

<u>The Undersigned's Analysis Regarding the Construction:</u>

After reviewing the parties' arguments and considering the applicable law, the undersigned agrees with Plaintiff that this term should be construed according to its plain-and-ordinary meaning for the reasons that follow. ***First***, the "heavy presumption" is that terms should be construed according to their plain-and-ordinary meaning. *Azure Networks*, 771 F.3d at 1347. ***Second***, Defendants do not expressly allege lexicography or disclaimer, which are the only two exceptions to the general rule that a term should be construed as having its plain-and-ordinary meaning. *Thorner*, 669 F.3d at 1365.

Therefore, for the reasons described above, the undersigned recommends that the term is not subject to § 112, ¶ 6 and should be construed according to its plain-and-ordinary meaning.

D. Term #4: "means for receiving, at a conditional access server, security messages of a primary security system in a first security domain"

Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
#4: "means for receiving, at a conditional access server, security messages of a primary security system in a first security domain" U.S. Patent No. 8,291,236, Claim 100 Proposed by Both Sides	This term is subject to 35 U.S.C. § 112, ¶ 6. **<u>Function:</u>** "receiving at a conditional access server, security messages of a primary security system in a first security domain" **<u>Structure:</u>** receiving devices (e.g., set-top boxes with a smart card), and their description in the specification, e.g., at 2:6-7, 14-19; set-top box (STB), including the tuner portion, and their description in the specification, e.g., at 2:20-24; I/O Device(s) (110) (e.g., modem, or network interface) in FIG. 1, and their	**<u>Function:</u>** (same) **<u>Structure:</u>** satellite TV bridges (207, 209), cable TV bridges (217, 219) and equivalents thereof.

	description in the specification; secondary CA server (255), set top box (257), or bridge (259) in FIG. 2A, and their description in the specification; secondary CA server (281), bridge (283), or physical interface (285) in FIG. 2B, and their description in the specification; satellite dishes (203, 205), satellite TV bridges (207, 209), cable TV bridges (217, 219), cable TV secondary CA server (225), satellite TV secondary CA server (227), media player (231), personal computer (233), access point (241), or PDA (243) in FIG. 3, and their description in the specification; receiving at a secondary CA server, as described in FIG. 4, e.g., at 10:25-11:25; secondary CA servers in FIG. 5 (431), FIG. 6 (461), FIG. 7 (501), FIG. 8 (531), or FIG. 9 (561), and their descriptions in the specification; the device of the user of FIG. 10A, and its description in the specification, e.g., at 14:47-50, 14:66-15:1; secondary CA server (772) in FIG. 10C, and its description in the specification; bridges (603) or secondary CA servers (609) in FIGS. 11, 12, 13, and 14, and their description in the specification; secondary CA server of FIG. 15 (701), and its description in the specification, e.g., at 21:28-36; and equivalents thereof.	

The Parties' Positions:

The parties agree that this term is subject to § 112, ¶ 6 and what the claimed function is, but disagree with the corresponding structure encompasses. Opening at 22. Defendants contend that their proposed structure corresponds to the claimed function. *See id.* at 23, 24.

Defendants contend that Plaintiff's proposed structure is not "clearly linked" to the claimed function, which according to Defendants "relates to security messages received at a CA access server in a ***primary*** security system in a first security domain[.]" *Id.* (emphasis in Defendants' brief). Defendants contend that, by contrast, Plaintiff's proposed structure includes components in the ***secondary*** security domain as shown in Figure 3 (*e.g.* secondary CA server (281), bridge (283), or physical interface (285) in FIG. 2B . . . receiving at a secondary CA server, as described in FIG. 4, *e.g.*, at 10:25-11:25; secondary CA servers in FIG. 5 (431), FIG. 6 (461), FIG. 7 (501), FIG. 8 (531), or FIG. 9 (561), and their descriptions in the specification; the device of the user of FIG. 10A, and its description in the specification, *e.g.*, at 14:47-50, 14:66-15:1; secondary CA server (772) in FIG. 10C, and its description in the specification; bridges (603) or secondary CA servers (609) in FIGS. 11, 12, 13, and 14, and their description in the specification; secondary CA server of FIG. 15 (701), and its description in the specification, *e.g.*, at 21:28-36.). *Id.* at 23 (emphases in Defendants' brief).

Defendants contend that their proposed structure is limited to components in the primary security domain, *e.g.*, satellite TV bridges (207, 209) and cable TV bridges (217, 219) in Figure 3. *Id.* at 24.

In its response, Plaintiff contends that Defendants "attempt to rewrite the claim so that 'in a first security domain' directly follows and modifies 'conditional access server' instead of 'primary security system,' *i.e.*, "receiving at a conditional access server [in a first security domain], security messages of a primary security system ~~in a first security domain~~." Response at 21. Plaintiff contends that this rewrite is unsupported by the claim language, specification, and prosecution history, and excludes "numerous structures in the secondary security domain that are clearly associated with the recited function." *Id.* at 22.

Plaintiff contends that the '236 Patent "unambiguously links ***secondary*** CA servers to the function of receiving security messages of a primary security system." *Id.* (citing '236 Patent at 7:29–31, 16:3–6, 21:30–36, 14:18–21, 8:4–6, 10:27–10:31, 11:28–33, 12:31–37, 12:56–58; 13:40–42, 17:66–67, 19:32–34, and 20:14–15; and 20:45–46) (emphasis in Plaintiff's brief). Plaintiff further contends that "the '236 Patent identifies several structures clearly linked to performing the recited function of 'receiving…security messages of a primary security system in a first security domain.'" *Id.* (citing '236 Patent at 2:2–7 ("receiving devices" at a conditional access server); 9:56–59 (satellite dishes); 9:23–25, 9:52–53, 9:64–10:3 (secondary servers for satellite and cable TV); 14:47–49 (user devices); 2:20-23 (a set-top box with a tuner portion); Figure 1 (modem, network interface, video camera, etc.). Plaintiff contends that "media player, personal computer, access point, and PDA receive security messages of a primary security system in a first security domain, *e.g.*, by receiving security messages from a secondary CA server." *Id.* at 22–23 (citing '236 Patent at 8:67–9:9, 9:23–38). Plaintiff contends that a "bridge," which may be incorporated into the secondary conditional access server, is also "clearly linked." *Id.* at 23.

In its reply, Defendants contend that Plaintiff incorrectly asserts that the limitation does not require that the conditional access server be "in a first security domain[.]" Reply at 11. Defendants contend that, during prosecution, Plaintiff amended the claim to add "in a first security domain" and distinguished prior art by arguing that "lack[s] receiving, at a conditional access server, security messages of a primary security system <u>in a first security domain</u>." *Id.* (citing

Reply, Ex. J (May 1, 2012 Amendment) at 31–32, 54) (emphasis in Reply, Ex. J)). Defendants contend that their proposed structure captures this requirement, but that Plaintiff ignores this requirement by including "all disclosures for the secondary conditional server[.]" *Id.* Defendants contend that "none of the servers identified by [Plaintiff] in Figures 4–9, 10A, 10C, and 11–15 are associated with a 'first' or 'second' security domain at all, and therefore cannot serve as the appropriate structure for a device that must be limited to the first security domain." *Id.*

Defendants contend that "[n]one of the remaining structures proposed by [Plaintiff] relate to receiving security messages 'at a conditional access server in a first security domain.'" *Id.* Defendants further contend that some of the structures Plaintiff proposes are incapable of "receiving" security messages or functioning as servers, *e.g.*, keyboards, printers, mice, scanners, and video cameras. *Id.* at 11–12.

In its sur-reply, with respect to the prosecution history, Plaintiff contends that "Applicants' remarks indicate that this addition merely clarified that the first conditional access server, a component of the primary security system, protects content from unauthorized access 'in a first security domain.'" Sur-Reply at 11.

Plaintiff contends that even if "a first security domain" limited where security messages were received, "secondary CA servers would meet this restriction, since the patent expressly teaches that secondary CA servers are 'partially' in the primary security domain because they process CA control information provided by the primary security system." *Id.* (citing '236 Patent at 7:33–40, Figure 2A). Plaintiff contends that "the secondary CA server bridges the two security domains, receiving and processing CA control information provided by the primary security system and enabling authorized secondary CA clients in the secondary security domain to access the content." *Id.* (citing '236 Patent at 7:33–40, Figure 2A).

<u>The Undersigned's Analysis</u>

The parties agree that (1) § 112, ¶ 6 applies for this term and that (2) the claimed function is to "receiving at a conditional access server, security messages of a primary security system in a first security domain."

With respect to Defendants' argument that the corresponding structure is limited to "security messages received at a CA access server in a primary security system in a first security domain," the undersigned concludes that Defendants' proposed corresponding structure is based on its particular, but incorrect, interpretation of the claimed function. More specifically, Defendants assert that the corresponding structure is limited to components in the primary security domain. Opening at 23 ("The claimed function relates to security messages received at a CA access server in a ***primary*** security system in a first security domain, but [Plaintiff] identifies extensive structure that is specific to the ***secondary*** security domain shown in Figure 3." (emphases in Defendants' brief)); Opening at 24 ("Because the parties agree the claimed function is 'receiving at a conditional access server, security messages of a ***primary*** security system in a first security domain,' [Defendants'] proposed construction identifies those structures in the specification clearly linked with the primary security systems in a first security domain." (emphasis in Defendants' brief)); Reply at 11 ("[Plaintiff] ignores the agreed function that requires 'receiving at a conditional access server' and further asserts this limitation does not require 'the CA server to be in a first security domain' at all." (some internal quotations omitted).

But Defendants' argument misinterprets the claimed function by requiring that the conditional access server be in a primary security system in a first security domain. Opening at 23, 24; Reply at 11. In other words, Defendants' misinterpretation effectively rewrites the claimed function from:

> receiving, at a conditional access server, security messages of a primary security system in a first security domain

to:

> receiving, at a conditional access server in a primary security system in a first security domain, security messages ~~of a primary security system in a first security domain~~

But the patentee plainly did not draft the claimed function in that way. Rather, the claimed function comprises two parts which are separated by the comma. The first part of the claimed function describes receiving (security messages) at a conditional access server, while the second part describes what is received, namely security messages of a primary security system, which is in a first security domain.

Furthermore, the specification expressly describes that the secondary conditional access server receives security messages from the primary security system. For example, the specification recites

> The bridge (259) typically passes CA protected content from the primary security domain (251) to the secondary security domain (261) so that the secondary CA clients (e.g., 271. 273, . . . , 279) in the secondary security domain (261) may access the content secured in the secondary security domain under the control of the ***secondary CA server (255) in accordance with security messages provided by the primary security domain (251) to the secondary CA server (255)***.

'246 Patent at 7:23–31 (emphasis added). As a second example, the specification recites that "[i]n FIG. 2B, the secondary CA server processes security messages, such as CA messages from the primary security domain." *Id.*at 8:4–6; *see also id.* at 16:3–6: ("[t]he secondary CA server (772) may forward, translate, and/or manage its authorization received from the primary CA server (773) into authorization for its clients, such as the media player (775)"); 21:30–36 ("Operation 701 receives, at a secondary CA server, entitlement management messages of a primary security system (e.g., digital cable television, satellite television, or a digital radio broadcast system). The

Ex. 2010

entitlement management messages may be directly received from the primary security system, or indirectly received from a bridge through a network connection.”).

With respect to Defendants’ prosecution argument, the undersigned concludes that the addition of “in a first security domain” during prosecution merely clarifies the location of the ***primary*** security system. Reply at 11. For the same reasons described above, that amendment does not somehow require that ***the conditional access server*** is “in a primary security system in a first security domain.”

The corresponding structure from Plaintiff’s proposed corresponding structure can be grouped into four groups (Plaintiff’s proposed structure follows the “*i.e.*” in each group below):

1. Receiving devices, set-top boxes, and other user devices, *i.e.*,
    a. receiving devices (*e.g.,* set-top boxes with a smart card), and their description in the specification, *e.g.*, at 2:6–7, 2:14–19;
    b. set-top box (STB), including the tuner portion, and their description in the specification, *e.g.*, at 2:20–24;
    c. set top box (257) in Figure 2A;
    d. media player (231), personal computer (233), access point (241), or PDA (243) in Figure 3, and their description in the specification;
    e. the device of the user of Figure 10A, and its description in the specification, *e.g.*, at 14:47–50, 14:66–15:1;
2. I/O devices, *i.e.*, I/O Device(s) (110) (e.g., modem, or network interface) in Figure 1, and their description in the specification;
3. Secondary conditional access (CA) servers and associated components, *i.e.*,
    a. secondary CA server (255), or bridge (259) in Figure 2A, and their description in the specification;
    b. secondary CA server (281), bridge (283), or physical interface (285) in Figure 2B, and their description in the specification;
    c. receiving at a secondary CA server, as described in Figure 4, *e.g.*, at 10:25–11:25;
    d. secondary CA servers in Figure 5 (431), Figure 6 (461), Figure 7 (501), Figure 8 (531), or Figure 9 (561), and their descriptions in the specification;
    e. secondary CA server (772) in Figure 10C, and its description in the specification;
    f. bridges (603) or secondary CA servers (609) in FIGS. 11, 12, 13, and 14, and their description in the specification;
    g. secondary CA server of Figure 15 (701), and its description in the specification, *e.g.*, at 21:28–36.

4. Satellite and cable TV related components, *i.e.*, satellite dishes (203, 205), satellite TV bridges (207, 209), cable TV bridges (217, 219), cable TV secondary CA server (225), satellite TV secondary CA server (227).

The first set-top box in the first group (*i.e.*, with a smart card) and second set-top box in the first group (*i.e.*, with a tuner) refer to the same set-top box in Column 2. The specification describes that:

> Through the use of ***entitlement management messages and entitlement control messages***, a CA system can offer capabilities such as pay-per-view (PPV), interactive features such as video-on-demand (VOD) and games, the ability to restrict access to certain material, and the ability to direct messages to specific receiving devices (e.g., ***set-top boxes with a smart card***).

Id. at 2:1–7 (emphases added); *see also id.* at 2:13–18 ("[t]he CA system scrambles the digital form of programs and ***transmits the entitlement control messages and the entitlement management messages*** with the digital form of programs for broadcast either within the multiplex (e.g., Satellite) or through an out-of-band channel (e.g., Cable)." (emphasis added)). A POSITA would understand that these passages describe that a CA system (*i.e.*, primary security system) transmits entitlement management messages and entitlement control messages (*i.e.*, security messages) to set-top boxes.

The specification further explains that the set-top box receives these security messages. *Id.* at 2:24–26 ("***[t]he set-top box can de-multiplex the entitlement management messages and entitlement control messages*** and the media content." (emphasis added)).

Therefore, the "receiving devices (*e.g.*, set-top boxes with a smart card), and their description in the specification, *e.g.*, at 2:6–7" and "set-top box (STB), including the tuner portion, and their description in the specification, *e.g.*, at 2:20–24" are "clearly link[ed] or associate[d]" to the claimed function, and thus are corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to the third set-top box (257 in Figure 2A), the specification discloses that "[t]he primary CA server (253) transmits entitlement management messages and entitlement control messages so that only authorized clients, such as a subscriber's set top box (e.g., 257) can access (decrypt) the CA protected content." '236 Patent at 7:14–18. Based on that, the undersigned concludes that this set-top box necessarily receives security messages from the primary CA server in order to decrypt the CA protected content data. As such, this passage describes corresponding structure that is "clearly link[ed] or associate[d]" to the claimed function. *Medtronic*, 248 F.3d at 1311.

With respect to the media player (231), personal computer (233), access point (241), or PDA (243) in Figure 3, in contrast to the express disclosure for the first two set-top boxes, there is no disclosure in the specification that these four devices receive "security messages of a primary security system in a first security domain," nor does Plaintiff appear to identify any such disclosure. Rather, when discussing the media player (231), personal computer (233), access point (241), or PDA (243) in Figure 3, the specification only expressly describes that certain types of ***bridges*** receive security messages. *Id.* at 9:20–23 ("[t]he cable TV bridges receive the data packages and de-multiplex the entitlement management messages and entitlement control messages and the scrambled media content."). There is no corresponding express disclosure for these four devices.

The specification also implicitly describes that secondary conditional access server performs the descrambling, decryption, *etc.*, which indicates that the secondary conditional access server—and not these four devices—also receives the claimed security messages. *Id.* at 9:35–37. Furthermore, the specification describes that "a secondary CA server is used to provide services to a plurality of devices connected to a network (201) … with one or more wireless access points for mobile devices such as a personal data assistant (PDA), a palm computer, a notebook computer," from which a POSITA would likely understand that "services" refers to security-related services, *e.g.*, digital rights management.

The specification's description that "a secondary conditional access server may be integrated with a bridge, a storage device, a renderer (e.g., PDA 243, personal computer 223, media player 231), or a combination of them" further supports the undersigned's conclusion that media player (231), personal computer (233), access point (241), or PDA (243) in Figure 3 do not receive "security messages of a primary security system in a first security domain." *Id.* at 10:12–15. More specifically, this passage implies that if media player (231), personal computer (233), access point (241), or PDA (243) were capable of receiving "security messages of a primary security system in a first security domain," then it would not be necessary to combine them with a secondary conditional access server to begin with.

Because there is no express disclosure that the that media player (231), personal computer (233), access point (241), or PDA (243) in Figure 3 receive security messages of a primary security system in a first security domain, and because there are also implicit disclosures that would lead a POSITA to understand that media player (231), personal computer (233), access point (241), or PDA (243) have the capability of receiving said security messages, the undersigned concludes that these four devices are not "clearly link[ed] or associate[d]" to the claimed function, and thus are not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to the device of the user of Figure 10A, the specification describes that the user receives the entitlement management message requesting caching of a program. *Id.* at 14:41–44; *see also id.* at 15:3–5. Based on that, the undersigned concludes the device of the user of Figure 10A receives security messages. It is worth noting that Defendants do not appear to dispute that device of the user of Figure 10A is corresponding structure apart from its argument that it is not in the primary security system in a first security domain. As such, the undersigned concludes this passage describes that the device of the user of Figure 10A is corresponding structure that is "clearly link[ed] or associate[d]" to the claimed function. *Medtronic*, 248 F.3d at 1311.

