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UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

ENTROPIC COMMUNICATIONS, LLC, Plaintiff, v. DISH NETWORK CORPORATION, *et al.*, Defendants.	Case No. 2:23-cv-01043-JWH-KES (Lead Case) Case No. 2:23-cv-01047-JWH-KES (Related Case) Case No. 2:23-cv-01048-JWH-KES (Related Case) Case No. 2:23-cv-05253-JWH-KES (Related Case) **JOINT CLAIM CONSTRUCTION AND PRE-HEARING STATEMENT; APPENDIX A**
ENTROPIC COMMUNICATIONS, LLC, Plaintiff, v. COX COMMUNICATIONS, INC., *et al.*, Defendants.	Date: September 17, 2024 Time: 10:00AM Courtroom: 9D, (Santa Ana)

ENTROPIC COMMUNICATIONS, LLC,

Plaintiff,

v.

COMCAST CORPORATION, *et al.*,

Defendants.

ENTROPIC COMMUNICATIONS, LLC,

Plaintiff,

v.

DIRECTV, LLC, *et al.*,

Defendants.

Pursuant to the Court's May 2, 2024 Order (ECF No. 456), Plaintiff Entropic Communications, LLC ("Entropic") and Defendants AT&T Services, Inc.; DIRECTV, LLC; CoxCom, LLC; Cox Communications California, LLC; Cox Communications, Inc.; Dish Network California Service Corporation; DISH Network Corporation; DISH Network L.L.C.; DISH Network Service L.L.C.; Comcast Cable Communications, LLC; Comcast Cable Communications Management, LLC; and Comcast Corporation (collectively, "Defendants") hereby submit their Joint Claim Construction and Pre-Hearing Statement regarding U.S. Patent Nos. 7,295,518 (the "'518 Patent"); 7,594,249 (the "'249 Patent"); 7,889,759 (the "'759 Patent"); 8,085,802 (the "'802 Patent"); 8,320,566 (the "'0,566 Patent"); 8,363,681 (the "'681 Patent"); 8,621,539 (the "'539 Patent"); 8,631,450 (the "'450 Patent"); 9,838,213 (the "'213 Patent"); and 10,432,422 (the "'422 Patent").

A. Agreed Upon Constructions

The Parties have agreed to the following constructions:

Term	Agreed Construction
Preamble ('249 Patent, claim 10)	Limiting
"each terminal device capable of communicating with other terminal devices the reflected signal path created by the filter" ('249 Patent, claim 10)	each terminal device capable of communicating with other terminal devices using the reflected signal path created by the filter
Preamble ('759 Patent, claims 1–3)	Limiting
Preamble ('802 Patent, claims 3, 4)	Limiting

Term	Agreed Construction
Preamble ('539 Patent, claim 1)	Limiting
Preamble ('450 Patent, claim 29)	Limiting
Preamble ('213 Patent, claim 1)	Limiting

Any term not listed above or in Appendix A is given its plain meaning and is not indefinite.

B. Each Party's Proposed Constructions

The parties have attached a chart hereto as Appendix A, which shows each party's proposed construction of each disputed claim term, phrase, or clause, together with an identification of references from the specification or prosecution history that support that construction, and an identification of extrinsic evidence known to the party on which it intends to rely either to support its construction or to oppose any other party's proposed construction, including but not limited to, as permitted by law, dictionary definitions, citations to learned treatises and prior art, and testimony of percipient and expert witnesses.

Furthermore, the parties have agreed that a party can rely upon any of the evidence listed in Appendix A regardless of which party listed the evidence.

C. Anticipated Time for Hearing

Plaintiff proposes a combined total of 4–5 hours for presentation at the hearing, with the time divided equally between the sides. Defendants propose a combined total of 12 hours for presentation at the hearing, with the time divided equally between the sides.

/ / /

/ / /

D. Witness Testimony at Hearing

Entropic may call its claim-construction expert, Mr. John Holobinko, to testify at the claim-construction hearing.

Defendants may call their claim-construction experts, Dr. Krista S. Jacobsen and Dr. Bertrand Hochwald, to testify at the claim-construction hearing.

E. Other Issues for a Prehearing Conference

None.

Dated: June 28, 2024

Respectfully submitted,

By: *<u>/s/ Christina N. Goodrich</u>*

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SIGNATURE CERTIFICATION

Pursuant to L.R. 5-4.3.4(a)(2)(i), I, Christina N. Goodrich, attest that all other signatories listed herein and on whose behalf the filing is submitted concur in the filing's content and have authorized the filing.