With respect to the I/O Device(s) (110) (e.g., modem, or network interface) in Figure 1, the specification describes that Figure 1 depicts an "example of a typical computer system" and that "[t]ypically, the input/output devices 110 are coupled to the system through input/output controllers 109" and that the input/output devices may be "mice, keyboards, modems, network interfaces, printers, scanners, video cameras and other devices which are well known in the art." '236 Patent at 23:26, 23:50–54. In other words, Figure 1 depicts a generic computer system that is capable of being used in the present invention, but there is no disclosure in Figure 1 or the corresponding text that describes that the input/output devices 110 receive security messages from a "primary security system in a first security domain." *Medtronic*, 248 F.3d at 1311 (describing that the focus of the "corresponding structure" inquiry is not merely whether a structure is "capable of performing the recited function," but rather whether the corresponding structure is "clearly linked or associated with the [recited] function."). Therefore, the undersigned concludes that I/O Device(s) (110) (e.g., modem, or network interface) in Figure 1 are not "clearly link[ed] or associate[d]" to the claimed function, and thus are not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to the third group (secondary conditional access servers and associated components), the undersigned concludes that, as a general matter, a POSITA would understand that all secondary conditional access servers are corresponding structure. More specifically, as discussed above, corresponding structure is not limited to conditional access servers in the primary security domain, but rather includes conditional access servers not in the primary security domain. Given that, a POSITA would understand conditional access servers in the secondary security domain are corresponding structure.

Although not raised proposed as corresponding structure by either side, the undersigned concludes that the secondary CA server, and its description of receiving security messages in the specification, *e.g.*, 4:17–19, 4:25–27, 4:44–47, is also corresponding structure for this term. Each of these passages describe that the secondary CA server receives an entitlement control message. '236 Patent at 4:17–19 ("In one example of an embodiment, the method further includes: receiving, at the secondary CA server, an entitlement control message of the primary security system"), 4:25–27 (same), 4:44–47 ("In one example of an embodiment, the method further includes: receiving, at the secondary CA server, a first entitlement control message containing a first control word and content scrambled by the first control word"). From these disclosures, the undersigned concludes that a POSITA would understand that secondary CA server, and its description of receiving security messages in the specification, *e.g.*, 4:17–19, 4:25–27, 4:44–47 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to the components in Figure 2A, the specification describes that "secondary CA clients (e.g., 271. 273, . . . , 279) in the secondary security domain (261) may access the content secured in the secondary security domain under the control of the secondary CA server (255) ***in accordance with security messages provided by the primary security domain (251) to the secondary CA server (255)***." *Id.* at 7:25–31 (emphasis added). The specification further describes that secondary CA server (255) "is capable of processing the control information for conditional access provided by the primary CA server (253)" and "acts … as a control information provider of the secondary security domain (261)[.]" *Id.* at 7:33–39. The specification also describes that "[t]he secondary CA clients (e.g., 271, 273, . . . , 279) rely on the secondary CA server (255) to obtain the content. *Id.* at 7:31–33. From these disclosures, the undersigned concludes that a POSITA would understand that secondary CA server (255) in Figure 2A is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to bridge (259) in Figure 2A, the specification does not describe that bridge (259) receives security messages of a primary security system in a first security domain. Rather, the specification describes that "bridge (259) typically passes CA protected content from the primary security domain (251) to the secondary security domain (261)[,]" but that the secondary conditional access server receives security messages from the primary security domain. *Id.* at 7:22–31; *see also id.* at 7:44–47 ("[f]or example, in FIG. 2A, the bridge 259 may hand over the scrambled (encrypted) content to the secondary CA clients. To descramble (decrypt) the content, the secondary CA clients request information from the secondary CA server (255)."). Based on these disclosures, the undersigned concludes that bridge (259) is not "clearly link[ed] or associate[d]" to the claimed function, and thus is not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (281) in Figure 2B, the specification describes that secondary CA server (281) "processes security messages, such as CA messages from the primary security domain," which necessarily means that secondary CA server (281) receives security messages from the primary domain. '236 Patent at 8:4–6. Figure 2B also depicts that secondary CA server (281) receives security messages (CA messages).

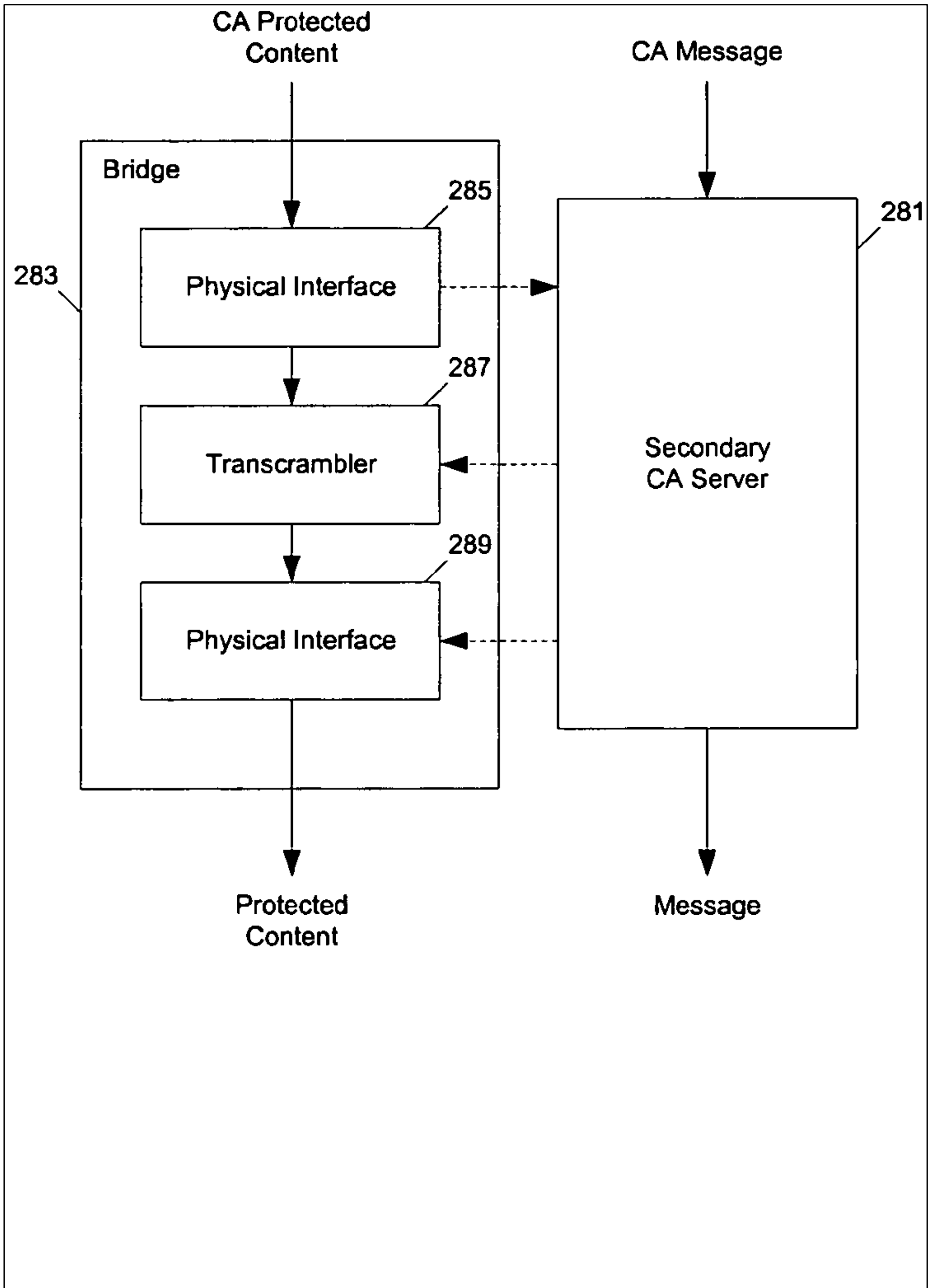

Fig. 2B

Physical interface (285) is part of bridge (283). *Id.* at Figure 2B. Figure 2B depicts bridge (283) and physical interface (285) do not receive any messages, let alone security messages. *Id.* The specification likewise does not disclose that bridge (283) and physical interface (285) receive security messages. *See* ’236 Patent at 8:3–61. Therefore, the undersigned concludes that bridge (283) and physical interface (285) are not “clearly link[ed] or associate[d]” to the claimed function, and thus are not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to receiving at a secondary CA server, as described in Figure 4, the specification describes that the secondary CA server depicted in Figure 4 decrypts the entitlement management message (EMM) and entitlement control message (ECM). *See, e.g.*, *id.* at 10:29–31, 11:3–7. In order to decrypt a EMM or ECM, the secondary CA server depicted in Figure 4 must first receive those security messages from a primary security server. From these disclosures, the undersigned concludes that the secondary CA server depicted in Figure 4 is “clearly link[ed] or associate[d]” to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

The depictions of secondary CA server (431) in Figure 5, secondary CA server (461) in Figure 6, secondary CA server (501) in Figure 7, secondary CA server (531) in Figure 8, and secondary CA server (561) in Figure 9 are nearly identical. Figure 5, for example, depicts that secondary conditional access server (431) receives EMM and ECMs, and are connected to network (439).

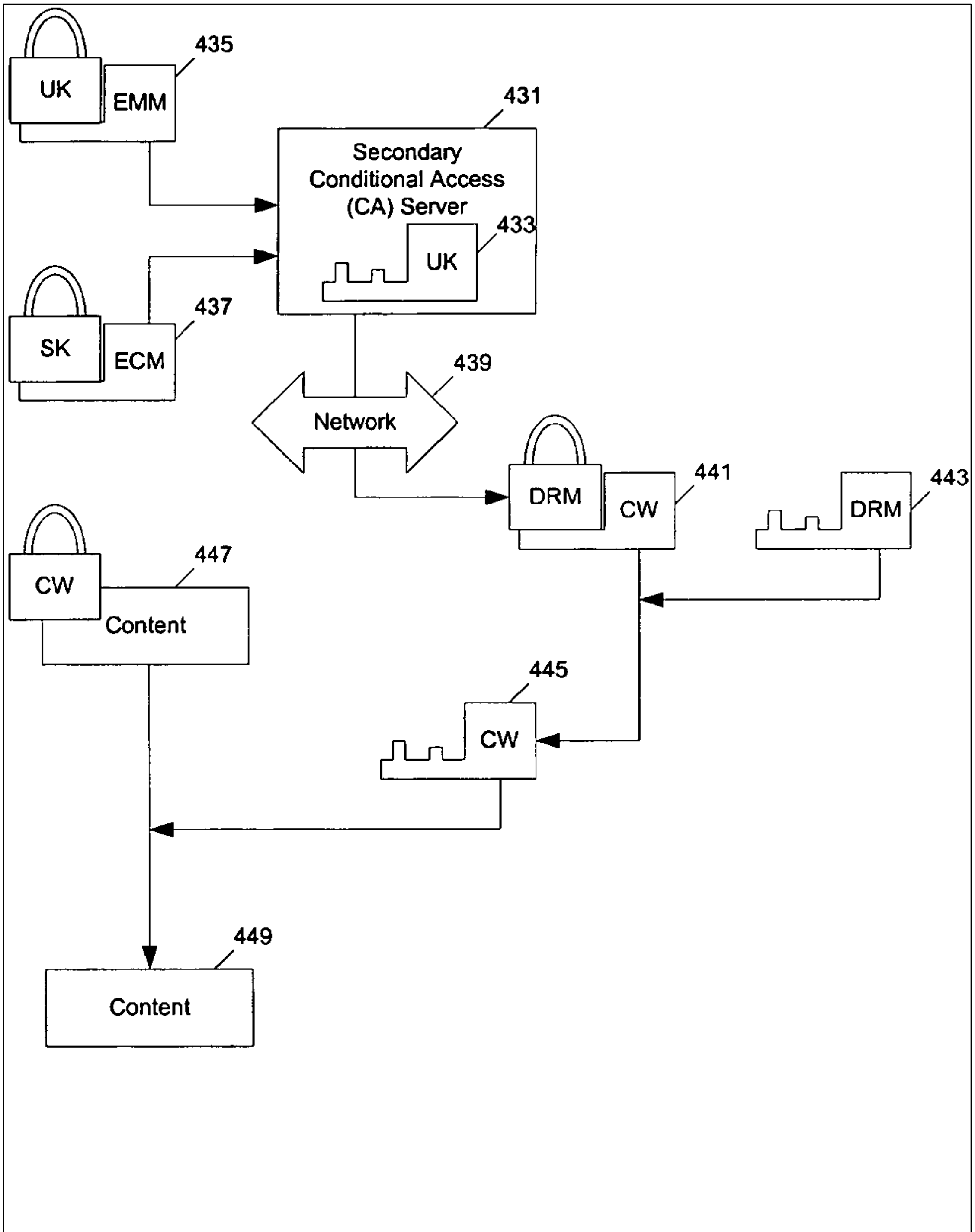

Fig. 5

’236 Patent at Figure 5; *see also id.* at 11:65–12:2 (“[i]n one embodiment of the present invention, the secondary CA server (431) uses both the ***data in the EMM received*** prior to the content reception and the ***data in the EMM received*** prior to the content consumption, if different, to determine the rights of the user for the service key." (emphases added)). Figures 6, 7, 8, and 9 also depict that secondary CA servers (461), (501), (531), and (561) receive EMM and ECMs, and are connected to networks (465), (505), (537), and (565), respectively. *Id.* at Figures 6, 7, 8, and 9; *see also id.* at 13:40–44 ("[i]n FIG. 8, the secondary CA server (531) ***receives the entitlement management message (EMM 541) and the entitlement control message (ECM$_a$ 543)*** which is to be decrypted using a service key (SK$_a$) provided by the EMM (541)." (emphasis added)); 14:17–21 ("[i]n FIG. 9, the secondary CA server (561) ***receives the broadcast, including the entitlement management message (EMM 571), the entitlement control message (ECMa 573)*** and the scrambled content (575)." (emphasis added)). From these disclosures, the undersigned concludes that secondary CA server (431) in Figure 5, secondary CA server (461) in Figure 6, secondary CA server (501) in Figure 7, secondary CA server (531) in Figure 8, and secondary CA server (561) in Figure 9 are "clearly link[ed] or associate[d]" to the claimed function, and thus are corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (772) in Figure 10C, the specification repeatedly expressly describes that it receives security messages from primary CA server (773). As a first example, the specification recites:

> In FIG. 10C, the authorization process is through the secondary CA server (772), which is a client of the primary CA server (773) … The secondary CA server (772) may forward, translate, and/or manage ***its authorization received from the primary CA server (773)*** into authorization for its clients, such as the media player (775).

Id. at 15:66–16:7 (emphasis added). As a second example, the specification similarly recites:

> If the secondary CA server (772) has not yet obtained the authorization, the secondary CA server (772) sends an authorization request (787) ***to the primary CA server (773), which can then provide an authorization message (781) to the secondary CA server (772)*** based on the identity of the secondary CA server (772) as a client of the primary CA server (773).

Id. at 16:56–62 (emphasis added). Figure 10C depicts authorization request (787) from secondary CA server (772) to primary CA server (773) and responsive authorization message (781) from the latter to the former.

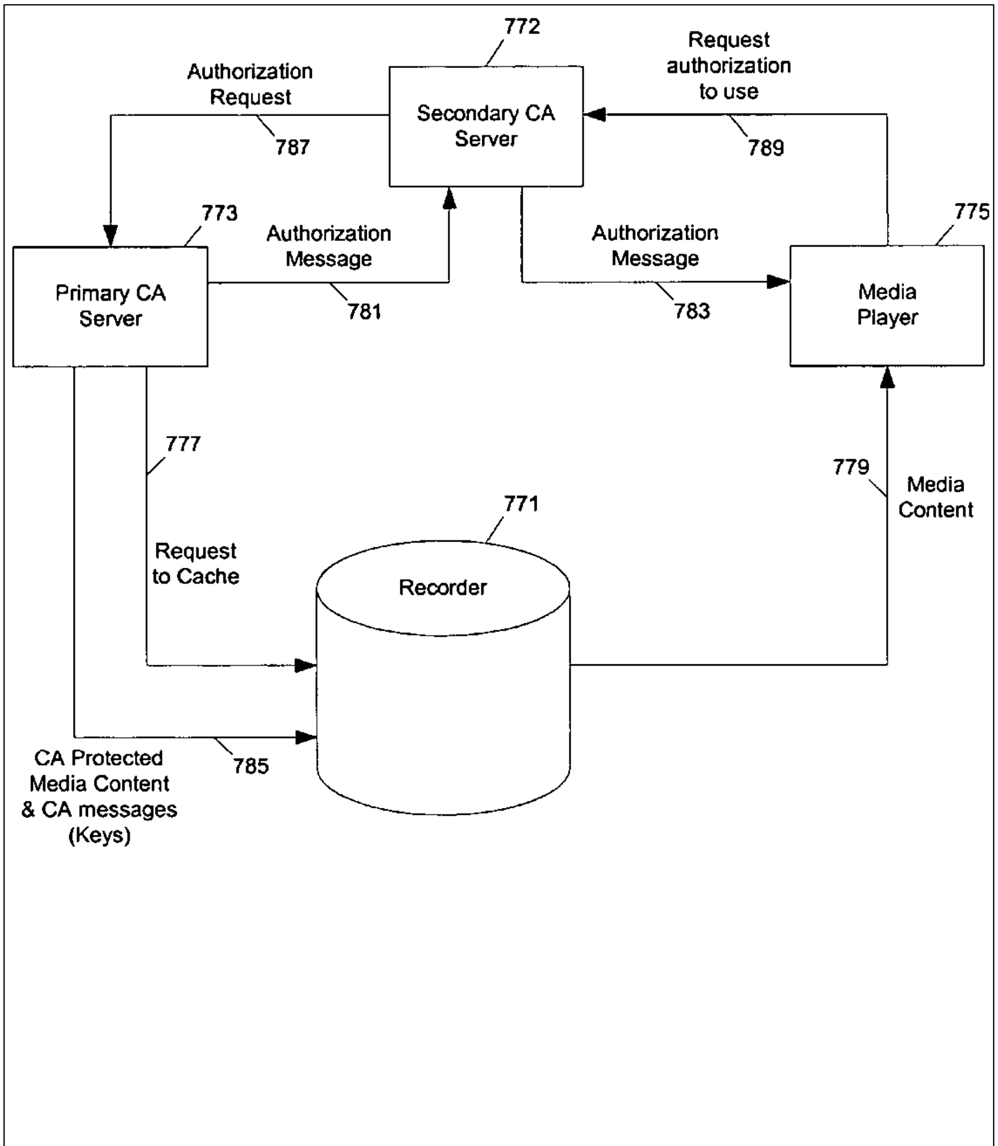

Fig. 10C

Based on these disclosures, the undersigned concludes that secondary CA server (772) in Figure 10C receives security messages of a primary security system in a first security domain and is corresponding structure that is "clearly link[ed] or associate[d]" to the claimed function. *Medtronic*, 248 F.3d at 1311.