Dated: June 28, 2024

/s/ Christina N. Goodrich
CHRISTINA N. GOODRICH

APPENDIX A

JOINT CLAIM CONSTRUCTION AND PRE-HEARING STATEMENT
APPENDIX A

’249 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
“equalization on the received signal that restores a flat frequency response to overcome communication channel impairments caused by the reflected signals” (’249 Patent, claim 10)	Plain meaning, not indefinite	The specification and claims of the ’249 Patent, including *e.g.*: 5:64–6:13; 6:31–34; 8:50–54; claims 3, 4, 6, 7, 10–17. The ’249 Patent file history, including *e.g.*: 5/25/07 Response; 9/14/06 Response. 5/31/24 Ex Parte Rexam Notice of Intent to Issue Certificate. Extrinsic evidence, including: Expert Declaration of John Holobinko and materials cited therein; THEORY AND DESIGN OF DIGITAL COMMUNICATIONS	equalization on the received signal that eliminates from the received signal all intersymbol interference (ISI) caused by the reflected signals	Intrinsic Evidence: The specification and claims of the ’249 patent, including, *e.g.*, 1:20-35, 2:8-21, 2:39-3:7, 3:22-27, 4:2-6, 4:18-22, 4:28-31, 5:64-6:34, 8:50-60; Claim 10. Appl. No. 09/910,412 File History (’249 File History), including *e.g.*: July 28, 2005, Office Action. Oct. 14, 2005, Response to Office Action. Jan. 11, 2006, Office Action. Feb. 17, 2006, Interview Summary. Apr. 17, 2006, Request for

’249 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
		SYSTEMS by Tri Ha (2011), including chapters 9 and 10 (Entropic-DISH-MoCA_050766–Entropic-DISH-MoCA_051435).		Continued Examination and Response to Office Action. May 26, 2006, Office Action. Sept. 14, 2006, Response to Office Action. Nov. 28, 2006, Office Action. May 25, 2007, Request for Continued Examination and Response to Office Action. July 24, 2007, Office Action. Jan. 22, 2008, Response to Office Action. Apr. 4, 2008, Office Action. July 28, 2008, Request for Continued Examination and Response to Office Action.

’249 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Oct. 20, 2008, Office Action. Jan. 19, 2009, Response to Office Action. May 18, 2009, Notice of Allowance. Ex Parte Reexamination of the ’249 patent, including all corresponding briefing, notices, and orders. U.S. Patent No. 6,226,322, 8:18-29. <u>Extrinsic Evidence</u>: Jacobsen, An Efficient Digital Modulation Scheme for Multimedia Transmission on the Cable Television Network (1994), 305-06. Jacobsen, Ph.D. Dissertation

’249 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				(1996), 18-19, 27. IEEE Press, Cable Modems: Current Technologies and Applications (1999), 155, 162, 165, Fig. 4 (titled “Effect of Adaptive Equalization in ISI Channel”). Rauschmayer, ADSL/VDSL Principles (1999), 187-88, 191-203. Cioffi, Course Reader, 144. Wade, Signal Coding and Processing (1994), 192-193. IEEE, Seventh Edition Dictionary (2000), 388. Opinions and testimony of Dr. Krista Jacobsen, including but not limited to, all intrinsic and extrinsic

’249 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				evidence cited in Dr. Jacobsen’s anticipated claim construction declaration.

See ’249 Patent, claim 10:

> A broadband local area network for transmitting modulated signals using coaxial cable building wiring containing a plurality of branches comprising:
>
> a filter located at the point of entry of the building wiring that rejects network signals originating in the building wiring such that the rejected network signals do not pass through the filter, but rather are reflected by the filter back into all branches of the building wiring;
>
> at least one signal splitter;
>
> a plurality of terminal devices connected to the wiring branches, each terminal device capable of communicating with other terminal devices the reflected signal path created by the filter, wherein the terminal devices perform equalization on the received signal that restores a flat frequency response to overcome communication channel impairments caused by the reflected signals.

’518 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
“bit loading is selected based	Plain meaning, not indefinite	The specification and claims of the ’518 Patent, including	Indefinite	Intrinsic Evidence: The specification and claims

’518 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
on the determined channel characteristics” (’518 Patent, claim 1)		*e.g.*: 4:28–62; 5:1–6; 7:21–9:34; 9:36–58; 10:29–11:5; Figs. 1, 2, 5, 6, 8, 10. The ’518 Patent file history, including: 9/6/07 Notice of Allowability. Extrinsic evidence, including: Expert Declaration of John Holobinko and materials cited therein.		of the ’518 patent, including, *e.g.*, Abstract, 1:13-16, 2:28-34, 3:5-20, 4:37-62, 5:24-25, 5:29-31, 5:36-50, 6:45-52, 7:1-16, 7:65-8:3, 8:9-26, 9:13-21, 9:35-10:20, 10:61-11:6, 11:44-47, 12:8-26; Figures 2, 7, 10; Claims 1, 3, 4. Appl. No. 10/322,834 File History (’518 File History), including *e.g.*: Mar. 19, 2007, Office Action. Apr. 3, 2007, Response to Office Action. Sept. 6, 2007, Notice of Allowance. <u>Extrinsic Evidence</u>: Opinions and testimony of

’518 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Dr. Krista Jacobsen, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Jacobsen’s anticipated claim construction declaration.