Although not raised proposed as corresponding structure by either side, the undersigned concludes that media player (775) in Figure 10C is also corresponding structure for this term. The specification expressly discloses that media player (775) may receive security messages from the primary CA server via the secondary CA server. *Id.* at 16:37 ("[t]he ***secondary CA server (772) may forward***, translate, and/or manage ***its authorization received from the primary CA server (773)*** into authorization for its clients, such as the ***media player (775)***." (emphases added)); *see also id.* at 16:63–67 ("[t]he ***secondary CA server then sends an authorization message (783) to the media player (775)*** based on the identity of the media player (775) as a client of the secondary CA server (772), ***in accordance with the authorization message (781) received from the primary CA server (773)***." (emphases added)). A POSITA would understand that "forwarding" an authorization message from primary CA server (773) to media player (775) via the secondary CA server (772) means that the exact same authorization message that primary CA server (773) sent was received by media player (775). Based on these disclosures, the undersigned concludes that media player (775) in Figure 10C receives security messages of a primary security system in a first security domain and is corresponding structure that is "clearly link[ed] or associate[d]" to the claimed function. *Medtronic*, 248 F.3d at 1311.

With respect to bridges (603) and secondary CA servers (609) in Figures 11, 12, 13, and 14, the depictions of bridge (603) and secondary CA server (609) in Figure 11 are nearly identical. Figure 11 for example, depicts that secondary conditional access server (609) receives EMM (615) / (627).

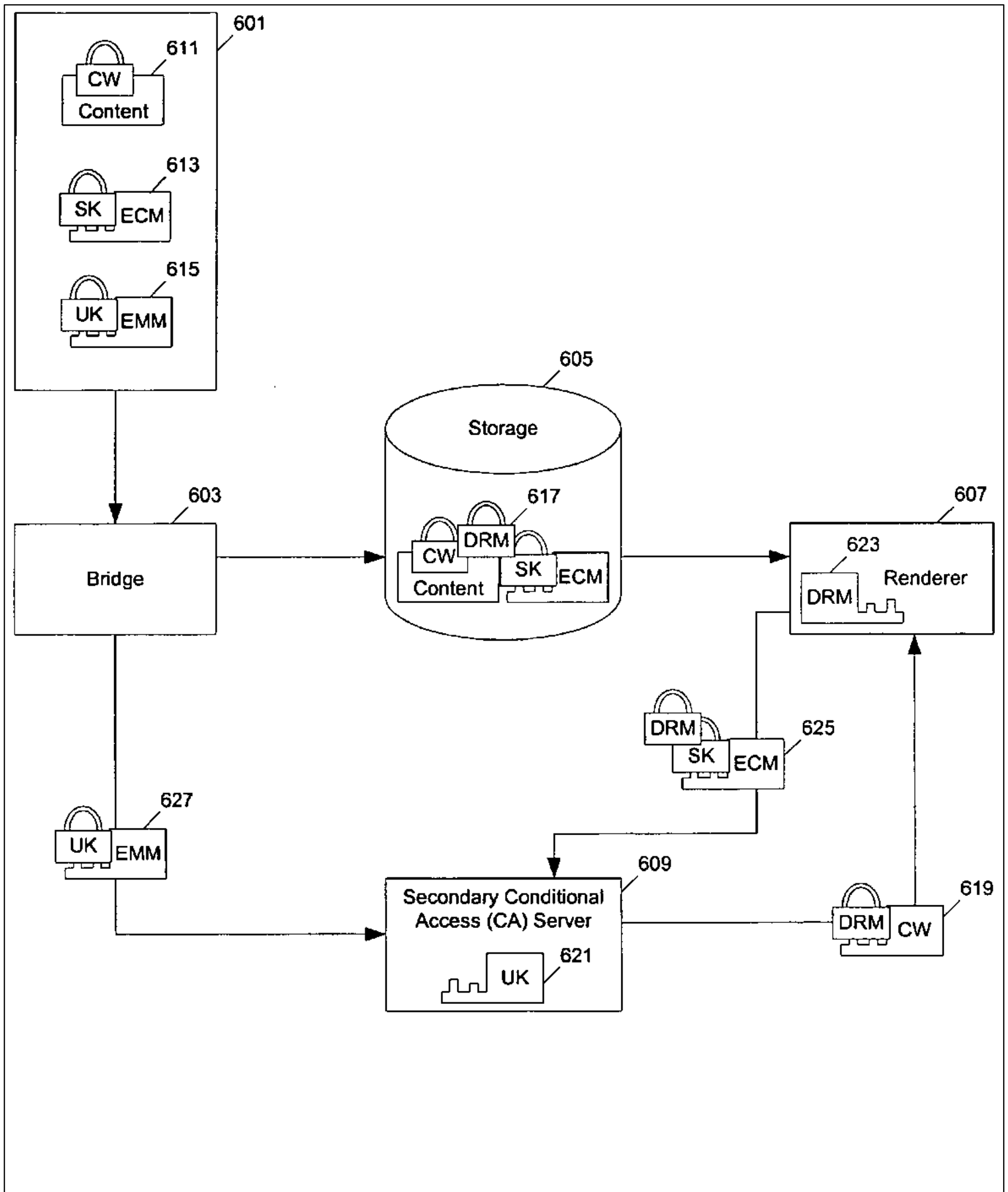

Fig. 11

The specification describes that bridge (603) in Figure 11 "***interfaces with the primary security system*** to receive the broadcast feed (601) ***including the user key (UK) protected entitlement management message (EMM 615)***, the service key (SK) protected entitlement control message (ECM 613) and the control word (CW) scrambled content (611)." '236 Patent at 17:55–57 (emphases added). The specification describes that the "bridge (603) sends the entitlement management message (627) to the secondary CA server (609)[.]" *Id.* at 17:66–67.

Similarly, Figures 12, 13, and 14 depict that bridge (603) receives broadcast feed (601), which includes ECM (613) and EMM (615), and that secondary CA server (609) receives, *inter alia*, EMM (627). *Id.* at Figures 12, 13, 14; 19:30–34 (Figure 12), 20:11–15 (Figure 13), 20:42–46 (Figure 16).

Based on these disclosures, the undersigned concludes that both bridge (603) and secondary CA server (609) in Figures 11, 12, 13, and 14, receive security messages of a primary security system in a first security domain and is corresponding structure that is "clearly link[ed] or associate[d]" to the claimed function. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (701) of Figure 15, the specification describes that "Operation 701 receives, at a secondary CA server, entitlement management messages of a primary security system (e.g., digital cable television, or satellite television, or a digital radio broadcast system)." '236 Patent at 21:30–33. Based on this disclosure, the undersigned concludes that secondary CA server (701) of Figure 15 receives security messages of a primary security system in a first security domain and is corresponding structure that is "clearly link[ed] or associate[d]" to the claimed function. *Medtronic*, 248 F.3d at 1311.

Although not raised proposed as corresponding structure by either side, the undersigned concludes that secondary CA server in Figure 16 is also corresponding structure for this term. The specification describes the Figure 16 depicts "a detailed method of a secondary CA server according to one embodiment of the present invention." '236 Patent at 21:55–56. Figure 16 depicts that in Operation 801, the secondary CA server checks whether it has received an EMM. *Id.* at 21:59–61. If the secondary CA server received the EMM, then Operation 803 processes the

EMM. *Id.* at 21:61–63. Similarly, Figure 16 depicts that in Operation 825, the secondary CA server checks whether it has received an ECM. ’236 Patent at 22:32–33. If the secondary CA server received the ECM, then Operation 827 determines the decryption key of the ECM. *Id.* at 22:61–63. Based on this disclosure, the undersigned concludes that secondary CA server of Figure 16 receives security messages of a primary security system in a first security domain and is corresponding structure that is “clearly link[ed] or associate[d]” to the claimed function. *Medtronic*, 248 F.3d at 1311.

Finally, the fourth group comprises satellite and cable TV related components. Figure 3 depicts that cable primary CA server (228) is connected to cable headend (215), which, in turn, is connected to cable TV bridges (217, 219). ’236 Patent at 9:17–20. The specification describes that cable TV bridges (217, 219) receive entitlement management messages and entitlement control messages. *Id.* at 9:20–23. The specification describes that these security messages, along with the protected content, are received by cable TV secondary CA server (225). *See id.* at 9:23–28. Therefore, the specification describes and Figure 3 depicts that cable headend (215), cable TV bridges (217, 219), and cable TV secondary CA server (225) all receive security messages from a cable primary CA server (228).

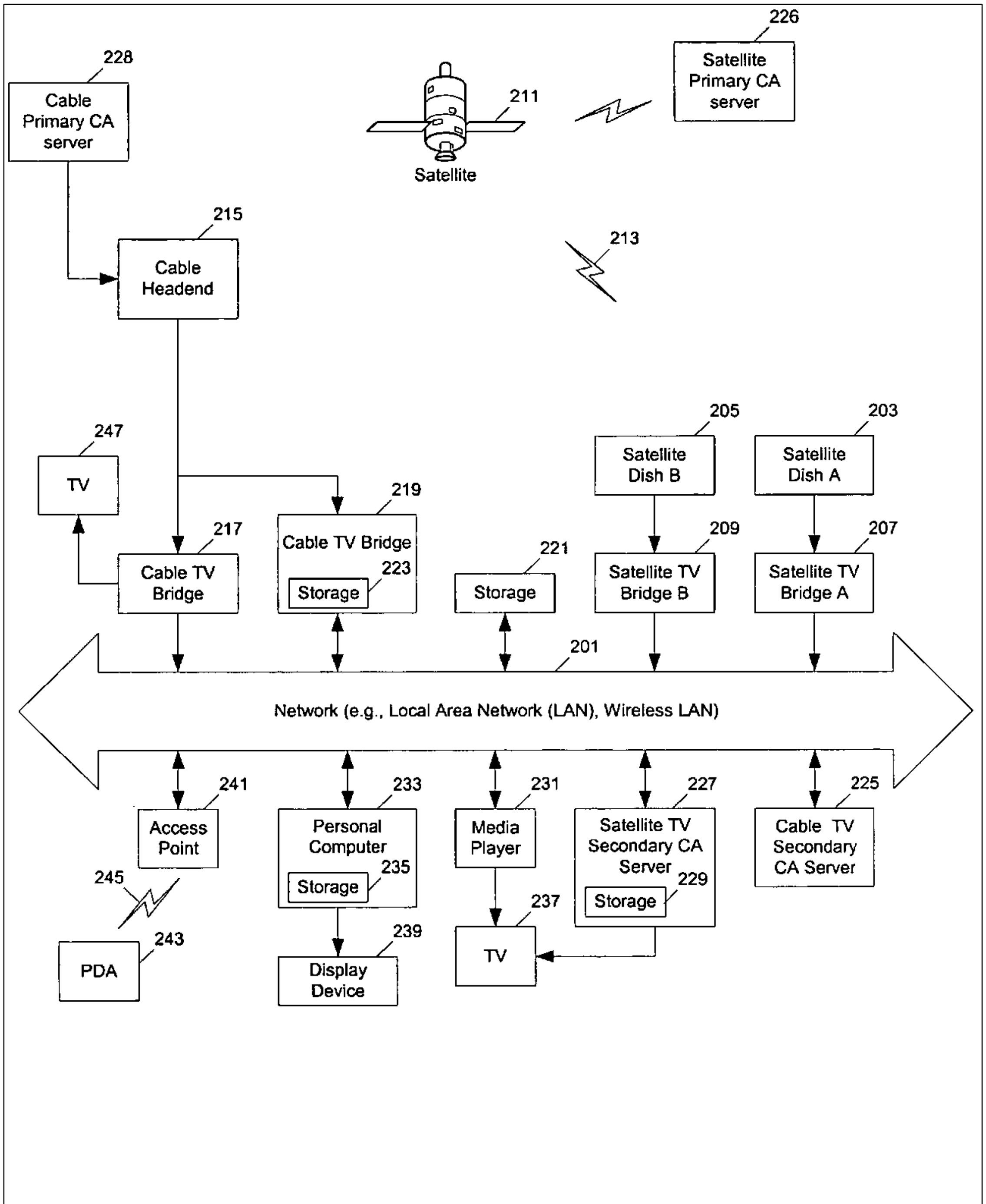

Fig. 3

Similarly, the specification describes and Figure 3 depicts that satellite primary CA server (226) communicates with satellite (211), which, in turn, communicates with satellite dishes A and B (203, 205), which communicate with satellite TV bridges A and B (207, 209), which communicate with satellite TV secondary CA server (227). *Id.* at 8:63–66, 9:56–59, 9:53–56, 9:35–40, 10:4–20, Figure 3. Therefore, the specification describes and Figure 3 depicts that satellite TV bridges A and B (207, 209) and satellite TV secondary CA server (227) all receive security messages from a satellite primary CA server (226).

Based on these disclosures, the undersigned concludes that satellite dishes (203, 205) satellite TV bridges (207, 209), satellite TV secondary CA server (227), cable headend (215), cable TV bridges (217, 219), and cable TV secondary CA server (225) receive security messages of a primary security system in a first security domain and are corresponding structure that are "clearly link[ed] or associate[d]" to the claimed function. *Medtronic*, 248 F.3d at 1311.

Therefore, for the reasons described above, the undersigned recommends the following construction:

This term is subject to 35 U.S.C. § 112, ¶ 6. **<u>Function:</u>** "receiving at a conditional access server, security messages of a primary security system in a first security domain" **<u>Structure:</u>** • receiving devices (*e.g.*, set-top boxes with a smart card), and their description in the specification, *e.g.*, at 2:6–7, 2:14–19; set-top box (STB), including the tuner portion, and its description in the specification, *e.g.*, at 2:20–24; set top box (257) in Figure 2A, and its description in the specification; the device of the user of Figure 10A, and its description in the specification; media player (775) in Figure 10C, and its description in the specification. • secondary CA server, and its description of receiving security messages in the specification, *e.g.*, 4:17–19, 4:25–27, 4:44–47; secondary CA server (255) in Figure 2A, and its description in the specification; secondary CA server (281) in Figure 2B, and its description in the specification; receiving at a secondary CA server, as described in Figure 4, *e.g.*, at 10:25–11:25; secondary CA servers in Figure 5 (431), Figure 6 (461), Figure 7 (501), Figure 8 (531), and Figure 9 (561), and their descriptions in the specification; secondary CA server (772) in Figure 10C, and its description in the specification; bridges (603) and secondary CA servers (609) in FIGS. 11, 12, 13, and 14, and their description in the specification; secondary CA server of Figure 15 (701),

and its description in the specification, *e.g.*, at 21:28–36; secondary CA server of Figure 16, and its description in the specification. • Satellite and cable TV related components, i.e., satellite dishes (203, 205), satellite TV bridges (207, 209), satellite TV secondary CA server (227), cable headend (215), cable TV bridges (217, 219), cable TV secondary CA server (225), and their description in the specification; • and equivalents thereof.

E. Term #5: "means for processing the security messages on the conditional access server"

Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
#5: "means for processing the security messages on the conditional access server" U.S. Patent No. 8,291,236, Claim 100 Proposed by Both Sides	This term is subject to 35 U.S.C. § 112, ¶ 6. **<u>Function:</u>** "processing the security messages on the conditional access server" **<u>Structure:</u>** hardware and software of digital data processing system, e.g., computer system (101), of FIG. 1, and their description in the specification, e.g., at 23:21-24:48; the secondary CA server, and its description of processing security messages in the specification, e.g., at 3:20-32; 3:55-58, 4:4-16, 4:20-24, 4:28-43, 4:47-54, 5:1-11, 5:19-33, 5:48-59; secondary CA server (255) in FIG. 2A, and its description in the specification; secondary CA server (281) in FIG. 2B, and its description in the specification, e.g., at 8:6-38; satellite TV bridges (207, 209), cable TV bridges (217, 219), cable TV secondary CA server (225), satellite TV secondary CA server (227), media player (231), personal computer	**<u>Function:</u>** (same) **<u>Structure:</u>** hardware and software of digital data processing system, *e.g.*, computer system (101) of FIG.1 and its description in the specification, i.e., 23:26-38; satellite TV bridges (207, 209), cable TV bridges (217, 219); processing of security messages on the conditional access server in a first security domain, as described in FIG. 4 (10:25-41, 10:53-11:25) and FIG. 10A (14:39-15:2).

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	(233), or PDA (243) in FIG. 3, and their description in the specification; processing of security messages on the conditional access server, as described in FIG. 4 (10:25-41, 10:53-11:25), FIG. 5 (431), FIG. 6 (461), FIG. 7 (501), FIG. 8 (531), FIG. 9 (561), FIG. 10A (14:45-50, 14:58-15:39), FIG. 10C (772), FIG. 11 (609), FIG. 12 (609), FIG. 13 (609), FIG. 14 (609), FIG. 15 (703), or FIG. 16 (21:55-23:20), and their description in the specification; and equivalents thereof.	

The Parties' Positions:

The parties again agree that this term is subject to § 112, ¶ 6 and what the claimed function is, but disagree with the corresponding structure encompasses. Opening at 25. Defendants contend that their proposed structure corresponds to the claimed function. *See id.*

Defendants contend that, as was the case for the previous term, "the claimed function is processing the security messages on the conditional access server, which is the same conditional access server identified in the term above that receives security message of the ***primary*** security system in the first security domain." *Id.* (emphasis in Defendants' brief). As such, Defendants contend that "only the structures linked to the primary security system in the first security domain correspond to the claimed function for this term." *Id.* Defendants contend that, by contrast, Plaintiff's proposed construction again improperly "capture[s] structures present only in the secondary security domain that do not correspond to the claimed function and should be rejected." *Id.*

Defendants contend that "the secondary CA server and clients of the secondary CA servers such as media player 231, personal computer 233, access point 241, and PDA 243" in Plaintiff's proposed construction are not corresponding structure because they are in the secondary security domain. *Id.* Defendants contend that "generic computer system in Figure 1" is also not corresponding structure because "the specification does not link to the claimed function of a conditional access server processing messages." *Id.*

In its response, Plaintiff contends that Defendants again improperly limit the corresponding structure to components in the primary security domain. Response at 24. Plaintiff contends that the claim language and intrinsic evidence does not support such a limited scope. *Id.* Plaintiff further contends that Defendants misunderstand Figure 3. *Id.*

Plaintiff contends that the specification "teaches that digital processing systems, such as a computer system, can implement a secondary CA server." *Id.* (citing '236 Patent at 23:21–48, Figure 1). For example, Plaintiff contends that "hardware and software of digital data processing systems, *e.g.*, the computer system (101) of Fig. 1, are thus structures to process security messages on the CA server. *Id.* (citing '236 Patent at 23:35–37). Plaintiff contends that the specification describes that "[t]echniques and operations for processing, as described in the patent, 'may be carried out in a computer system or other data processing system in response to its processor, such as a microprocessor, executing sequences of instructions.'" *Id.* (citing '236 Patent at 24:11–14, 4:4–16, 4:20–24, 4:28–43, 4:44–54, 4:59–5:59, 11:30–34, 17:44–46).