See ’518 Patent, claim 1:

A data communication network comprising:

at least two network devices, each network device comprising a multi-carrier modulator for modulating data, an up converter for translating the modulated data to an RF carrier frequency, a down converter for translating an RF signal, and a multi-carrier demodulator for demodulating the translated RF signal to produce data; and

cable wiring comprising a splitter with a common port and a plurality of tap ports, and a plurality of segments of coaxial cable connecting between the splitter tap ports and the network devices;

whereby network devices communicate with each other through the cable wiring using multi-carrier signaling;

wherein network devices transmit probe messages through the cable wiring and analyze received probe message signals to determine channel characteristics and bit loading is selected based on the determined channel characteristics.

’759 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
“broadband cable network” (’759 Patent, claims 1, 2, 3)	Plain meaning, wherein the network is a local network	The specification and claims of the ’759 Patent, including *e.g.*: 1:7–35; 1:62–2:37; 3:22–30; 3:63–4:3; 5:46–6:3; 7:31–45; 8:18–33; 9:6–21; Figs. 1–3, 6–8. The ’518 Patent, including: Abstract; 1:33–52; 4:19–47.	Plain and ordinary meaning	Intrinsic Evidence: The specification and claims of the ’759 patent, including, *e.g.*, Title, Abstract, 1:4-35, 1:39-42, 1:45-2:3, 2:11-3:6, 3:22-29, 3:63-12:26, Figures 1-3, 6-8; Claims 1-23. Appl. No. 10/889,975 File History (’759 File History), including *e.g.*: Apr. 7, 2010, Office Action. July 7, 2010, Response to Office Action. Oct. 6, 2010, Notice of Allowance. U.S. Patent No. 7,594,249, 9:32-33. Extrinsic Evidence: Newton, Newton's Telecom

’759 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Dictionary 16th Edition (2000), 128. Tanenbaum, Computer Networks Third Edition (1996), 84-86.
“node” (’759 Patent, claims 1, 2, 3)	terminal downstream of the point of entry	The claims and specification of the ’759 Patent, including *e.g.*: 1:45–61; 3:22–29; 3:42–54; 5:50–57; 9:14–37. The ’518 Patent, including: Abstract; 1:33–52; 4:19–47. Extrinsic evidence, including: 47 C.F.R. § 76.5(v).	Plain and ordinary meaning	<u>Intrinsic Evidence</u>: The specification and claims of the ’759 patent, including, *e.g.*, Abstract, 1:45-2:10, 3:22-30, 4:7-40, 4:63-5:26, 5:39-7:18, 7:38-11:51; Figures 3-10C; Claims 1-23. Appl. No. 10/889,975 File History (’759 File History), including *e.g.*: Apr. 7, 2010, Office Action. July 7, 2010, Response to Office Action. Oct. 6, 2010, Notice of Allowance.

’759 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Extrinsic Evidence: Newton, Newton’s Telecom Dictionary 16th Edition (2000), 613. Ciciora, Modern Cable Television Technology (1999), 576-577. Evans, Digital Telephony Over Cable (2001), 7-8. Armitage, Quality of Service in IP Networks (2000), 36. Gast, 802.11 Wireless Networks: The Definitive Guide (2002), 25-27. Elsenpeter, Optical Networking (2002), 62.
“a common bit-loading modulation	a bit-loading modulation scheme used	The specification and claims of the ’759 Patent, including *e.g.*:	the lowest modulation values	Intrinsic Evidence: The specification and claims of the ’759 patent, including,