Plaintiff contends that the specification describes that the cable TV secondary CA server "processes security messages by descrambling and decrypting broadcasts containing security messages." *Id.* at 25 (citing '236 Patent at 9:35–40). Plaintiff also contends that the specification describes the satellite TV secondary CA server also "processes security messages by having data representing the subscriber and providing authorization services for the satellite TV bridges." *Id.* (citing '236 Patent at 9:66–10:1). Plaintiff contends that a "PDA, the media player, or 'any device convenient to the user' may also process security messages on a CA server to authenticate and authorize the playback of content "in accordance with the rights of the subscriber." *Id.* (citing '236 Patent at 9:41–43). Plaintiff also contends that the "access point may process security messages to authorize other devices, including the PDA, a palm computer, a notebook computer, or a cellular phone." *Id.* (citing '236 Patent at 9:2–10).

With respect to Figure 10A, Plaintiff contends that Defendants "exclude[], without any reasoning, the full discussion of structure corresponding to Fig. 10A[.]" (citing '236 Patent at 15:3–17, 15:18–27, 15:28–39).

In its reply, Defendants contend that Plaintiff improperly "identifies all of the generalized structures in Figure 1 and in the specification that are untethered to the claimed function." Reply at 12. Defendants contend that "none of this hardware is capable of performing the subsequent function of generating access controlled data that transmitted to a secondary conditional access client, as required by subsequent limitations in Claim 100." *Id.*

Defendants contend that "[n]ot a single embodiment in the '236 Patent links 'media player (231), personal computer (233), access point (241), or PDA (243) in FIG. 3' with the claimed function of processing security messages on the conditional access server." *Id.* at 12–13. Defendants contend that the remaining structures "merely … relate in some way to security but are not tied to the claimed function and must be rejected." *Id.* at 13.

In its sur-reply, Plaintiff contends that Defendant, in its reply, "introduces a new limitation to justify excluding structures clearly linked to the 'processing' function[,]" namely, that Plaintiff's proposed structure do not "generat[e] access controlled data." Sur-Reply at 13. Plaintiff contends that the claimed function does not require generating access controlled data and that Defendants' justification that a subsequent limitation requires limiting the corresponding structure for this limitation is "without explanation or support." *Id.*

Plaintiff contends that Defendants undermine their argument that the "hardware" of the digital data processing system is not corresponding structure as they include hardware and software of digital data processing system" in their proposed structure. *Id.*

With respect to media player (231), personal computer (233), and PDA (243), Defendants do not address, let alone refute, Plaintiff's cited support. *Id.* Rather, Plaintiff contends that Defendants "summarily conclude[] that these structures are not tied to the claimed function, 'nor do they perform the subsequent function of generating access controlled data.'" *Id.*

<u>The Undersigned's Analysis</u>

The parties agree that (1) § 112, ¶ 6 applies for this term and that (2) the claimed function is to "processing the security messages on the conditional access server."

As was the case for the previous term, Defendants assert that the corresponding structure for this term is limited to components in the primary security domain. Opening at 25 ("the claimed function is processing the security messages on the conditional access server, which is the same conditional access server identified in the term above that receives security message of the ***primary*** security system in the first security domain." (emphasis in Defendants' brief)). But, as was the case for the previous term, Defendants' interpretation is incorrect for the reasons described above. As such, the corresponding structure is ***not*** limited only to components in the primary security domain.

As was the case for the previous terms, the corresponding structure from Plaintiff's proposed corresponding structure can be grouped into four groups (Plaintiff's proposed structure follows the "*i.e.*" in each group below):

1. User devices, *i.e.*, media player (231), personal computer (233), or PDA (243) in FIG. 3, and their description in the specification;
2. Hardware and software of digital data processing system, *e.g.*, computer system (101), of FIG. 1, and their description in the specification, e.g., at 23:21-24:48;
3. Secondary conditional access (CA) servers, *i.e.*,
    a. the secondary CA server, and its description of processing security messages in the specification, e.g., at 3:20–32; 3:55–58, 4:4–16, 4:20–24, 4:28–43, 4:47–54, 5:1–11, 5:19–33, 5:48–59;
    b. secondary CA server (255) in FIG. 2A, and its description in the specification;
    c. secondary CA server (281) in FIG. 2B, and its description in the specification, e.g., at 8:6-38;
    d. processing of security messages on the conditional access server, as described in FIG. 4 (10:25-41, 10:53-11:25), FIG. 5 (431), FIG. 6 (461), FIG. 7 (501), FIG. 8 (531), FIG. 9 (561), FIG. 10A (14:45-50, 14:58-15:39), FIG. 10C (772), FIG. 11 (609), FIG. 12 (609), FIG. 13 (609), FIG. 14 (609), FIG. 15 (703), or FIG. 16 (21:55-23:20), and their description in the specification; and equivalents thereof.
4. Satellite and cable TV related components, *i.e.*, satellite TV bridges (207, 209), cable TV bridges (217, 219), cable TV secondary CA server (225), satellite TV secondary CA server (227).

With respect to media player (231), personal computer (233), or PDA (243), there does not appear to be any disclosure that these devices "process[] the security messages on the conditional access server." The specification mentions each of these devices only a few times. The most relevant passage for these devices implies that media player (231), personal computer (233), or PDA (243) do not "process[] the security messages." *Id.* 9:23–28 ("***Under the control and with the help of the cable TV secondary CA server (225), the media content can be secured on a storage (e.g., 221, 223 or 235) for access*** by various devices which can play back the media content, such as the personal computer (233) the media player (231), or the PDA (243)." (emphasis added)). Rather, this passage implies that these devices rely on cable TV secondary CA server (225) to process the security messages instead of processing them those security messages themselves. *Id.*

Another passage also describes that "satellite TV secondary CA server (227) may store the protected media content on its storage (229) or on other storage devices on the network, such as the storage (235) of the personal computer (233) or the storage (221)." *Id.* at 9:52–55. But all this passage describes is that satellite TV secondary CA server (227) controls the storage of protected media content and that that storage may be distributed. Similarly, another passage describes that protected content may be stored for later playback using one of these devices. *Id.* at 9:43–49 ("[f]or example, with a subscription to only one simultaneous use, a user may choose to use cable TV bridge (217) to receive the broadcast and view the program on the TV (247), or use cable TV bridge (219) to record the program on the storage (223) for playing back at a different time using the PDA (243), the personal computer (233) or the media player (231)."). But this passage does not describe that these devices "process[] the security messages on the conditional access server."

Another passage describes that "secondary CA server may be integrated with a bridge, a storage device, a renderer (e.g., PDA 243, personal computer 223, media player 231), or a combination of them." *Id.* at 10:12–15. But the fact that one of these devices can be integrated into a secondary CA server does not mean that these devices "process[] the security messages on the conditional access server." In other words, the disclosure that one of these devices can be integrated into a component that "process[es] the security messages," that does not mean that the device is also able to or acquires the capability to "process[] the security message." Rather, it only means that the ***combined*** component has both the capabilities of the secondary CA server and devices. In other words, if media player (231), personal computer (233), or PDA (243) were capable of processing "security messages of a primary security system in a first security domain," then it would not be necessary to combine them with a secondary conditional access server to begin with.

Finally, some passages merely describe that these devices may display the content on a display. *See, e.g.*, '236 Patent at 9:28–31 ("The personal computer (233) typically displays the video content on the display device (239), such as a Cathode Ray Tube (CRT) monitor or a flat Liquid Crystal Display (LCD) panel."); 9:31–32 ("The media player (231) typically presents the media content on a television set (237)."). But those passages plainly do not describe that those devices process security messages.

Plaintiff cites two passages in support of including these devices as corresponding structure. Response at 25 (citing '236 Patent at 9:41–43, 9:2–10). But after reviewing both passages, the undersigned concludes that neither passage "clearly links or associates" these devices to the claimed function. *Medtronic*, 248 F.3d at 1311. The first passage recites that "[w]hen authorized, the content can be recorded and played back at any time on any device convenient to the user in accordance with the rights of the subscriber." '236 Patent at 9:41–43. This passage simply describes that authorized content may be stored for later playback. It does not, however, describe that media player (231), personal computer (233), or PDA (243) "process[] the security messages;" in fact, this passage does not even mention these devices at all.

The second passage simply describes that an access point (241) provides network connectivity for these devices. *Id.* at 9:2–10. This passage does not describe authorization, security messages, *etc.*, let alone that these devices "process[] the security messages on the conditional access server."

Therefore, the undersigned concludes that media player (231), personal computer (233), or PDA (243) are not "clearly link[ed] or associate[d]" to the claimed function, and thus are not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to hardware and software of digital data processing system, *e.g.*, computer system (101) of Figure 1, the undersigned concludes that computer system (101) is not "clearly link[ed] or associate[d]" to the claimed function, although it is somewhat of a close call. Plaintiff cites to portions of Columns 23 and 24. Response at 24 (citing '236 Patent at 23:21–48, 24:11–14). One passage in these columns describes that "[i]n one embodiment of the present invention, various components, such as a bridge, a renderer, a secondary CA server, a storage, or various different combinations of these components, can be implemented using a digital data processing system, such as a computer." '236 Patent at 23:21–25. But this passage does not disclose that the present invention—specifically, the "processing the security messages on the conditional access server"—can be implemented specifically in computer system (101). Another passage recites that "FIG. 1 shows one example of a typical computer system which ***may be used with the present invention***." *Id.* at 23:26–27 (emphasis added). This passage recites that computer system (101) may be "***used with*** the present invention[,]" and not that computer system (101) "***implements*** the present invention" or "***used in*** the present invention." In other words, this passage could be describing that computer system (101) may be used alongside the present invention and not as part of the present invention. And even if it is used as part of the present invention, there is no disclosure that computer system (101) is "clearly link[ed] or associate[d]" with "processing the security messages." *Medtronic*, 248 F.3d at 1311 ("[t]he focus of the 'corresponding structure' inquiry is … whether the corresponding structure is 'clearly linked or associated with the ***[recited] function***.'" (emphasis added)). Another passage recites that:

> While FIG. 1 shows that the non-volatile memory is a local device coupled directly to the rest of the components in the data processing system, it will be appreciated that the present invention may utilize a non-volatile memory which is remote from the system, such as a network storage device that is coupled to the data processing system through a network interface such as a modem or Ethernet interface.

Id. at 23:63–24:2. But this passage appears to describe that storage for the computer system (101) may be distributed, *e.g.*, as depicted in Figure 3, rather than describing that computer system (101) "process[es] the security messages."

Finally, while computer system (101) may be capable of performing the claimed function, the focus of the "corresponding structure" inquiry is not merely whether a structure is "capable of performing the recited function," but rather whether the corresponding structure is "clearly linked or associated with the [recited] function." *Medtronic*, 248 F.3d at 1311.

With respect to various secondary CA servers, as general matter, the parties' do not appear to dispute that conditional access servers "process[] the security messages." Rather, Defendants attempt to limit the corresponding structure to conditional access servers located in the primary security domain, which the undersigned rejects for the reasons described above.

With respect to the first secondary CA server (described at *e.g.*, at 3:20–32; 3:55–58, 4:4–16, 4:20–24, 4:28–43, 4:47–54, 5:1–11, 5:19–33, 5:48–59), some of the cited passages disclose that the secondary CA server "process[es]" security messages." *See, e.g.*, '236 Patent at 3:20–32 (describing that "the secondary CA server tries to recover the protected content," which necessarily requires processing security messages), 3:55–58 ("the second CA server translates authorization to access the content"), 4:4–16 ("secondary CA server … process[es] entitlement management messages from a primary CA server"), 4:20–24 ("processing the entitlement control message to obtain a control word of the primary security system"), 4:28–43 ("processing the entitlement control message on the secondary CA server"), 4:47–54 ("generating a second entitlement control message containing a second control word that is different from the first control word; and descrambling the content using the first control word").

On the other hand, the undersigned concludes the passages in Column 5 are not "clearly link[ed] or associate[d]" to the claimed function. *Medtronic*, 248 F.3d at 1311. The first passage discloses that "the access controlled format protects access to data using a digital rights management system" and descrambling, but does not describe that the secondary CA server performs those actions, let alone that it "process[es]" security messages." *Id.* at 5:1–11. The second passage describes descrambling media control using the control word and "storing the media content in a storage under protection of a secondary security system." *Id.* at 5:19–22. This passage also describes that the "entitlement control message is sent from the secondary CA client to the secondary conditional server[.]" *Id.* at 5:23–33. But this passage does not describe that the secondary CA server "process[es]" security messages." *Id.* at 5:19–33. The third passage describes that "the second entitlement control message is encrypted" and that the content is descrambled and rescrambled, but does not specify which component performs those actions. *Id.* at 5:48–59.

Therefore, the undersigned concludes that the secondary CA server (described at *e.g.*, at 3:20–32; 3:55–58, 4:4–16, 4:20–24, 4:28–43, 4:47–54) is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (255) in Figure 2A, the specification describes that it is "capable of processing the control information for conditional access provided by the primary CA server (253)." *Id.* at 7:33–37. With respect to secondary CA server (281) in Figure 2B, the specification expressly describes that it "processes security messages." *Id.* at 8:4–6; *see also id.* at 8:6–38. Based on these disclosures, the undersigned concludes that secondary CA server (255) and secondary CA server (281) are both corresponding structure that are "clearly link[ed] or associate[d]" to the claimed function. *Medtronic*, 248 F.3d at 1311.

With respect to the secondary CA server depicted in Figure 4, the specification describes that secondary CA server "process[es] security messages" when, for example, it "performs EMM decryption (321)" or it "performs ECM decryption (323)." '236 Patent at 10:31–34, 10:53–55. With respect to the secondary CA server (431) depicted in Figure 5, the specification describes that the secondary CA server "process[es] security messages" when, for example, it "may further determine the rights according to the data in the EMM for the current time period" or it "uses only the data in the EMM at the time of recording to determine the rights to the recorded contents." *Id.* at 12:6–9, 12:12–14. With respect to the secondary CA server (461) depicted in Figure 6, the specification describes that the secondary CA server "process[es] security messages" when, for example, it uses "user key (463) to decrypt the encrypted entitlement management message (EMM 471) and the encrypted entitlement control message (ECM 473) and the scrambled content (475)." *Id.* at 12:33–37. With respect to the secondary CA server depicted in Figure 7, the specification describes that secondary CA server (501) "process[es] security messages" when, for example, it "decodes the entitlement management message (EMM 507) and the entitlement control message (ECM, 509)[.]" *Id.* at 12:59–61. With respect to the secondary CA server (431) depicted in Figure 8, the specification describes that the secondary CA server (531) "process[es] security messages" when, for example, it "decrypts the EMM (541) using the user key (533) to obtain the service key (SK) and then further decrypts the ECM (543) using the service key (SK) and obtains the control word (CW)" or "decode[s] the ECM, (545) using the service key SK (535) to retrieve the control word in the ECM (545)[.]" *Id.* at 13:44–47, 13:59–62. With respect to the secondary CA server depicted in Figure 9, the specification describes that the secondary CA server (561) "process[es] security messages" when, for example, it uses "the user key (563) to access the data in EMM (571) (e.g., recovering the service key), to access the data in ECM (573) (e.g., recovering the control word), and to descramble the content (575)." *Id.* at 14:21–25. With respect to the secondary CA server depicted in Figure 10A, the specification describes that the secondary CA server "process[es] security messages" when, for example, it "can descramble the program for playback (747)." *Id.* at 14:67–15:2. With respect to the secondary CA server depicted in Figure 10C, the specification describes that the secondary CA server (772) "process[es] security messages" when, for example, it "may forward, translate, and/or manage its authorization received from the primary CA server (773) into authorization for its clients, such as the media player (775)." *Id.* at 16:3–7. With respect to the secondary CA server depicted in Figure 11, the specification describes that the secondary CA server (609) "process[es] security messages" when, for example, it "determines the entitlement of the subscriber to the content from the entitlement management message (627)[,]" "authorizes the bridge (603) to record the content in accordance with the entitlement of the EMM (627)[,]" or "decodes the entitlement control message (625) and releases the control word (619) only when the access criteria are satisfied." *Id.* at 18:2–4, 18:21–25, 18:48–50. With respect to the secondary CA server depicted in Figure 12, the specification describes that the secondary CA server (609) "process[es] security messages" when, for example, it "recovers the control word (641) for descrambling the content." *Id.* at 19:34–36. With respect to the secondary CA server depicted in Figure 13, the specification describes that the secondary CA server (609) "process[es] security messages" when, for example, it "extracts the control word (641) from the ECM (625) and EMM (627) for the bridge (603)." *Id.* at 20:15–18. With respect to the secondary CA server depicted in Figure 14, the specification describes that the secondary CA server (609) "process[es] security messages" when, for example, it "decrypts the ECM (625) and generates the local ECM, (651)" or "may encrypt the entitlement control message so that the local entitlement control message can only be decrypted using the user key (621)." *Id.* at 20:45–48, 20:54–57. With respect to the secondary CA server depicted in Figure 15, the specification describes that the secondary CA server "process[es] security messages" when, for example, it "processes the entitlement management messages." *Id.* at 21:36–37. With respect to the secondary CA server depicted in Figure 16, the specification describes that the secondary CA server "process[es] security messages" when, for example, it "extract[s] the entitlement (such as the service key)" from the EMM, "decrypt[s] the substitutive ECM[,]" or "processes the scrambled content." *Id.* at 21:59–66, 22:62–65.

Therefore, the undersigned concludes that the processing of security messages on the conditional access server, as described in Figures 4, 5, 6, 7, 8, 9, 10A, 10C, 11, 12, 13, 14, 15, and 16 are "clearly link[ed] or associate[d]" to the claimed function, and thus are corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to cable TV secondary CA server (225) and satellite TV secondary CA server (227) depicted in Figure 3, as described above, the specification generally consistently describes secondary CA servers as "processing security messages." With respect to the former, the specification describes that cable TV secondary CA server (225) controls securing media content onto storage, which necessarily requires "processing security messages." *Id.* at 9:24–27. With respect to the latter, the specification appears to describe that satellite TV secondary CA server (227) is the satellite equivalent of cable TV secondary CA server (225). *See, e.g.*, 8:62–9:14, 9:50–10:3. Furthermore, the specification describes that satellite TV secondary CA server (227) "may store the protected media content on its storage (229) or on other storage devices on the network, such as the storage (235) of the personal computer (233) or the storage (221)." *Id.* at 9:52–56. In addition, the specification describes, in connection with Figure 3, that secondary CA server is "used to provide services to a plurality of devices connected to a network (201), such as a local area network (LAN) or a wireless LAN." *Id.* at 8:66–9:2. Based on these specific disclosures and the more general disclosures above, the undersigned concludes that satellite TV secondary CA server (227) also "process[es] security messages."

Therefore, the undersigned concludes that cable TV secondary CA server (225) and satellite TV secondary CA server (227) depicted in Figure 3 are "clearly link[ed] or associate[d]" to the claimed function, and thus are corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to cable TV bridge (217), the specification describes "a user may choose to use cable TV bridge (217) to receive the broadcast and view the program on the TV (247)[.]" *Id.* at 9:43–46. Figure 3 depicts that TV (247) is directly connected to cable TV bridge (217), which in turn is directed connected to cable headend (215) and indirectly connected to cable primary CA server (228). In other words, the only components between cable headend (215) and TV (247) is cable TV bridge (217), which necessarily means that cable TV bridge (217) must "process[] security messages" for content to be viewed on TV (247). Therefore, the undersigned concludes that cable TV bridge (217) depicted in Figure 3 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to cable TV bridge (219), the specification recites that "a user may … use cable TV bridge (219) to record the program on the storage (223) for playing back at a different time using the PDA (243), the personal computer (233) or the media player (231)." *Id.* at 9:44–49. This passage does not describe that cable TV bridge (219) necessarily "process[es] security message" in order for the protected content to be viewed on PDA (243), the personal computer (233) or the media player (231). Rather, cable TV bridge (219) may send the protected content across network (101) to cable TV secondary server (225), which may "process[] security messages" in order for the protected content to be viewed on PDA (243), the personal computer

(233) or the media player (231). Therefore, while cable TV bridge (219) may be capable of "processing security messages," "the focus of the "corresponding structure" inquiry is not merely whether a structure is "capable of performing the recited function," but rather whether the corresponding structure is "clearly linked or associated with the [recited] function." *Medtronic*, 248 F.3d at 1311. Furthermore, unlike the disclosure for cable TV bridge (217), the fact that the specification does not disclose directly connecting a TV (or other display device) to cable TV bridge (219), or otherwise disclosing that cable TV bridge (219) "process[es] security messages," further indicates that cable TV bridge (219) is not corresponding structure. Therefore, the undersigned concludes that cable TV bridge (219) depicted in Figure 3 is not "clearly link[ed] or associate[d]" to the claimed function, and thus is not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to satellite TV bridges (207, 209), there does not appear to be any disclosure in the specification that "clearly link[s] or associate[s]" either satellite TV bridge (207) or satellite TV bridge (209) with the recited function. Rather, the specification only recites "a satellite TV secondary CA server (227) is used to provide services to both the satellite TV bridge A (207) and the satellite TV bridge B (209)[,]" "[s]eparate satellite dishes (e.g., 203 and 205) are used for different satellite bridges (e.g., 207 and 209) respectively[,]" and "satellite TV secondary CA server (227), not the satellite TV bridges (207 and 209), has the data representing the subscriber." *Id.* at 9:50–52, 9:57–59, 9:66–10:1. Likewise, Figure 3 does not depict any connections that would necessarily require that that satellite TV bridges (207, 209) "process security messages." As was the case for cable TV bridge (219), at most Figure 3 depicts that satellite TV bridges (207, 209) are capable of—but are not "clearly linked or associated"—"processing security messages." *Medtronic*, 248 F.3d at 1311 (describing that the focus of the "corresponding structure" inquiry is not merely whether a structure is "capable of performing the recited function," but rather whether the corresponding structure is "clearly linked or associated with the [recited] function."). For that reason, the undersigned concludes that satellite TV bridges (207, 209) in Figure 1 are not "clearly link[ed] or associate[d]" to the claimed function, and thus are not corresponding structure. *Medtronic*, 248 F.3d at 1311.

Therefore, for the reasons described above, the undersigned recommends the following construction:

This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "processing the security messages on the conditional access server" **Structure:** • secondary CA server, and its description of processing security messages in the specification, e.g., at 3:20–32; 3:55–58, 4:4–16, 4:20–24, 4:28–43, 4:47–54; secondary CA server (255) in FIG. 2A, and its description in the specification; secondary CA server (281) in FIG. 2B, and its description in the specification; processing of security messages on the conditional access server, as described in FIG. 4 (10:25-41, 10:53-11:25), FIG. 5 (431), FIG. 6 (461), FIG. 7 (501), FIG. 8 (531), FIG. 9 (561), FIG. 10A (14:45-50, 14:58-15:39), FIG. 10C (772), FIG. 11 (609), FIG. 12 (609), FIG. 13 (609), FIG. 14 (609), FIG. 15 (703), or FIG. 16 (21:55-23:20), and their description in the specification; • cable TV bridge (217), cable TV secondary CA server (225), satellite TV secondary CA server (227); • and equivalents thereof.

F. Term #6: "means for transmitting, from the conditional access server to a secondary conditional access client through a network connection in a second security domain, access controlled data that is in an access controlled format and that is at least partially derived from the security messages"

Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
#6: "means for transmitting, from the conditional access server to a secondary conditional access client through a network connection in a second security domain,	This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "transmitting, from the conditional access server to a secondary	**Function:** (same) **Structure:** network 201, i.e., a Local Area Network (LAN) or Wireless LAN, as described in Fig. 3 (8:62-

access controlled data that is in an access controlled format and that is at least partially derived from the security messages" U.S. Patent No. 8,291,236, Claim 100 Proposed by Both Sides	conditional access client through a network connection in a second security domain, access controlled data that is in an access controlled format and that is at least partially derived from the security messages" **Structure:** display controller (108) or I/O device(s) (110) (e.g., modem, or network interface) in FIG. 1, and their description in the specification; secondary CA server (255), or bridge (259) in FIG. 2A, and their description in the specification; secondary CA server (281), bridge (283), or physical interface (289) in FIG. 2B, and their description in the specification, e.g., at 8:46-49; network (201), satellite TV bridges (207, 209), cable TV bridges (217, 219), cable TV secondary CA server (225), satellite TV secondary CA server (227), media player (231), personal computer (233), access point (241), PDA (243), or wireless connection (245) in FIG. 3, and their description in the specification; transmitted access controlled data, and their descriptions in the specification, e.g., 3:55-58, 8:6-16, 15:13-17; secondary CA servers or networks in FIG. 5 (431, 439), FIG. 6 (461, 465), FIG. 7 (501, 505), FIG. 8 (531, 537), or FIG. 9 (561, 565), and their description in the specification; secondary CA	9:59), modem or network interface 110 in FIG. 1; FIG. 4 (10:25-46).

	server in FIG. 10C (772), and its description in the specification; bridges (603) or secondary CA servers (609) in FIGS. 11, 12, 13, 14, and their description in the specification; secondary CA server of FIG. 15 (705), and its description in the specification, e.g., at 21:40-44; and equivalents thereof.	

The Parties' Positions:

The parties again agree that this term is subject to § 112, ¶ 6 and what the claimed function is, but disagree with the corresponding structure encompasses. Opening at 26.

Defendants contend that because the "claimed function is ***transmitting data***, through a network connection, from the conditional access server to a secondary conditional access client in a second security domain[,]" the "corresponding structures must be limited to the conditional access servers that perform the ***transmitting***, along with the network that carries the transmission." *Id.* at 26–27 (emphases in Defendants' brief). As such, Defendants contend that "structures of the secondary conditional access clients in the second security domain are not tied to this claimed function, and moreover, are captured in a separate means-for term below that involves ***receiving*** this data at the secondary conditional access client." *Id.* at 27 (emphasis in Defendants' brief).

Defendants contend that while their proposed corresponding structure properly excludes secondary CA servers because they do not perform the claimed function, Plaintiff's proposed construction incorrectly includes some structure that does not. *Id.* For example, Defendants contend that Plaintiff's proposed construction incorrectly includes "display controller 108 and I/O devices 110 of computer system 101, which are not linked to transmitting from a conditional access server at all." *Id.* Similarly, Defendants contend that "satellite TV secondary CA server 227,

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media play[er] 231, personal computer 233, access point 241, and PDA 241" are not corresponding structures as they are "part of the secondary security domain and do not perform the claimed function of transmitting data from the conditional access server through a network connection." *Id.* (correction added).

In its response, Plaintiff contends that Defendants improperly attempt to limit the corresponding structure to components in the primary security domain and concomitantly "fails to recognize that the structures it dismisses as 'secondary conditional access clients in the second security domain' incapable of transmission may also function as secondary CA servers transmitting to their own clients." Response at 26–27 (citing '236 Patent at 3:17–25, 7:59–60). Rather, Plaintiff contends that corresponding structure includes secondary CA servers transmitting to secondary CA clients via a network. *Id.* at 27.

In terms of specific components, Plaintiff contends that secondary CA servers and networks should be included because they transmit access controlled data in an access controlled format at least partially derived from the security messages. *Id.* (citing '236 Patent at 12:37–41). Plaintiff contends that "a bridge, which may be integrated into a secondary CA server, transmits access controlled data in an access controlled format at least partially derived from the security messages." *Id.* at 27–28 (citing '236 Patent at 7:44–45, Figure 11, 17:62–18:1; Figure 12, 19:34–41; Figure 13, 20:19–25; Figure 14, 20:45–46; 21:10–14). Plaintiff contends that a bridge may include a physical interface. *Id.* at 28 (citing '236 Patent at 8:46–49).

Plaintiff contends that display controller (108) is corresponding structure because it is "connected to the bus and core system logic and may receive access controlled data in an access controlled format that is at least partially derived from the security messages processed by, for example, the microprocessor" and then transmit that "information to, for example, a display device." *Id.* (citing '236 Patent at Figure 1, 23:46–49).

Plaintiff contends that satellite and cable TV secondary CA servers are corresponding structure "as they transmit access controlled data in an access controlled format that is partially derived from security messages to various devices convenient to the user." *Id*. (citing '236 Patent at 9:23–25, 9:40–43).

Plaintiff contends that media players, personal computers, access points, and PDAs are corresponding structure "as they transmit over a network connection access controlled data in an access controlled format that is at least partially derived from security messages." *Id.* Plaintiff contends that, for example, a media player may transmit information to a device such as a television, while a personal computer may transmit to a CRT monitor or LCD panel. *Id.* at 28–29 (citing '236 Patent at 9:24–34, 9:24–31). As another example, Plaintiff contends that an access point may transmit to a PDA, while a PDA may transmit to other components via a wireless connection. *Id.* at 29 (citing '236 Patent at 9:8–11, 9:24–28).

Plaintiff contends that while the parties agree that networks are a means for transmitting, they disagree whether the network is limited to LAN or wireless LAN as Proposed by Defendants. *Id.* Plaintiff contends that the specification "identifies a broad range of networks," including integration in a device, cable connections, and telephone calls." *Id.* (citing '236 Patent at 19:22–26; 8:58–61, 17:62-65; 14:60–67).

Plaintiff contends that Defendants contradict themselves by simultaneously proposing that some I/O devices, *e.g.*, modem and network interface 110 in Figure 1, are corresponding structure, but also asserting that "I/O devices 110 of computer system 101 'are not linked to transmitting from a conditional access server at all[.]'" *Id.* (citing Opening at 30–31). Plaintiff contends that

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"I/O device(s) are linked to transmitting access controlled data in an access controlled format at least partially derived from the security messages, for example to the I/O controllers[,]" and that it is "entitled to all corresponding structures identified in the patent specification, including the other exemplary I/O devices, for example video cameras." *Id.* ('236 Patent at 23:49–53, Figure 1).

Plaintiff contends that, contrary to Defendants' assertion, Figure 4 is not corresponding structure because Figure 4 is directed "to aspects of the invention related to *means for receiving* and *means for processing*, not means for transmitting." *Id.* at 29–30 (citing '236 Patent at 10:25–62) (emphases in Plaintiff's brief). Plaintiff further contends that Defendants "do[] not provide any reasoning nor identification of where in the figure or specification transmission occurs." *Id.* at 29.

In its reply, Defendants contend that their proposed structure is clearly linked to the claimed function, especially with respect to "through a network." Reply at 13. Defendants contend that the only networks disclosed in the '236 Patent are a LAN and a wireless LAN, and that their proposed structure includes "modem and network interface structures that provide data to a network." *Id.* (citing '236 Patent at 8:66–9:14, Figure 3).

Defendants contend that Plaintiff's proposed structure "includes wholly irrelevant devices that 1) do not transmit data from the conditional access server to a secondary access client and 2) do not transmit data 'through a network connection.'" *Id.* at 14. In particular, Defendants contend that "[d]evices such as 'media player (231), personal computer (233), . . . PDA (243)' are never described in the specification as transmitting data from the conditional access server to a secondary access client, and do not do so 'through a network connection.'" *Id.*

In its sur-reply, Plaintiff contends that Defendants argue, for the first time in its reply, that "'through a network' is limited to a 'local area network (LAN) or wireless LAN[,]'" despite the fact that the specification discloses other networks, including intranet, VPN, Internet, wired Ethernet, WiFi, and Bluetooth. Sur-Reply at 14 (citing '236 Patent at 9:13, 8:1–2, 9:3, 9:6–8). Plaintiff contends that the specification "confirms the broad range of networks disclosed with its explanation that protected content can be distributed on networks that use 'various available communication tools, media, and protocols.'" *Id.* at 14–15 (citing '236 Patent at 16:32–35). Furthermore, Plaintiff contends that the fact that Defendants included bridges in its opening brief as corresponding structure now contradicts its exclusion of that structure for this term as bridges can transmit over networks including cable connections. *Id.* at 15 (citing '236 Patent at 8:58–61, 17:62–65).

Plaintiff contends that media player (231) is corresponding structure because it "acts as a secondary CA server that transmits, for example, to a television set." *Id.* (citing '236 Patent at 10:12–20, 16:11–15, 9:24–34, 9:46–49). Plaintiff contends that personal computer (233) is corresponding structure because the specification describes it as a secondary CA server that transmits to devices such as a monitor or LCD panel. *Id.* (citing '236 Patent at 23:21–25, 9:46–49, 9:24–31,10:12–20). Plaintiff contends that PDA (243) is corresponding structure because the specification describes it as a secondary CA server that transmits to other component devices. *Id.* (citing '236 Patent at 10:12–20, 9:24–28, 9:46–49). With respect to access point (231), Plaintiff contends that Defendants do not rebut any of Plaintiff's evidence. *Id.* Finally, Plaintiff contends that these four devices transmit "through a network," *e.g.*, "[a] media player may transmit over a network, for example, by integration with the client" while a PDA may transmit through a wireless connection. *Id.* (citing '236 Patent at 9:24–34, 9:24–28).

<u>The Undersigned's Analysis</u>

The parties agree that (1) § 112, ¶ 6 applies for this term and that (2) the claimed function is "transmitting, from the conditional access server to a secondary conditional access client through a network connection in a second security domain, access controlled data that is in an access controlled format and that is at least partially derived from the security messages."

As was the case for the previous term, Defendants assert that the corresponding structure for this term is limited to components in the primary security domain. Opening at 26–27 ("[t]hus, the corresponding structures must be limited to the conditional access servers that perform the ***transmitting***, along with the network that carries the transmission." (emphasis in Defendants' brief)). But, as was the case for the previous term, Defendants' interpretation that the corresponding structure is limited only to components in the primary security domain is incorrect for the reasons described above.

Both sides include network (201) in their proposed structure. But the undersigned concludes that network (201), and other networks, *e.g.*, or wireless connection (465) in Figure 3, network (439) in Figure 5, network (465) in Figure 6, network (505) in Figure 7, network (537) in Figure 8, or network (565) in Figure 9, are ***not*** corresponding structure for at least three reasons. ***First***, the claimed function recites "transmitting, from the conditional access server to a secondary conditional access client through a network connection…" This function describes the act of transmitting from Point A (conditional access server) to Point B (secondary conditional access server) using a network; in other words, the corresponding structure for a "means for transmitting" is a conditional access server with a transmitter. As such, a network cannot be corresponding structure as it simply is the medium for the transmission. ***Second***, "through a network," by contrast, only serves to limit what types of transmitters (and receivers in Term #7) qualify as corresponding structure. In other words, the purpose of the phrase "through a network connection" only serves to limit the types of transmitters (and receivers) that use a network, while excluding transmitters that cannot use a network. ***Third***, construing "means for transmitting" to include a network as corresponding structure renders "through a network" to be superfluous.

As a side note, with respect to Defendants' argument that "through a network" should be limited to Local Area Network (LAN) or Wireless LAN, the undersigned disagrees for at least two reasons. ***First***, limiting "network" to these two types of networks would improperly exclude "and equivalents thereof," which Section 112 expressly authorizes. 35 U.S.C. § 112, ¶ 6. ***Second***, the patent discloses other types of networks such as the Internet, wired Ethernet, and Bluetooth. '236 Patent at 8:1–2, 9:2–8.

As was the case for the previous terms, the corresponding structure from Plaintiff's proposed corresponding structure can be grouped into four groups (Plaintiff's proposed structure follows the "*i.e.*" in each group below):

1. User devices, *i.e.*, media player (231), personal computer (233), access point (241), or PDA (243) in Figure 3, and their description in the specification;
2. Interfaces and controllers, *i.e.*,
    a. display controller (108) or I/O device(s) (110) (e.g., modem, or network interface) in Figure 1, and their description in the specification;
    b. physical interface (289) in Figure 2B, and its description in the specification, e.g., at 8:46–49;
3. Secondary conditional access (CA) servers, *i.e.*,
    a. secondary CA server (255) in Figure 2A, and its description in the specification;
    b. secondary CA server (281) in Figure 2B, and its description in the specification, e.g., at 8:46-49;
    c. cable TV secondary CA server (225), satellite TV secondary CA server (227) in Figure 3, and their description in the specification;
    d. secondary CA servers in Figure 5 (431, 439), Figure 6 (461, 465), Figure 7 (501, 505), Figure 8 (531, 537), or Figure 9 (561, 565), and their description in the specification;
    e. secondary CA server (772) in Figure 10C, and its description in the specification;
    f. secondary CA servers (609) in Figures 11, 12, 13, 14, and their description in the specification;

g. secondary CA server in Figure 15 (705), and its description in the specification, e.g., at 21:40–44; and equivalents thereof.
h. transmitted access controlled data, and their descriptions in the specification, e.g., 3:55–58, 8:6–16, 15:13–17;

4. Bridges, *i.e.*,
   a. bridge (259) in Figure 2A , and its description in the specification;
   b. bridge (283) in Figure 2B, and its description in the specification, e.g., at 8:46–49;
   c. bridges (603) in Figures 11, 12, 13, 14, and their description in the specification;
   d. satellite TV bridges (207, 209), cable TV bridges (217, 219) in Figure 3, and their description in the specification;

With respect to media player (231), personal computer (233), or PDA (243) in Figure 3, the specification does not describe that any of these devices "transmit[], from the conditional access server to a secondary conditional access client through a network connection in a second security domain, access controlled data." The specification only mentions media player (231), personal computer (233), or PDA (243) a few times. Of those, two passages merely describe media player (231), personal computer (233), or PDA (243) play back media. *Id.* at 9:23–28 ("Under the control and with the help of the cable TV secondary CA server (225), the media content can be secured on a storage (e.g., 221, 223 or 235) for access by various devices which can play back the media content, such as the personal computer (233)[,] the media player (231), or the PDA (243)."), 9:43–49 ("For example, with a subscription to only one simultaneous use, a user may choose to use cable TV bridge (217) to receive the broadcast and view the program on the TV (247), or use cable TV bridge (219) to record the program on the storage (223) for playing back at a different time using the PDA (243), the personal computer (233) or the media player (231)."). But neither of these two passages discloses that media player (231), personal computer (233), or PDA (243) "transmit[], from the conditional access server to a secondary conditional access client through a network connection in a second security domain, access controlled data."