’759 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
scheme” (’759 Patent, claims 1, 2, 3)	for simultaneous transmission to multiple nodes so that each can receive the transmission	6:4–7:12; 10:15–11:51; Figs. 4–8, 10A–C, 11; claims 1–7. IPR2024-00452 and all exhibits submitted in support thereof (*e.g.*, Ex. 1002 ¶¶ 60, 154). IPR2024-00462 and all exhibits submitted in support thereof (*e.g.*, Ex. 1004 ¶¶ 43–45). Extrinsic Evidence, including: Expert Declaration of John Holobinko and materials cited therein.	supported by the channel paths	*e.g.*, Abstract, 4:7-40, 7:21-30, 10:6-11:51; Figures 10A-10C; Figure 11, Claims 1-23. Appl. No. 10/889,975 File History (’759 File History), including *e.g.*: Apr. 7, 2010, Office Action. July 7, 2010, Response to Office Action. Oct. 6, 2010, Notice of Allowance. <u>Extrinsic Evidence</u>: Chen, DSL Simulation Techniques and Standards Development for Digital Subscriber Line Systems (1998), 442-43. Ciciora, Modern Cable Television Technology

’759 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				(1999), 175, 177-79, 182. Evans, Digital Telephony Over Cable (2001), 91-93, 95. Rauschmayer, ADSL/VDSL Principles (1999), 159. Jan. 16, 2024, Hearing Transcript on Motion to Dismiss for Failure to Claim Patent-Eligible Subject Matter under 35 U.S.C. § 101. Entropic’s Dec. 20, 2023, Opposition to DirectTV’s Motion to Dismiss. Dkt. 215, Entropic Communications, LLC v. DISH Network Corporation et al., 2:23-cv-01043-JWH-KES (C.D. Cal.). Opinions and testimony of

’759 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Dr. Bertrand Hochwald, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Hochwald’s anticipated claim construction declaration.
“response signal” (’759 Patent, claims 1, 2, 3)	Plain meaning, not indefinite	The specification and claims of the ’759 Patent, including *e.g.*: 4:14–40; 6:4–7:18; 10:58–11:51; Figs. 4–9, 10A–10C, 11; claims 11–14, 18–20. The ’759 Patent file history, including *e.g.*: 4/7/10 Office Action.	signal transmitted in response to the probe signal	<u>Intrinsic Evidence</u>: The specification and claims of the ’759 patent, including, *e.g.*, 4:7-40, 10:58-11:51; Figure 11; Claims 1-23. Appl. No. 10/889,975 File History (’759 File History), including *e.g.*: Apr. 7, 2010, Office Action. July 7, 2010, Response to Office Action. Oct. 6, 2010, Notice of Allowance. <u>Extrinsic Evidence</u>:

See '759 Patent, claim 1:

A method for determining a common bit-loading modulation scheme for communicating between a plurality of nodes in a broadband cable network ("BCN"), the method comprising:

transmitting a probe signal from a transmitting node within the plurality of nodes to a sub-plurality of receiving nodes within the plurality of nodes;

receiving a plurality of response signals from the sub-plurality of receiving nodes wherein each response signal includes a bit-loading modulation scheme determined by a corresponding receiving node; and

determining the common bit-loading modulation scheme from the received plurality of response signals;

receiving the probe signal at one receiving node of the plurality of receiving nodes through a channel path of transmission;

determining the transmission characteristics of the channel path at the one receiving node; and

transmitting a response signal from the one receiving node to the transmitting node,

wherein the transmission characteristics of the channel path are determined by measuring the signal-to-noise ("SNR") characteristics of the received probe signal at the one receiving node and

wherein determining a common bit-loading modulation scheme includes:

comparing a plurality of bit-loading modulation schemes from the corresponding received plurality of response signals; and

determining the common bit-loading modulation scheme in response to comparing the plurality of bit-loaded modulation schemes.

See '759 Patent, claim 2:

A method for determining a common bit-loading modulation scheme for communicating between a plurality of nodes in a broadband cable network ("BCN"), the method comprising:

transmitting a probe signal from a transmitting node within the plurality of nodes to a sub-plurality of receiving nodes within the plurality of nodes;

receiving a plurality of response signals from the sub-plurality of receiving nodes wherein each response signal includes a bit-loading modulation scheme determined by a corresponding receiving node;

determining the common bit-loading modulation scheme from the received plurality of response signals;

receiving the probe signal at one receiving node of the plurality of receiving nodes through a channel path of transmission;

determining the transmission characteristics of the channel path at the one receiving node;

transmitting a response signal from the one receiving node to the transmitting node, wherein the transmission characteristics of the channel path are determined by measuring the bit-error rate ("BER") characteristics of the received probe signal at the one receiving node and

generating the response signal, wherein the response signal utilizes a bit-loading modulation scheme that is generated by the one receiving node in response to determining the transmission characteristics of the channel path,

wherein determining a common bit-loading modulation scheme includes:

comparing a plurality of bit-loading modulation schemes from the corresponding received plurality of response signals; and

determining the common bit-loading modulation scheme in response to comparing the plurality of bit-loaded modulation schemes.