The specification further describes that a secondary CA server may be integrated with these devices. *Id.* at 10:12–15 ("Further, a secondary CA server may be integrated with a bridge, a storage device, a renderer (e.g., PDA 243, personal computer 233, media player 231), or a combination of them."). But the fact that these devices can be integrated into a secondary CA server, which is corresponding structure for this term as described below, does not mean that these devices are also corresponding structure for this term. Rather, it indicates that the devices have functionality (rendering) that the secondary CA server does not have, and vice-versa.

Two other passages simply state that personal computer (233) and media player (231) display the content on a CRT monitor or LCD panel, or television set (237), respectively. *Id.* at 9:28–31 ("The personal computer (233) typically displays the video content on the display device (239) such as a Cathode Ray Tube (CRT) monitor or a flat Liquid Crystal Display (LCD) panel."), 9:31–34 ("The media player (231) typically presents the media content on a television set (237). A media player may also be integrated with a television set to form a network-ready digital television set."). But these passages do not disclose what format the content is in when personal computer (233) and media player (231) sends it to a CRT monitor or LCD panel, or television set (237), respectively, let alone that the data is "in an access controlled format and that is at least partially derived from the security messages." Furthermore, there is no disclosure whatsoever how this content is sent to the display devices, let alone that that this content is sent "through a network." While it is possible that these devices are capable of transmitting "through a network," there is no disclosure that they are "clearly linked or associated" with transmitting "through a network." *Medtronic*, 248 F.3d at 1311. By contrast, rather than necessarily transmitting the content "through a network" for display on CRT monitor or LCD panel, or television set (237), personal computer (233) and media player (231) may use non-networked cables, *e.g.*, VGA or composite.

Another passage simply recites describes that personal computer (233) could be used as part of a distributed storage system. '236 Patent at 9:52–56 ("The satellite TV secondary CA

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server (227) may store the protected media content on its storage (229) or on other storage devices on the network, such as the storage (235) of the personal computer (233) or the storage (221).”). But this passage does not describe that any of these devices perform the claimed function, let alone is “clearly linked or associated” to the claimed function. *Medtronic*, 248 F.3d at 1311.

Therefore, the undersigned concludes that the media player (231), personal computer (233), or PDA (243) in Figure 3 are not “clearly link[ed] or associate[d]” to the claimed function, and thus are not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to access point (241), the specification discloses that Figure 3 depicts that “the PDA (243) connects to the access point (241) through the wireless connection (245) and further to other components through the network (201).” ’236 Patent at 9:8–11. Based on that, a POSITA would understand that access point (241) wirelessly transmits the claimed data to a client, *e.g.*, PDA (243), over wireless connection (245). Therefore, the undersigned concludes that the access point (241) in Figure 3 is “clearly link[ed] or associate[d]” to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to display controller (108) in Figure 1, the specification describes that it includes a display device. *Id.* at 23:44–49 (“[t]he bus 102 and system core logic 112 interconnect these various components together and also interconnects these components 103, 107, 105, and 106 to a ***display controller and display device 108*** …”) (emphasis added). There is no disclosure as to what format the content is in that display controller (108) sends to the display device, let alone that the data is “in an access controlled format and that is at least partially derived from the security messages.” Furthermore, there is no disclosure whatsoever how this content is sent to the display device, let alone that that this content is sent “through a network.” By contrast, as was the case for personal computer (233) and media player (231), rather than necessarily transmitting the content "through a network" to the display device, display controller (108) may use non-networked cables, *e.g.*, VGA or composite. Therefore, the undersigned concludes that display controller (108) in Figure 1 is not "clearly link[ed] or associate[d]" to the claimed function, and thus is not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to I/O Device(s) (110) (e.g., modem, or network interface) in Figure 1, the specification describes that Figure 1 depicts an "example of a typical computer system[.]" 236 Patent at 23:26. With respect to input/output devices 110, the specification only recites that "[t]ypically, the input/output devices 110 are coupled to the system through input/output controllers 109" and that the input/output devices may be "mice, keyboards, modems, network interfaces, printers, scanners, video cameras and other devices which are well known in the art." *Id.* at 23:50–54. In other words, Figure 1 depicts a generic computer system that is capable of being used in the present invention, but there is no disclosure as to what format the content is in when I/O Device(s) (110) (e.g., modem, or network interface) transmits it, let alone that the data is "in an access controlled format and that is at least partially derived from the security messages." Therefore, the undersigned concludes that I/O Device(s) (110) (e.g., modem, or network interface) in Figure 1 are not "clearly link[ed] or associate[d]" to the claimed function, and thus are not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to physical interface (289), Figure 2B depicts that physical interface (289) is receives input from transcrambler (287) and outputs protected content.

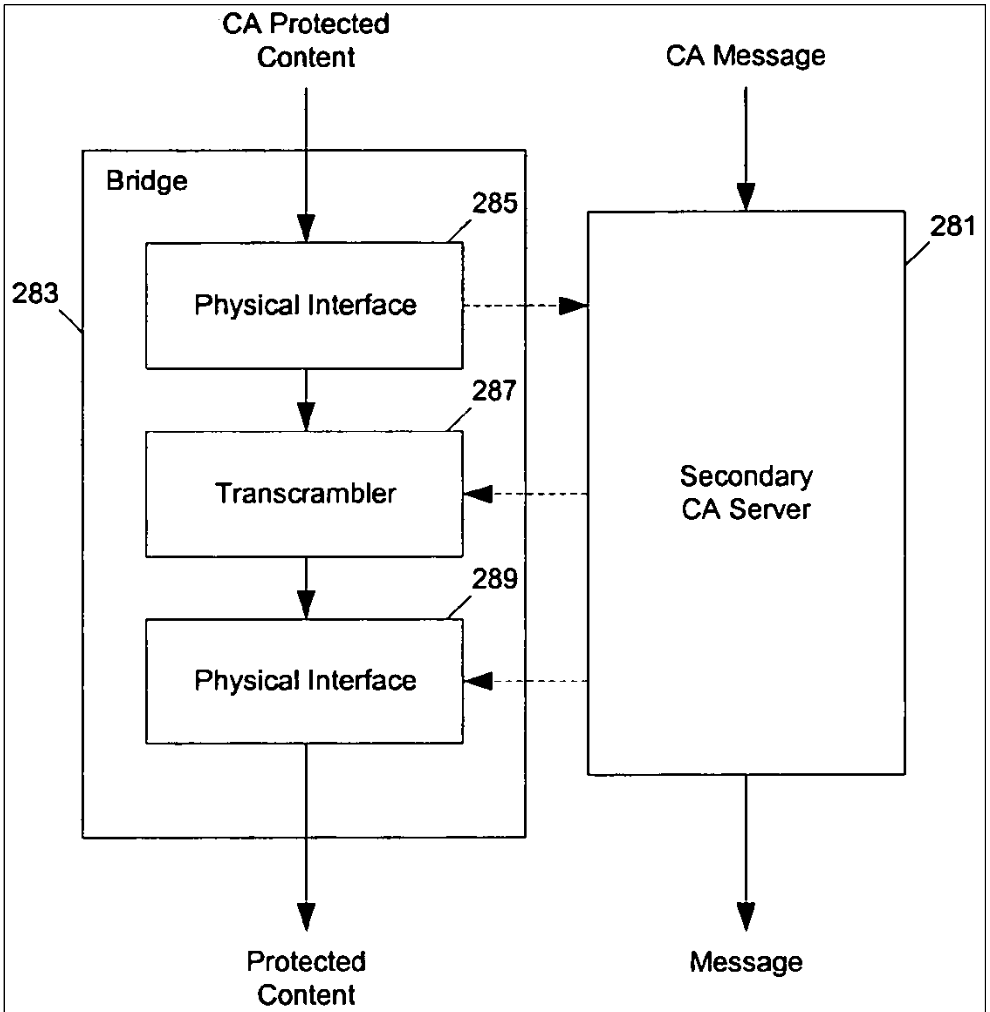

Fig. 2B

The specification describes that secondary CA server (281) "may provide messages to control the operations of the transcrambler (287) and physical interface (289) in accordance with the authorization derived from the CA messages." *Id.* at 8:53–56. The specification further describes that transcrambler (287) "may convert the protected content from one protected (e.g., encrypted) format to another protected (e.g., encrypted) format; and the physical interface (289) may be a data network communication interface for transmitting the protected content to a client in the secondary security domain." *Id.* at 8:44–49. In other words, these two passages and Figure 2B collectively disclose that physical interface (289) receives protected content that transcrambler (287) has converted from one protected format to another protected format in accordance with the authorization provided by secondary CA server (281), and that the protected content is transmitted through a network to a client in the secondary security domain using physical interface (289), which is a data network communication interface. Based on these disclosures, the undersigned concludes that physical interface (289) is corresponding structure that is "clearly link[ed] or associate[d]" to the claimed function. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (255) in Figure 2A, the specification does not describe that secondary CA server (255) "transmit[s] … access controlled data." Rather, the specification describes that ***bridge (259)*** "typically passes CA protected content from the primary security domain (251) to the secondary security domain (261)." *Id.* at 7:23–25. There is no corresponding disclosure that describes that ***secondary CA server (255)*** passes "access controlled data" to a secondary conditional access client. *See id.* at 7:19–65 (emphasis added). By contrast, the specification only describes that the secondary CA clients "may access the content secured in the secondary security domain ***under the control*** of the secondary CA server (255)." *Id.* at 7:25–31 (emphasis added); *see also id.* at 7:40–43 (same). But this passage only describes that secondary CA server (255) plays a role in allowing secondary CA clients access to the protected content, but not necessarily that it "transmit[s] … access controlled data." Furthermore, while the specification describes that secondary CA server (255) "provides control words for descrambling the content to the authorized secondary CA clients," there is no disclosure regarding how the secondary CA server (255) obtained the control words, let alone that they are "in an access controlled format" and "at least partially derived from the security messages." *Id.* at 7:48–50. Therefore, there is no disclosure that secondary CA server (255) in Figure 2A performs the claimed function, let alone is "clearly linked or associated" to the claimed function. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (281) in Figure 2B, the specification does not disclose that it is corresponding structure for this function for at least four reasons. ***First***, as described above in connection with physical interface (289), physical interface (289) is the component that is corresponding structure for this claimed function. ***Second***, the specification only discloses that secondary CA server (281) "may receive information from the physical interface (285)," "may directly provide the content to the physical interface (289) in accordance with the authorization from the CA messages," and "may provide messages to control the operations of the transcrambler (287) and physical interface (289) in accordance with the authorization derived from the CA messages." *Id.* at 8:49–50, 8:50–53, 8:53–56. In other words, the specification does not disclose that secondary CA server (281) "transmits … access controlled data," but merely controls the operation of transcrambler (287) and physical interface (289), the latter of which actually performs the claimed function. ***Third***, the passage that Plaintiff cites is directed towards physical interface (289), and not secondary CA server (281). *Id.* at 8:46–49 ("the physical interface (289) may be a data network communication interface for transmitting the protected content to a client in the secondary security domain."). ***Fourth***, while Figure 2B depicts that secondary CA server (281) outputs messages, there is no disclosure about the format of these messages and how these messages were generated, let alone that these messages are "in an access controlled format" and "at least partially derived from the security messages[.]" Therefore, there is no disclosure that secondary CA server (255) in Figure 2B performs the claimed function, let alone is "clearly linked or associated" to the claimed function. *Medtronic*, 248 F.3d at 1311.

With respect to cable TV secondary CA server (225) in Figure 3, the specification describes that "[u]nder the control and with the help of the cable TV secondary CA server (225), the media content can be secured on a storage (e.g., 221, 223 or 235) for access by various devices which can play back the media content, such as the personal computer (233) the media player (231), or the PDA (243)." '236 Patent at 9:23–27. In order for the protected media content to be played back on various devices, cable TV secondary CA server (225) necessarily transmits access controlled data in an access controlled format that is partially derived from security messages to various devices convenient to the user. Furthermore, the specification and Figure 3 do not disclose any other structure that performs this function in order for devices to play back content provided by that cable TV service. Therefore, the undersigned concludes that cable TV secondary CA server (225) in Figure 3 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to satellite TV secondary CA server (227) in Figure 3, the specification describes that it performs the corresponding function for satellite TV service as cable TV secondary CA server (225) performs for cable TV service. *See id.* at 9:50–10:3; *see also id.* at 10:12–20. Similarly, the specification and Figure 3 do not disclose any other structure that performs this function in order for devices to play back content provided by that satellite TV service. Therefore, the undersigned concludes that satellite TV secondary CA server (227) in Figure 3 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (431) in Figure 5, the specification describes that it "recover[s] the control word from the encrypted entitlement management message (EMM 435) and entitlement control message (ECM 437) for the secondary CA clients." *Id.* at 11:28–33. In other words, this passage describes that secondary CA server (431) recovers the control word from ECM (435), *i.e.*, is "access controlled data that is in an access controlled format and that is at least partially derived from the security messages."[2] *Id.* at 4:20–22. This passage further describes that secondary CA server (431) transmits the control word to secondary CA clients, which Figure 3 depicts as going through network (439). *Id.* Therefore, the undersigned concludes that secondary CA server (431) in Figure 5 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (461) in Figure 6, the specification describes it uses user key (463) to decrypt EMM (471), ECM (473), and scrambled content (475). *Id.* at 12:33–37. The specification further describes that secondary CA server (461) "descrambles the content and provides the DRM protected content (467) through the network (465) so that only the secondary CA client with the appropriate rights (469) can use the content (477)." *Id.* at 12:37–41. Therefore, the undersigned concludes that secondary CA server (461) in Figure 6 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (501) in Figure 7, the specification describes that secondary CA server (501) decodes EMM (507) and ECM (509) in order to "to provide, over the network (505), the local entitlement control message (ECM 511), which is protected under a DRM

[2] The scopes of "data" and "content" are not coextensive. "Data" is a broader concept than "content" and generally refers to any type of information, while "content" generally refers to video or audio that the user is trying to access. Therefore, "access controlled content" falls within the scope of " access controlled data," but other types of data, *e.g.*, control words, could also meet the "access controlled data" limitation.

system." *Id.* at 12:59–64. Figure 7 depicts that ECM (511) is transmitted through network (505). In other words, this passage and Figure 7 collectively describe that decoding the EMM (507) and ECM (509) yields local entitlement control message (ECM 511), which is the "access controlled data that is in an access controlled format and that is at least partially derived from the security messages" that is transmitted "through a network" from a conditional access server to a secondary conditional access client. Therefore, the undersigned concludes that secondary CA server (501) in Figure 7 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (531) in Figure 8, the specification describes that secondary CA server (531) "decrypts the EMM (541) using the user key (533) to obtain the service key (SK) and then further decrypts the ECM (543) using the service key (SK) and obtains the control word (CW)." *Id.* at 13:44–47. The specification further describes that secondary CA server "manages a service key SK, (535) and re-encrypts the control word to create a local entitlement control message (ECM_b 545)[.]" *Id.* at 13:47–51. In other words, these two passages describe that secondary CA server (531) decrypts the ECM (543) using the service key and obtains the control word, and then re-encrypts the control word to create a local entitlement control message ECM_b (545). ECM_b (545) is the "access controlled data" that "is at least partially derived from the security messages," *i.e.*, EMM (541) and ECF (543). The specification further describes that transmits ECM_b (545) to a secondary CA client through network (537). *Id.* at 13:53–55. Therefore, the undersigned concludes that secondary CA server (531) in Figure 8 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (561) in Figure 9, the specification describes that secondary CA server (561) "uses the user key (563) to access the data in EMM (571) (e.g., recovering the service key), to access the data in ECM (573) (e.g., recovering the control word), and to descramble the content (575)." *Id.* at 14:21–25. The specification further describes that secondary CA server (561) "then rescrambles the content (e.g., using a different control word) and provides the rescrambled content (569) with the new entitlement management message (ECM_b 567) to one or more secondary CA clients through the network (565)." *Id.* at 14:25–29. These two passages describe that rescrambled content (569) is the access controlled data that is at least partially derived from the security messages, which is transmitted through network (565) to one or more secondary CA clients. Therefore, the undersigned concludes that secondary CA server (561) in Figure 9 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (772) in Figure 10C, the specification describes that to secondary CA server (772) "may forward, translate, and/or manage its authorization received from the primary CA server (773) into authorization for its clients, such as the media player (775)." *Id.* at 16:3–7. The specification further describes that secondary CA server (772) transmits authorization message (783) to media player (775). *Id.* at 16:62–67. The specification further explains that "the protected content can be distributed on a local network (e.g., within a home, a hotel, a campus, a building, etc.) through various available communication tools[.]" *Id.* at 16:32–35. Based on these passages, the undersigned concludes that secondary CA server (772) in Figure 10C transmits "access controlled data that is in an access controlled format and that is at least partially derived from the security messages" when it translates the authorization received from the primary CA server (773) and forwards it to media player (775), *i.e.* a secondary CA client, through the local network. Therefore, the undersigned concludes that secondary CA server (772) in Figure 10C is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server (609) in Figures 11 to 14, the specification describes that secondary CA server (609) communicates with a renderer, which is a secondary CA client, directly or indirectly, over a network. *Id.* at 17:16–36. The specification further describes that secondary CA server (609) "decode[s] entitlement control messages to recover control words for secondary CA clients[.]" *Id.* at 17:46–47. These two passages describe that secondary CA server (609) derives "access controlled data that is in an access controlled format and that is at least partially derived from the security messages" when it decodes entitlement control messages to recover control words and transmits "through a network connection" control words to the secondary CA client. Therefore, the undersigned concludes that secondary CA server (609) in Figure11 to 14 are "clearly link[ed] or associate[d]" to the claimed function, and thus are corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA server in Figure 15, the specification describes that Figure 15 "shows a method of using a secondary CA server according to one embodiment of the present invention." *Id.* at 21:28–29. The specification further describes that Operation 705 in Figure 15, the secondary CA server "transmits access controlled data that is in an access controlled format and that is at least partially derived from the entitlement management messages from the secondary CA server to a secondary CA client through a network connection." *Id.* at 21:40–44. Therefore, the undersigned concludes that secondary CA server in Figure 15 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

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With respect to "transmitted access controlled data, and their descriptions in the specification, e.g., 3:55–58, 8:6–16, 15:13–17," all three passages describes that a second CA server (or secondary CA server) "translates authorization" from the first CA server (or primary CA server) to authorization for a client (or authorization in the secondary domain). But none of these passages describe that the authorization is "transmitted" by the second CA server (or secondary CA server), let alone "through a network connection," to a secondary CA client. Therefore, there is no disclosure that transmitted access controlled data performs the claimed function, let alone is "clearly linked or associated" to the claimed function. *Medtronic*, 248 F.3d at 1311.