See '759 Patent, claim 3:

A method for determining a common bit-loading modulation scheme for communicating between a plurality of nodes in a broadband cable network ("BCN"), the method comprising:

transmitting a probe signal from a transmitting node within the plurality of nodes to a sub-plurality of receiving nodes within the plurality of nodes;

receiving a plurality of response signals from the sub-plurality of receiving nodes wherein each response signal includes a bit-loading modulation scheme determined by a corresponding receiving node; and

determining the common bit-loading modulation scheme from the received plurality of response signals;

receiving the probe signal at one receiving node of the plurality of receiving nodes through a channel path of transmission;

determining the transmission characteristics of the channel path at the one receiving node; and

transmitting a response signal from the one receiving node to the transmitting node,

wherein the transmission characteristics of the channel path are determined by measuring the signal-to-noise ("SNR") characteristics of the received probe signal at the one receiving node,

wherein the transmission characteristics of the channel path are determined by measuring the packet error rate ("PER") characteristics of the received probe signal at the one receiving node, and

wherein determining a common bit-loading modulation scheme includes;

comparing a plurality of bit-loading modulation schemes from the corresponding received plurality of response signals; and

determining the common bit-loading modulation scheme in response to comparing the plurality of bit-loaded modulation schemes.

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
“broadband cable network” (’802 Patent, claims 3, 4)	Plain meaning, wherein the network is a local network	The claims and specification of the ’802 Patent, including *e.g.*: 1:15–2:52; 3:5–4:3; 4:7–27; 6:18–7:14, 9:10–30, 12:41–13:39, 15:15–40; 16:5–14; 16:50–20:58; Figs. 1–11, 16, 17; claims 3 and 4. The ’518 Patent, including: Abstract; 1:33–52; 4:19–47. The ’802 Patent file history, including: 5/5/09 Response to Office Action.	Plain and ordinary meaning	Intrinsic Evidence: The specification and claims of the ’802 patent, including, *e.g.*, Title, 1:7-11, 1:15-18, 1:27-31, 1:59-2:3, 2:4-15, 3:5-33, 4:7-27, 4:44-48, 19:22-26; Figures 1, 2, 10-11, Claims 1, 2, 3, 4. Appl. No. 11/292,939 File History (’802 File History), including *e.g.*: Feb. 4, 2009, Office Action. May 5, 2009, Response to Office Action. Aug. 5, 2009, Office Action. Nov. 4, 2009, Response to Office Action.

'802 PATENT				
Term (Claim)	**Entropic's Proposed Construction**	**Entropic's Evidence**	**Defendants' Proposed Construction**	**Defendants' Evidence**
				Feb. 25, 2010, Office Action. May 24, 2010, Request for Continued Examination and Response to Office Action. Aug. 3, 2010, Office Action. Nov. 2, 2010, Response to Office Action. Jan. 20, 2011, Office Action. Apr. 18, 2011, Response to Office Action. July 5, 2020, Miscellaneous Communication. Aug. 18, 2011, Notice of Allowance. Sep. 6, 2011, Notice to File Corrected Application Papers Sep. 8, 2011, Response to

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Notice to File Corrected Application Papers. U.S. Patent No. 7,594,249, 9:32-33. <u>Extrinsic Evidence</u>: Newton, Newton's Telecom Dictionary 16th Edition (2000), 128. Tanenbaum, Computer Networks Third Edition (1996), 84-86.
“control and data packet” / “data and control packet” (’802 Patent, claims 3, 4)	a packet that may contain either a control payload or a data payload	The claims and specification of the ’802 Patent, including *e.g.*: 24:38–25:24; 25:36–26:57, 28:51–59; Figs. 18–22A&B, 40; claims 3 and 4.	Plain and ordinary meaning	<u>Intrinsic Evidence</u>: The specification and claims of the ’802 patent, including, *e.g.*, 5:27-30, 6:3-4, 9:31-10:12, 13:17-19, 24:38-25:35, 25:36-65, 25:66-26:15, 26:32-36, 28:51-59, Figures 18, 19, 22A, 23, 25, 40; Claims 1, 3, 4. Appl. No. 11/292,939 File

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				History (’802 File History), including *e.g.*: Feb. 4, 2009, Office Action. May 5, 2009, Response to Office Action. Aug. 5, 2009, Office Action. Nov. 4, 2009, Response to Office Action. Feb. 25, 2010, Office Action. May 24, 2010, Request for Continued Examination and Response to Office Action. Aug. 3, 2010, Office Action. Nov. 2, 2010, Response to Office Action. Jan. 20, 2011, Office Action. Apr. 18, 2011, Response to