With respect to bridge (259) in Figure 2A, as described above in connection with secondary CA server (255), the specification describes that bridge (259) "passes CA protected content from the primary security domain (251) to the secondary security domain (261) so that the secondary CA clients (e.g., 271. 273, . . . , 279) in the secondary security domain (261) may access the content secured in the secondary security domain under the control of the secondary CA server (255) in accordance with security messages provided by the primary security domain (251) to the secondary CA server (255)." *Id.* at 7:23–31. The specification also describes that "the secondary security domain is for a localized network, such as a network within a home or hotel or other domain. Alternatively, the secondary security domain may include Internet." *Id.* at 7:66–8:2. In other words, these passages describe that bridge (259) transmits "access controlled data that is in an access controlled format and that is at least partially derived from the security messages" "through a network" when it transmits CA protected content provided by primary security (251) to secondary CA clients (271, 273, … 279). Therefore, the undersigned concludes that bridge (259) in Figure 2A is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to bridge (283) in Figure 2B, as described above in connection with secondary CA server (281), the specification describes that physical interface (289) within bridge (283) performs the claimed function. *See, e.g.*, '236 Patent at 8:44–49, Figure 2B. As such, bridge (283) is not corresponding structure because it includes "structural limitations from the written description that are unnecessary to perform the claimed function." *Micro Chem.*, 194 F.3d at 1382.

With respect to bridge (603) in Figure 11, the specification describes that bridge (603) provides "EMM (627) and ECM (625) to the secondary CA server (609), which has the user key (621)." '236 Patent at 19:32–34. In other words, rather than providing "access controlled data that is in an access controlled format and that is at least partially derived from the security messages," bridge (609) does not transmit the access controlled data "that is at least partially derived from the security messages." Furthermore, rather than transmitting the claimed access controlled data to a secondary CA <u>client</u>, this passage describes that bridge (609) transmits it to secondary CA <u>server</u> (609). Therefore, there is no disclosure that bridge (603) in Figure 11 performs the claimed function, let alone is "clearly linked or associated" to the claimed function. *Medtronic*, 248 F.3d at 1311.

With respect to bridge (603) in Figure 12, the specification describes that secondary CA server (609) recovers the control word (641) from EMM (627) and ECM (625). '236 Patent at 19:32–36. The specification further describes that secondary CA server (609) provides control word (641) to bridge (603), which in turn provides the control word (641) through a network to renderer (607). '236 Patent at 19:36–40, 19:53–55. In other words, these passages describe that bridge (603) transmits "access controlled data that is in an access controlled format and that is at

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least partially derived from the security messages" "through a network" when it transmits control word (641) to renderer (607). Therefore, the undersigned concludes that bridge (603) in Figure 12 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to bridge (603) in Figure 13, while the specification describes that secondary CA server (609) provides control word (641), there is no disclosure that bridge (603), directly or indirectly, provides control word (641), or any other "access controlled data that is in an access controlled format and that is at least partially derived from the security messages" to renderer (607). '236 Patent at 29:16–19. By contrast, Figure 13 depicts that secondary CA server (609) provides control word (619) to renderer (607). Therefore, there is no disclosure that bridge (603) in Figure 13 performs the claimed function, let alone is "clearly linked or associated" to the claimed function. *Medtronic*, 248 F.3d at 1311.

With respect to bridge (603) in Figure 14, the specification describes that secondary CA server (609) provides substitutive control word to bridge (603), which is used by bridge (603) to rescramble the content. *Id.* at 21:6–14. The specification further describes that renderer (607) uses the substitutive control word to descramble the content. *Id.* at 21:14–23. The specification describes that the bridge may communicate with the renderer through a network connection. *Id.* at 17:26–32. In other words, these passages describes that bridge (603) transmits "access controlled data that is in an access controlled format and that is at least partially derived from the security messages" "through a network" when it transmits substitutive control word to renderer (607). Therefore, the undersigned concludes that bridge (603) in Figure 14 is "clearly link[ed] or associate[d]" to the claimed function, and thus is corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to satellite TV bridges (207, 209) and cable TV bridges (217, 219) in Figure 3, there is no disclosure in the specification that indicates that the data that these devices transmit are "at least partially derived from the security messages." Rather, Figure 3 depicts that because the cable TV bridges (217, 219) are connected to cable primary CA server (228) via cable headend (215) and satellite TV bridges (207, 209) are connected to satellite primary CA server (226) via satellite (211) and satellite dishes (203, 205), respectively, satellite TV bridges (207, 209) and cable TV bridges (217, 219) do not receive (and concomitantly transmit) data that is "at least partially derived from the security messages," but rather may only receive (and concomitantly transmit) the original broadcast data. In this situation, cable TV secondary CA server (225) and satellite TV secondary CA server (227) may be the corresponding structure that performs the claimed function. Therefore, there is no disclosure that bridge (603) in Figure 3 performs the claimed function, let alone is "clearly linked or associated" to the claimed function. *Medtronic*, 248 F.3d at 1311.

Therefore, for the reasons described above, the undersigned recommends the following construction:

This term is subject to 35 U.S.C. § 112, ¶ 6. **<u>Function:</u>** "transmitting, from the conditional access server to a secondary conditional access client through a network connection in a second security domain, access controlled data that is in an access controlled format and that is at least partially derived from the security messages" **<u>Structure:</u>** • User devices, *i.e.*, access point (241) in Figure 3, and its description in the specification; • Interfaces and controllers, *i.e.*, physical interface (289) in Figure 2B, and its description in the specification; • Secondary conditional access (CA) servers, *i.e.*, cable TV secondary CA server (225), satellite TV secondary CA server (227) in Figure 3, and their description in the specification; secondary CA servers in Figure 5 (431, 439), Figure 6 (461, 465), Figure 7 (501, 505), Figure 8 (531,

537), or Figure 9 (561, 565), and their description in the specification; secondary CA server (772) in Figure 10C, and its description in the specification; secondary CA servers (609) in Figures 11, 12, 13, 14, and their description in the specification; secondary CA server in Figure 15 (705), and its description in the specification, e.g., at 21:40–44; • Bridges, *i.e.*, bridge (259) in Figure 2A , and its description in the specification; bridges (603) in Figures 12, 14, and their description in the specification; • and equivalents thereof.

G. Term #7: "means for receiving, a secondary conditional access client from a conditional access server through a network connection, access controlled data that is in an access controlled format and that is at least partially derived from a security message of the primary security system in a first security domain, the secondary conditional access client being in a second security domain"

Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
#7: "means for receiving, a secondary conditional access client from a conditional access server through a network connection, access controlled data that is in an access controlled format and that is at least partially derived from a security message of the primary security system in a first security domain, the secondary conditional access client being in a second security domain" U.S. Patent No. 8,291,236, Claim 100 Proposed by Both Sides	This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "receiving, at a secondary conditional access client from a conditional access server through a network connection, access controlled data that is in an access controlled format and that is at least partially derived from a security message of the primary security system in a first security domain, the secondary conditional access client being in a second security domain" **Structure:** I/O Device(s) (110) (e.g., modem, or network interface) in FIG. 1, and their description in the specification; secondary CA clients (271, 273, or 279) in FIG. 2A, and their description in the specification; network (201), storage (221, 223, 229,	**Function:** (same) **Structure:** network 201, i.e., a Local Area Network (LAN) or Wireless LAN as described in Fig. 3 and 9:2-14, modem or network interface devices 110 in FIG. 1; secondary CA clients (271, 273, or 279) in FIG. 2A, and their description in the specification; media player (231), personal computer (233), TV (237, 247), access point (241), or PDA (243) in FIG. 3, and their description in the specification; secondary CA clients of FIGS. 5, 6, 7, 8, or 9, and their description in the specification; FIG. 10C, and its description in the specification; secondary CA client (707) of FIG. 15, and its description in the specification; or equivalents thereof.

	235), media player (231), personal computer (233), TV (237, 247), display device (239), access point (241), or PDA (243) in FIG. 3, and their description in the specification; secondary CA clients of FIGS. 5, 6, 7, 8, 9, or 10A, and their description in the specification; media player (775) in FIG. 10C, and its description in the specification; renderers (607) in FIGS. 11, 12, 13, or 14, and their description in the specification; secondary CA client (707) of FIG. 15, and its description in the specification; and equivalents thereof.	

The Parties' Positions:

The parties again agree that this term is subject to § 112, ¶ 6 and what the claimed function is, but disagree with the corresponding structure encompasses. Opening at 28.

Defendants contend that this term is nearly identical to the "transmitting" term, except it "involves ***receiving*** data through the network connection at a secondary CA client[.]" *Id.* (emphasis in Defendants' brief). As such, Defendants contend that "[f]or the same reasons identified in the corresponding transmitting term above, [Plaintiff's] proposed construction include[s] numerous structures that do not correspond to the claimed function, such as the I/O devices in Fig. 1, and display device 239 that are nowhere associated with the secondary CA clients in the specification." *Id.* Defendants further contend that Plaintiff improperly includes "cable TV bridges 217 and 219 and satellite TV bridges 207 and 209" as they "are not linked in the specification with the second security domain or associated with secondary conditional access servers." *Id.*

Defendants contend that, by contrast, their proposed structure is "properly limited to the structures associated with the network and the secondary CA clients that receive data over the network[.]" *Id.*

In its response, Plaintiff contends that Defendants' proposed structure incorrectly excludes the structure proposed by Plaintiff. Response at 31. In general, Plaintiff contends that "a secondary CA client relies on the secondary CA server to obtain content[,]" while the "secondary CA server conditionally allows the secondary CA clients to access content in accordance with the access terms and conditions from the primary CA server." *Id.* at 31–32 (citing '236 Patent at 7:23–33, 7:40-43, Figure 2A).

In particular, Plaintiff contends that the specification describes that storage (221, 223, 229, 235) and renderer (607) as "secondary CA clients in the second security domain that receive access controlled data consistent with the claimed function." *Id.* at 31, 33 (citing '236 Patent at Figures 3, 11–14; 11:3–7, 9:20–28, 18:44–50, 19:20–26).

Plaintiff contends that Defendants' proposed structure improperly "omits the secondary CA client described in an embodiment of the process of Fig. 10A[,]" given that Figure 10A depicts "[d]escrambl[ing] the program for playback" which Plaintiff asserts "is a function of a secondary CA client authorized to obtain access controlled data in an access controlled format, and the local device that performs the descramble step (747) in Fig. 10A is the secondary CA client." *Id.* (citing '236 Patent at 7:46–47, 14:58–15:39).

Plaintiff contends that "a personal computer itself acts as a secondary CA client" in embodiments where it "can receive access controlled data in an access controlled format from I/O device(s) such as a modem or network interface." *Id.* at 32 (citing '236 Patent at Figure 3, 8:63–66, 6:6–7, Figure 1, 23:34–38, 21:44–46).

But Plaintiff contends that in other embodiments a personal computer acts as a secondary CA ***server*** when it "transmits access controlled data through an I/O controller to [its own] I/O device(s)[.]" *Id.* (citing '236 Patent at Figure 1). Plaintiff contends that personal computer (233) in Figure 3 acts as a secondary CA ***server*** when it "displays content on display device (239) and conditionally allows display device (239) to access content in accordance with the access terms and conditions from the primary CA server[.]" *Id.* (citing '236 Patent at 9:28–34).

Plaintiff contends that "I/O Device(s) (110) in Fig. 1 and display device (239) in Fig. 3 should likewise be included as corresponding structure because both are secondary CA clients and/or servers to secondary CA clients." *Id.* at 31. Plaintiff contends that Defendants' proposed structure incorrectly attempts to limit the I/O devices to only modems and network interfaces. *Id.* at 32. Plaintiff contends that the specification "more broadly describes I/O devices as being coupled to the system via 'input/output controllers 109.'" *Id.* at 32–33 (citing '236 Patent at 23:53–54). In particular, Plaintiff contends that the specification describes that "I/O controller 109 includes a USB (Universal Serial Bus) adapter for controlling USB peripherals, and/or an IEEE-1394 bus adapter for controlling IEEE-1394 peripherals." *Id.* at 33 (citing '236 Patent at 24:5–8). Based on that, Plaintiff contends that the I/O devices are not limited to only modems and network interfaces. *Id.*

Plaintiff contends that contrary to Defendants' assertion, Plaintiff's proposed structure does not include cable TV bridges 217 and 219 and satellite TV bridges 207 and 209. *Id.*

In its reply, Defendants contend that while the parties "largely agree as to the proposed structure," Plaintiff's proposed structure includes TV (237, 247) and display device (239), which are not as secondary conditional access clients, but are described as "standalone peripherals ***connected*** to secondary conditional access clients, including personal computer (233) or media player (231)." Reply at 14 (emphasis in Defendants' brief). Defendants further contend that storage (221, 223, 229, 235) in Plaintiff's proposed construction does not perform the claimed function. *Id.* at 15.

Defendants contend that renderers (607) are not corresponding structure because the specification "never discloses this element as a secondary conditional access client that ***receives access controlled data***," but rather describes them as "devices 'used to process content for presentation[.]'" *Id.* (citing '236 Patent at 17:9–10).

In its sur-reply, Plaintiff contends that instead of addressing Plaintiff's evidence, Defendants instead "introduce[] new grounds adding unsupported restrictions to the claim, specifically targeting four of [Plaintiff's] proposed structures: TV, display device, storage, and renderer." Sur-Reply at 16. Plaintiff contends that Defendant, contrary to its position its Opening brief, argues in its Reply that TV (237, 247) is not corresponding structure. *Id.*

Plaintiff contends that Defendants are incorrect in arguing that TV and display device are only connected to secondary CA clients, as Figure 3 depicts that "TV (237, 247) receiving from a number of secondary CA servers, including satellite TV secondary CA server (227), media player (231), and cable TV bridge (217)." *Id.* at 16–17 (citing '236 Patent at Figure 3, 9:28–32, 9:43–49, 9:52–56, 13:9–12).

With respect to storage (221, 223, 229, 235), Plaintiff contends that Defendants do not "explain why internal storage cannot perform the 'receiving' function." *Id.* at 17. By contrast, Plaintiff contends that the specification describes internal storage receives protected media content

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and that storage (221) is not internal to other components and can be a "separate network device[.]" *Id.* at 17 (citing '236 Patent at 9:24–25, 9:52– 56, 18:15–16, Figure 3, 18:21–22).

With respect to renderer (607), Plaintiff contends that the specification describes that it is a secondary CA client that receives access controlled data through a network connection. *Id.* (citing 17:9–10, 3:26–32, 17:9–15, 18:44–54, 19:41–46, 20:28–32, 20:62–21:2, 22:33–37, 17:22–38, 19:20–26). Plaintiff contends that Defendants "tacitly agree[] that renderers perform the 'receiving' function by acknowledging that they 'process content for presentation,' which inherently requires receiving protected content." *Id.*

The Undersigned's Analysis

The parties agree that (1) § 112, ¶ 6 applies for this term and that (2) the claimed function is to "receiving, at a secondary conditional access client from a conditional access server through a network connection, access controlled data that is in an access controlled format and that is at least partially derived from a security message of the primary security system in a first security domain, the secondary conditional access client being in a second security domain."

The parties largely agree as to the proposed structure. Reply at 14. In particular, the parties agree that the proposed structure includes I/O Device(s) (110) (e.g., modem, or network interface) in Figure 1; secondary CA clients (271, 273, 279) in Figure 2A; media player (231), personal computer (233), access point (241), or PDA (243) in Figure 3; secondary CA clients of Figures 5, 6, 7, 8, 9, or 10C (*i.e.*, media player (775)); and secondary CA client (707) of Figure 15.[3] But the parties disagree whether the following devices from Plaintiff's proposed structure should be

[3] While the parties agree that network (201) is corresponding structure, the undersigned disagrees for the same reasons described in connection with Term #6.

included: TVs (237, 247),[4] display device (239), and storage (221, 223, 229, 235) in Figure 3, secondary CA client of Figure 10A, and renderers (607) in Figures 11, 12, 13, or 14.

With respect to TVs (237, 247) in Figure 3, the specification does not describe, and Figure 3 does not depict, that either TV receives the claimed access controlled data "through a network." *Id.* at 9:31–34, 9:44–49. More specifically, Figure 3 only depicts that TV (237) is connected to media player (231) and satellite TV secondary CA server (227), but does not provide any detail on what type of connection is used, let alone that the connection is a network. Similarly, Figure 3 depicts that TV (247) is connected to cable TV bridge (217), but again does not provide any detail on what type of connection is used, let alone that the connection is a network. Furthermore, the fact that Figure 3 depicts a network, network (201), but does not depict a network connecting media player (231) or satellite TV secondary CA server (227) to TV (237) or cable TV bridge (217) to TV (247), indicates that these connections are ***not*** network connections. Finally, the specification is completely silent on what type of connection is used to connect media player (231) and satellite TV secondary CA server (227) to TV (237) or cable TV bridge (217) to TV (247). *Id.* at 9:31–34, 9:44–49.

Furthermore, even if TV (247) were connected to cable TV bridge (217) via a network connection, TV (247) is not corresponding structure because it does not receive the claimed access controlled data from a conditional access server, as cable TV bridge (217) is not a secondary CA server for the reasons described in connection with Term #6.

[4] Despite listing it in its proposed corresponding structure, Defendants contend that TV (237, 247) are not corresponding structure. Reply at 14. The undersigned assumes that Defendants disagree that these devices are corresponding structure.

Therefore, the undersigned concludes that TVs (237, 247) in Figure 3 are not "clearly link[ed] or associate[d]" to the claimed function, and thus are not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to display device (239) in Figure 3, the specification does not describe, and Figure 3 does not depict, that either TV receives the claimed access controlled data "through a network." *Id.* at 9:28–31. Furthermore, display device (239) is not corresponding structure because it does not receive the claimed access controlled data from a conditional access server, as personal computer (233) is not a secondary CA server for the reasons described in connection with Term #6. Therefore, the undersigned concludes that display device (239) in Figure 3 is not "clearly link[ed] or associate[d]" to the claimed function, and thus is not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to storage (221, 223, 229, 235) in Figure 3, the specification describes that these storage devices "receiv[e] … access controlled data that is in an access controlled format and that is at least partially derived from a security message of the primary security system" and then stores that data for later playback. *Id.* at 9:23–28, 9:43–49, 9:52–56. Therefore, the undersigned concludes that storage (221, 223, 229, 235) in Figure 3 are "clearly link[ed] or associate[d]" to the claimed function, and thus are corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to secondary CA clients of Figure 10A, while the undersigned agrees with Plaintiff that if a secondary CA client is able to descramble the access protected content, it necessarily must have received that content, the specification does not disclose that the secondary CA client associated with Figure 10A receives the claimed access protected content "through a network." *See id.* at 14:39–15:39. This is not surprising as Figure 10A is a functional flow chart rather than a structural figure. Therefore, the undersigned concludes that secondary CA clients of

Figure 10A are not "clearly link[ed] or associate[d]" to the claimed function, and thus are not corresponding structure. *Medtronic*, 248 F.3d at 1311.