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Office Action. July 5, 2020, Miscellaneous Communication. Aug. 18, 2011, Notice of Allowance. Sep. 6, 2011, Notice to File Corrected Application Papers Sep. 8, 2011, Response to Notice to File Corrected Application Papers. <u>Extrinsic Evidence</u>:
“beacon packet” (’802 Patent, claims 3, 4)	a type of robust packet used to provide basic timing and control information	The claims and specification of the ’802 Patent, including *e.g.*: 8:54–9:9; 9:31–51; 13:15–17; 25:13–24; 28:60–29:3; Fig. 41; claims 3 and 4. Extrinsic evidence, including:	Plain and ordinary meaning	<u>Intrinsic Evidence</u>: The specification and claims of the ’802 patent, including, *e.g.*, 6:5, 6:8-15, 8:56-59, 9:31-10:12, 13:15-17, 25:13-24, 28:60-29:3; Figures 18, 41; Claims 1, 2, 3, 4. Appl. No. 11/292,939 File

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
		Expert Declaration of John Holobinko and materials cited therein; 802.11 Mgmt: Beacon Frame (Entropic-DISH-MoCA_050008–Entropic-DISH-MoCA_050025); Troubleshooting Token Ring (Entropic-DISH-MoCA_051436–Entropic-DISH-MoCA_051447).		History (’802 File History), including *e.g.*: Feb. 4, 2009, Office Action. May 5, 2009, Response to Office Action. Aug. 5, 2009, Office Action. Nov. 4, 2009, Response to Office Action. Feb. 25, 2010, Office Action. May 24, 2010, Request for Continued Examination and Response to Office Action. Aug. 3, 2010, Office Action. Nov. 2, 2010, Response to Office Action. Jan. 20, 2011, Office Action. Apr. 18, 2011, Response to

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Office Action. July 5, 2020, Miscellaneous Communication. Aug. 18, 2011, Notice of Allowance. Sep. 6, 2011, Notice to File Corrected Application Papers Sep. 8, 2011, Response to Notice to File Corrected Application Papers. <u>Extrinsic Evidence</u>: Gast, 802.11 Wireless Networks: The Definitive Guide (2002), 69, 79-80. IEEE 802.15.4-2003 Standard, 17, 21. Opinions and testimony of

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Dr. Krista Jacobsen, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Jacobsen’s anticipated claim construction declaration.
“node” (’802 Patent, claims 3, 4)	terminal downstream of the point of entry	The specification and claims of the ’802 Patent, including *e.g.*: 1:15–38; 2:4–4:34; 6:18–7:14; 9:10–51; 13:11–39; 15:15–40; 16:5–14; 16:50–20:58; Figs. 1–11, 16, 17. The ’518 Patent, including: Abstract; 1:33–52; 4:19–47. The ’802 Patent file history, including: 5/5/09 Response to Office Action.	Plain and ordinary meaning	Intrinsic Evidence: The specification and claims of the ’802 patent, including, *e.g.*, 1:31-38, 1:52-58, 2:4-52, 3:17-33, 4:7-27, 4:62-67, 5:7-18, 7:5-14, 7:55-8:1, 8:33-35, 9:19-30, 9:40-44, 10:2-6, 10:7-9, 10:29-38, 10:43-49, 11:11-17, 11:37-44, 12:23-30, 12:31-40, 12:41-44, 12:60-65, 13:11-19, 13:37-39, 15:4-9, 15:37-38, 16:24-49, 16:50-18:47, 18:48-19:26, 19:51-20:17, 20:40-44, 20:59-21:27, 21:44-57, 22:17-34, 22:35-36, 23:16-49, 24:45-49, 26:40-57, 27:61-66, 28:9-

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				27, 28:43-45, 29:19-27, 29:45-50; Figures 7, 8, 9, 10, 11, 19, 21, 22A, 22B, 23, 25, 26, 27, 28, 29, 30, 31, 33, 34, 36, 38, 39, 41; Claims 1, 2, 3, 4. Appl. No. 11/292,939 File History (’802 File History), including *e.g.*: Feb. 4, 2009, Office Action. May 5, 2009, Response to Office Action. Aug. 5, 2009, Office Action. Nov. 4, 2009, Response to Office Action. Feb. 25, 2010, Office Action. May 24, 2010, Request for Continued Examination and

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Response to Office Action. Aug. 3, 2010, Office Action. Nov. 2, 2010, Response to Office Action. Jan. 20, 2011, Office Action. Apr. 18, 2011, Response to Office Action. July 5, 2020, Miscellaneous Communication. Aug. 18, 2011, Notice of Allowance. Sep. 6, 2011, Notice to File Corrected Application Papers Sep. 8, 2011, Response to Notice to File Corrected Application Papers.