With respect to renderer (607) in Figures 11, 13, and 14, the specification describes that secondary CA server (609) releases control word (619) "only when the access criteria are satisfied." *Id.* at 18:48–50 (Figure 11); *see also id.* at 20:28–32 (Figure 13), 20:65–21:2 (Figure 14). The specification further describes that secondary CA server (609) derives a service key from entitlement management message (627), which was originally transmitted from the primary CA server. *Id.* at 18:4–6, 18:32–36, 18:39–43 (Figure 11); *see also id.* at 20:25–32 (Figure 13), 20:39–21:27 (Figure 14). The specification describes that secondary CA server (609) uses the service key to extract control word (619) from entitlement control message (625). *Id.* at 18:48–50 (Figure 11); *see also id.* at 20:28–32 (Figure 13), 20:62–65 (Figure 14). Figures 11, 13, and 14 depict that secondary CA server (609) transmits control word (619) to renderer (607). The specification describes that Figures 11, 13, and 14 depict that communication between the components therein may be through a network connection. *Id.* at 17:20–22. Therefore, the undersigned concludes that renderers (607) in Figures 11, 13, and 14 are "clearly link[ed] or associate[d]" to the claimed function, and thus are corresponding structure. *Medtronic*, 248 F.3d at 1311.

By contrast, renderer (607) in Figure 12 is not a secondary CA client because it does not receive claimed access controlled data ***from a conditional access server***. More specifically, Figure 12 depicts that the only thing secondary CA server (609) outputs is control word (641) to bridge (603). But the specification describes that bridge (603) uses control word (641) to descramble the protected content and store the descrambled content in storage (605). *Id.* at 19:38–40. As such, there is no need for storage (605) to store control word (641), let alone transmit it to renderer (607). Nor is there any disclosure that renderer (607) receives control word (641). *See id.* at 19: 27–20:5.

Therefore, the undersigned concludes that renderers (607) in Figure 12 is not "clearly link[ed] or associate[d]" to the claimed function, and thus is not corresponding structure. *Medtronic*, 248 F.3d at 1311.

Therefore, for the reasons described above, the undersigned recommends the following construction:

This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "receiving, at a secondary conditional access client from a conditional access server through a network connection, access controlled data that is in an access controlled format and that is at least partially derived from a security message of the primary security system in a first security domain, the secondary conditional access client being in a second security domain" **Structure:** • I/O Device(s) (110) (e.g., modem, or network interface) in Figure 1, and their description in the specification; • storage (221, 223, 229, 235), media player (231), personal computer (233), access point (241), or PDA (243) in Figure 3, and their description in the specification; media player (775) in Figure 10C, and its description in the specification; renderers (607) in Figures 11, 13, or 14, and their description in the specification; • secondary CA clients (271, 273, 279) in Figure 2A, and their description in the specification; secondary CA clients of Figures 5, 6, 7, 8, 9, and their description in the specification; secondary CA client (707) of Figure 15, and its description in the specification; • and equivalents thereof.

IV. CONCLUSION

In conclusion, for the reasons described herein, the undersigned recommends adopting the below constructions as the Court's constructions.

SIGNED this 21st day of March, 2025.

JOSHUA J. YI, Ph.D.

Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Special Master's Recommended Construction
#1: "An operation monitor device for a hardware component, for controlling an output voltage required by the hardware component, wherein the hardware component is operated within a system" U.S. Patent No. 7,219,027, Claim 1 Proposed by Defendants	No construction necessary. Plain and ordinary meaning.	Limiting	The preamble is not limiting except for "hardware component," "output voltage," and "system."

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#2: "a judging device to judge if a common reference picture is to be selected or not when coding a plural-block image unit made up of a plurality of blocks" U.S. Patent No. 8,208,542, Claim 1 Proposed by Defendants	No construction necessary. Plain and ordinary meaning, i.e., logic that determines prediction mode by judging if a common reference picture is to be selected or not when coding a plural-block image unit made up of a plurality of blocks. Not subject to 35 U.S.C. § 112, ¶ 6. Alternatively, to the extent this term is subject to § 112, ¶ 6: **Function:** judge if a common reference picture is to be selected or not when coding a plural-block image unit made up of a plurality of blocks. **Structure:** motion estimation unit 101, the specification's description thereof (see, e.g., cols. 6:35-56, 7:1-13, 9:17-27, 9:35-10:8, 11:33-51, 13:7-30, 20:40-41, 20:47-48, FIGS. 6, 7, 9-13, 20, 22), and equivalents thereof.	Subject to 35 U.S.C § 112 ¶ 6. **Function:** to judge if a common reference picture is to be selected or not when coding a plural-block image unit made up of a plurality of blocks **Structure:** none (claim is indefinite)	Not subject to 35 U.S.C. § 112, ¶ 6. No construction necessary. Plain and ordinary meaning.

#3: "a selecting device to select, if it is judged by said judging device that a common reference picture is to be selected, one common reference picture to be commonly referred to, from among plural reference pictures, the common reference picture being only one reference picture that is selected from among the plural reference pictures and is assigned commonly to each of the plurality of blocks of the plural-block image unit" U.S. Patent No. 8,208,542, Claim 1 Proposed by Defendants	No construction necessary. Plain and ordinary meaning. Not subject to 35 U.S.C. § 112, ¶ 6. Alternatively, to the extent this term is subject to § 112, ¶ 6: **Function:** select, if it is judged by said judging device that a common reference picture is to be selected, one common reference picture to be commonly referred to, from among plural reference pictures, the common reference picture being only one reference picture that is selected from among the plural reference pictures and is assigned commonly to each of the plurality of blocks of the plural-block image unit **Structure:** motion estimation unit 101, default reference picture number generation unit 201/203/205, multi-picture buffer 108, the specification's description thereof (see, e.g., cols. 9:35-10:20; 10:43-11:51; 13:7-15:7, 20:40-41, 20:47-48,	Subject to 35 U.S.C § 112 ¶ 6 **Function:** select, if it is judged by said judging device that a common reference picture is to be selected, one common reference picture to be commonly referred to, from among plural reference pictures, the common reference picture being only one reference picture that is selected from among the plural reference pictures and is assigned commonly to each of the plurality of blocks of the plural- block image unit **Structure:** none (indefinite)	Not subject to 35 U.S.C. § 112, ¶ 6. No construction necessary. Plain and ordinary meaning.

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	FIGS. 6, 7, 9-13, 20, 22), and equivalents thereof		

#4: "means for receiving, at a conditional access server, security messages of a primary security system in a first security domain" U.S. Patent No. 8,291,236, Claim 100 Proposed by Both Sides	This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "receiving at a conditional access server, security messages of a primary security system in a first security domain" **Structure:** receiving devices (e.g., set-top boxes with a smart card), and their description in the specification, e.g., at 2:6-7, 14-19; set-top box (STB), including the tuner portion, and their description in the specification, e.g., at 2:20-24; I/O Device(s) (110) (e.g., modem, or network interface) in FIG. 1, and their description in the specification; secondary CA server (255), set top box (257), or bridge (259) in FIG. 2A, and their description in the specification; secondary CA server (281), bridge (283), or physical interface (285) in FIG. 2B, and their description in the specification; satellite dishes (203, 205), satellite TV bridges (207, 209), cable TV bridges (217, 219), cable TV	**Function:** (same) **Structure:** satellite TV bridges (207, 209), cable TV bridges (217, 219), and equivalents thereof.	This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "receiving at a conditional access server, security messages of a primary security system in a first security domain" **Structure:** • receiving devices (*e.g.*, set-top boxes with a smart card), and their description in the specification, *e.g.*, at 2:6–7, 2:14–19; set-top box (STB), including the tuner portion, and its description in the specification, *e.g.*, at 2:20–24; set top box (257) in Figure 2A, and its description in the specification; the device of the user of Figure 10A, and its description in the specification; media player (775) in Figure 10C, and its description in the specification. • secondary CA server, and its description of receiving security messages in the specification, *e.g.*, 4:17–19, 4:25–27, 4:44–47;

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	secondary CA server (225), satellite TV secondary CA server (227), media player (231), personal computer (233), access point (241), or PDA (243) in FIG. 3, and their description in the specification; receiving at a secondary CA server, as described in FIG. 4, e.g., at 10:25-11:25; secondary CA servers in FIG. 5 (431), FIG. 6 (461), FIG. 7 (501), FIG. 8 (531), or FIG. 9 (561), and their descriptions in the specification; the device of the user of FIG. 10A, and its description in the specification, e.g., at 14:47-50, 14:66-15:1; secondary CA server (772) in FIG. 10C, and its description in the specification; bridges (603) or secondary CA servers (609) in FIGS. 11, 12, 13, and 14, and their description in the specification; secondary CA server of FIG. 15 (701), and its description in the specification, e.g., at 21:28-36; and equivalents thereof.		secondary CA server (255) in Figure 2A, and its description in the specification; secondary CA server (281) in Figure 2B, and its description in the specification; receiving at a secondary CA server, as described in Figure 4, *e.g.*, at 10:25–11:25; secondary CA servers in Figure 5 (431), Figure 6 (461), Figure 7 (501), Figure 8 (531), and Figure 9 (561), and their descriptions in the specification; secondary CA server (772) in Figure 10C, and its description in the specification; bridges (603) and secondary CA servers (609) in FIGS. 11, 12, 13, and 14, and their description in the specification; secondary CA server of Figure 15 (701), and its description in the specification, *e.g.*, at 21:28–36; secondary CA server of Figure 16 and its description in the specification; • satellite and cable TV related components, i.e., satellite dishes (203, 205),

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			satellite TV bridges (207, 209), satellite TV secondary CA server (227), cable headend (215), cable TV bridges (217, 219), cable TV secondary CA server (225), and their description in the specification; • and equivalents thereof.

#5: "means for processing the security messages on the conditional access server" U.S. Patent No. 8,291,236, Claim 100 Proposed by Both Sides	This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "processing the security messages on the conditional access server" **Structure:** hardware and software of digital data processing system, e.g., computer system (101), of FIG. 1, and their description in the specification, e.g., at 23:21-24:48; the secondary CA server, and its description of processing security messages in the specification, e.g., at 3:20-32; 3:55-58, 4:4-16, 4:20-24, 4:28-43, 4:47-54, 5:1-11, 5:19-33, 5:48-59; secondary CA server (255) in FIG. 2A, and its description in the specification; secondary CA server (281) in FIG. 2B, and its description in the specification, e.g., at 8:6-38; satellite TV bridges (207, 209), cable TV bridges (217, 219), cable TV secondary CA server (225), satellite TV secondary CA server (227), media player (231), personal computer (233), or PDA (243) in FIG. 3,	**Function:** (same) Structure: hardware and software of digital data processing system, *e.g.*, computer system (101) of FIG.1, and its description in the specification, i.e., 23:26-38; satellite TV bridges (207, 209), cable TV bridges (217, 219); processing of security messages on the conditional access server in a first security domain, as described in FIG. 4 (10:25-41, 10:53-11:25) and FIG. 10A (14:39-15:2).	This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "processing the security messages on the conditional access server" **Structure:** • secondary CA server, and its description of processing security messages in the specification, e.g., at 3:20–32; 3:55–58, 4:4–16, 4:20–24, 4:28–43, 4:47–54; secondary CA server (255) in FIG. 2A, and its description in the specification; secondary CA server (281) in FIG. 2B, and its description in the specification; processing of security messages on the conditional access server, as described in FIG. 4 (10:25-41, 10:53-11:25), FIG. 5 (431), FIG. 6 (461), FIG. 7 (501), FIG. 8 (531), FIG. 9 (561), FIG. 10A (14:45-50, 14:58-15:39), FIG. 10C (772), FIG. 11 (609), FIG. 12 (609), FIG.

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	and their description in the specification; processing of security messages on the conditional access server, as described in FIG. 4 (10:25-41, 10:53-11:25), FIG. 5 (431), FIG. 6 (461), FIG. 7 (501), FIG. 8 (531), FIG. 9 (561), FIG. 10A (14:45-50, 14:58-15:39), FIG. 10C (772), FIG. 11 (609), FIG. 12 (609), FIG. 13 (609), FIG. 14 (609), FIG. 15 (703), or FIG. 16 (21:55-23:20), and their description in the specification; and equivalents thereof.		13 (609), FIG. 14 (609), FIG. 15 (703), or FIG. 16 (21:55-23:20), and their description in the specification; • cable TV bridge (217), cable TV secondary CA server (225), satellite TV secondary CA server (227); • and equivalents thereof.

#6: "means for transmitting, from the conditional access server to a secondary conditional access client through a network connection in a second security domain, access controlled data that is in an access controlled format and that is at least partially derived from the security messages" U.S. Patent No. 8,291,236, Claim 100 Proposed by Both Sides	This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "transmitting, from the conditional access server to a secondary conditional access client through a network connection in a second security domain, access controlled data that is in an access controlled format and that is at least partially derived from the security messages" **Structure:** display controller (108) or I/O device(s) (110) (e.g., modem, or network interface) in FIG. 1, and their description in the specification; secondary CA server (255) or bridge (259) in FIG. 2A, and their description in the specification; secondary CA server (281), bridge (283), or physical interface (289) in FIG. 2B, and their description in the specification, e.g., at 8:46-49; network (201), satellite TV bridges (207, 209), cable TV bridges (217, 219), cable TV secondary CA server (225), satellite TV secondary CA server (227), media player	**Function:** (same) **Structure:** network 201, i.e., a Local Area Network (LAN) or Wireless LAN, as described in Fig. 3 (8:62-9:59), modem or network interface 110 in FIG. 1; FIG. 4 (10:25-46).	This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "transmitting, from the conditional access server to a secondary conditional access client through a network connection in a second security domain, access controlled data that is in an access controlled format and that is at least partially derived from the security messages" **Structure:** • User devices, *i.e.*, access point (241) in Figure 3, and its description in the specification; • Interfaces and controllers, i.e., physical interface (289) in Figure 2B and its description in the specification; • Secondary conditional access (CA) servers, *i.e.*, cable TV secondary CA server (225), satellite TV secondary CA server (227) in Figure 3, and their description in the specification; secondary CA servers in Figure 5

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	(231), personal computer (233), access point (241), PDA (243), or wireless connection (245) in FIG. 3, and their description in the specification; transmitted access controlled data, and their descriptions in the specification, e.g., 3:55-58, 8:6-16, 15:13-17; secondary CA servers or networks in FIG. 5 (431, 439), FIG. 6 (461, 465), FIG. 7 (501, 505), FIG. 8 (531, 537), or FIG. 9 (561, 565), and their description in the specification; secondary CA server in FIG. 10C (772), and its description in the specification; bridges (603) or secondary CA servers (609) in FIGS. 11, 12, 13, 14, and their description in the specification; secondary CA server of FIG. 15 (705), and its description in the specification, e.g., at 21:40-44; and equivalents thereof.		(431, 439), Figure 6 (461, 465), Figure 7 (501, 505), Figure 8 (531, 537), or Figure 9 (561, 565), and their description in the specification; secondary CA server (772) in Figure 10C, and its description in the specification; secondary CA servers (609) in Figures 11, 12, 13, 14, and their description in the specification; secondary CA server in Figure 15 (705) and its description in the specification, e.g., at 21:40–44; • Bridges, i.e., bridge (259) in Figure 2A , and its description in the specification; bridges (603) in Figures 12, 14, and their description in the specification; • and equivalents thereof.

#7: "means for receiving, a secondary conditional access client from a conditional access server through a network connection, access controlled data that is in an access controlled format and that is at least partially derived from a security message of the primary security system in a first security domain, the secondary conditional access client being in a second security domain" U.S. Patent No. 8,291,236, Claim 116 Proposed by Both Sides	This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "receiving, at a secondary conditional access client from a conditional access server through a network connection, access controlled data that is in an access controlled format and that is at least partially derived from a security message of the primary security system in a first security domain, the secondary conditional access client being in a second security domain" **Structure:** I/O Device(s) (110) (e.g., modem, or network interface) in FIG. 1, and their description in the specification; secondary CA clients (271, 273, or 279) in FIG. 2A, and their description in the specification; network (201), storage (221, 223, 229, 235), media player (231), personal computer (233), TV (237, 247), display device (239), access point (241), or PDA (243) in FIG. 3, and their description in the	**Function:** (same) **Structure:** network 201, i.e., a Local Area Network (LAN) or Wireless LAN as described in Fig. 3 and 9:2-14, modem or network interface devices 110 in FIG. 1; secondary CA clients (271, 273, or 279) in FIG. 2A, and their description in the specification; media player (231), personal computer (233), TV (237, 247), access point (241), or PDA (243) in FIG. 3, and their description in the specification; secondary CA clients of FIGS. 5, 6, 7, 8, or 9 and their description in the specification; FIG. 10C and its description in the specification; secondary CA client (707) of FIG. 15, and its description in the specification; or equivalents thereof.	This term is subject to 35 U.S.C. § 112, ¶ 6. **Function:** "receiving, at a secondary conditional access client from a conditional access server through a network connection, access controlled data that is in an access controlled format and that is at least partially derived from a security message of the primary security system in a first security domain, the secondary conditional access client being in a second security domain" **Structure:** • I/O Device(s) (110) (e.g., modem, or network interface) in Figure 1 and their description in the specification; • storage (221, 223, 229, 235), media player (231), personal computer (233), access point (241), or PDA (243) in Figure 3, and their description in the specification; media player (775) in Figure 10C, and its description in the

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	specification; secondary CA clients of FIGS. 5, 6, 7, 8, 9, or 10A, and their description in the specification; media player (775) in FIG. 10C, and its description in the specification; renderers (607) in FIGS. 11, 12, 13, or 14, and their description in the specification; secondary CA client (707) of FIG. 15, and its description in the specification; and equivalents thereof.		specification; renderers (607) in Figures 11, 13, or 14, and their description in the specification; • secondary CA clients (271, 273, 279) in Figure 2A, and their description in the specification; secondary CA clients of Figures 5, 6, 7, 8, 9, and their description in the specification; secondary CA client (707) of Figure 15, and its description in the specification; • and equivalents thereof.

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