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Extrinsic Evidence: Newton, Newton’s Telecom Dictionary 16th Edition (2000), 613. Ciciora, Modern Cable Television Technology (1999), 576-577. Evans, Digital Telephony Over Cable (2001), 7-8. Armitage, Quality of Service in IP Networks (2000), 36. Gast, 802.11 Wireless Networks: The Definitive Guide (2002), 25-27. Elsenpeter, Optical Networking (2002), 62.
“admission window” (’802 Patent,	admission window field	The specification and claims of the ’802 Patent, including *e.g.*:	Indefinite	Intrinsic Evidence: The specification and claims of the ’802 patent, including,

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
claims 3, 4)		8:51–9:30; 13:11–49; 25:13–24; 28:60–29:3; Fig. 41. The ’802 Patent file history, including *e.g.*: 5/24/10 Response. Extrinsic evidence, including: Expert Declaration of John Holobinko and materials cited therein.		*e.g.*, 6:5, 8:33-35, 28:60-29:3; Figures 13A-13C, 22A, 41; Claims 1, 2, 3, 4. Appl. No. 11/292,939 File History (’802 File History), including *e.g.*: Feb. 4, 2009, Office Action. May 5, 2009, Response to Office Action. Aug. 5, 2009, Office Action. Nov. 4, 2009, Response to Office Action. Feb. 25, 2010, Office Action. May 24, 2010, Request for Continued Examination and Response to Office Action. Aug. 3, 2010, Office Action. Nov. 2, 2010, Response to

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Office Action. Jan. 20, 2011, Office Action. Apr. 18, 2011, Response to Office Action. July 5, 2020, Miscellaneous Communication. Aug. 18, 2011, Notice of Allowance. Sep. 6, 2011, Notice to File Corrected Application Papers Sep. 8, 2011, Response to Notice to File Corrected Application Papers. <u>Extrinsic Evidence</u>: World Intellectual Property Organization (WIPO) Patentscope, search results

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				for “admission window.” U.S. Patent No. 5,274,644, 2:59-63. U.S. Patent Publ. No. 2005/0259614, [0076]. PCT Publ. No. WO/2003/003760, 55:3-5, 55:17-29, Figure 17. Opinions and testimony of Dr. Krista Jacobsen, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Jacobsen’s anticipated claim construction declaration.
“channel number field” (’802 Patent, claims 3, 4)	Plain meaning, not indefinite	The specification and claims of the ’802 Patent, including *e.g.*: 7:4–14; 13:11–14. Extrinsic evidence,	Indefinite	Intrinsic Evidence: The specification and claims of the ’802 patent, including, *e.g.*, 1:37, 2:31, 2:46-50, 4:20-24, 5:7-16, 7:5-14, 10:9-10, 14:13-20, 14:56-57,

'802 PATENT				
Term (Claim)	**Entropic's Proposed Construction**	**Entropic's Evidence**	**Defendants' Proposed Construction**	**Defendants' Evidence**
		including: Expert Declaration of John Holobinko and materials cited therein; CATV Frequency Assignment (Entropic-DISH-MoCA_050034–Entropic-DISH-MoCA_050037).		15:35, 15:60-63, 16:5-8, 16:53-17:5, 17:28-40, 18:12-20, 18:42-46, 23:35-36, 25:13-21, 26:25-26, 26:47, 25:66-67, 26:58-59, 28:60-29:3, 29:23-29; Figure 41; Claims 1, 2, 3, 4. Appl. No. 11/292,939 File History ('802 File History), including *e.g.*: Feb. 4, 2009, Office Action. May 5, 2009, Response to Office Action. Aug. 5, 2009, Office Action. Nov. 4, 2009, Response to Office Action. Feb. 25, 2010, Office Action. May 24, 2010, Request for Continued Examination and

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Response to Office Action. Aug. 3, 2010, Office Action. Nov. 2, 2010, Response to Office Action. Jan. 20, 2011, Office Action. Apr. 18, 2011, Response to Office Action. July 5, 2020, Miscellaneous Communication. Aug. 18, 2011, Notice of Allowance. Sep. 6, 2011, Notice to File Corrected Application Papers Sep. 8, 2011, Response to Notice to File Corrected Application Papers.

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Extrinsic Evidence: Opinions and testimony of Dr. Krista Jacobsen, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Jacobsen’s anticipated claim construction declaration.
“next beacon index field” (’802 Patent, claim 3, 4)	Plain meaning, not indefinite	The specification and claims of the ’802 Patent, including *e.g.*: 28:60–29:3; Fig. 41. Extrinsic evidence, including: Expert Declaration of John Holobinko and materials cited therein.	Indefinite	Intrinsic Evidence: The specification and claims of the ’802 patent, including, *e.g.*, 1:37, 2:31, 2:46-50, 10:9-10, 14:56-57, 15:35, 15:60-63, 23:35-36, 26:25-26, 26:47, 25:66-67, 26:58-59, 28:60-29:3; Figure 41; Claims 1, 2, 3, 4. Appl. No. 11/292,939 File History (’802 File History), including *e.g.*: Feb. 4, 2009, Office Action.

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				May 5, 2009, Response to Office Action. Aug. 5, 2009, Office Action. Nov. 4, 2009, Response to Office Action. Feb. 25, 2010, Office Action. May 24, 2010, Request for Continued Examination and Response to Office Action. Aug. 3, 2010, Office Action. Nov. 2, 2010, Response to Office Action. Jan. 20, 2011, Office Action. Apr. 18, 2011, Response to Office Action. July 5, 2020, Miscellaneous Communication.

’802 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Aug. 18, 2011, Notice of Allowance. Sep. 6, 2011, Notice to File Corrected Application Papers Sep. 8, 2011, Response to Notice to File Corrected Application Papers. <u>Extrinsic Evidence</u>: World Intellectual Property Organization (WIPO) Patentscope, search results for “next beacon index field.” Opinions and testimony of Dr. Krista Jacobsen, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Jacobsen’s anticipated claim construction declaration.

See '802 Patent, claim 3:

> A method for transmitting packets from a Broadband Cable Network (BCN) modem to a plurality of nodes in a broadband cable network, the method comprising:
>
> formatting the packets in a MAC subsystem that transmits the packets within the broadband cable network, including formatting a data and control packet for transmission within the broadband cable network, the data and control packet having a header and a variable length payload, the header having at least five fields selected from the group consisting of a transmit clock field, packet type field, packet subtype field, version field, source node ID field, destination node ID field, and header check sequence field;
>
> receiving the packets from the MAC subsystem at a Modem subsystem that is in signal communication with the MAC subsystem and that appends information to the packets; and
>
> upconverting the packets with the information for transmission via the broadband cable network at a RF subsystem that is in signal communication with the Modem subsystem;
>
> wherein at least one of the packets is a beacon packet that has a channel number field, change field, sequence number field, network coordinator ID field, next beacon index field, admission frame length field, admission window, asynchronous MAP length field and a beacon Cyclic Redundancy Checking (CRC) field.

See '802 Patent, claim 4:

> A method for receiving packets at a receiver in a Broadband Cable Network (BCN) modem from at least one node in a broadband cable network, the method comprising:
>
> receiving the packets and downconverting the packets at a RF subsystem including a control and data packet having a header that has at least five fields selected from the group consisting of a transmit clock field,

packet type field, packet subtype field, version field, source node ID field, destination node ID field, and header check sequence field and variable length payload;

removing control information from the packets in a Modem subsystem that is in signal communication with the RF subsystem; and

retrieving data for use by the BCN modem at a MAC subsystem that is in signal communication with the Modem subsystem and in receipt of the packet with the control information removed;

wherein at least one of the packets is a beacon packet that has a channel number field, change field, sequence number field, network coordinator ID field, next beacon index field, admission frame length field, admission window, asynchronous MAP length field and a beacon Cyclic Redundancy Checking (CRC) field.

'539 PATENT				
Term (Claim)	**Entropic's Proposed Construction**	**Entropic's Evidence**	**Defendants' Proposed Construction**	**Defendants' Evidence**
"coaxial network" ('539 Patent, claim 1)	Plain meaning, wherein the network is a local network	The specification and claims of the '539 Patent, including *e.g.*: Title; 1:43–56; 2:4–27; 4:26–48; Figs. 1, 2. The '518 Patent, including: Abstract; 1:33–52; 4:19–47. The '539 Patent file history, including *e.g.*: 4/12/13 Appeal Brief.	Plain and ordinary meaning	Intrinsic Evidence: The specification and claims of the '539 patent, including, *e.g.*, 1:20-23, 1:43-2:53, 3:23-4:5, 4:26-33, 4:42-51, 6:48-55, 7:50-56, 8:31-61; Figure 4; Claims 1-7. Appl. No. 11/241,748 File History ('539 File History), including *e.g.*: Apr. 1, 2009, Office Action.

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				July 1, 2009, Response to Office Action. Sep. 16, 2009, Office Action. Dec. 15, 2009, Response to Office Action. Dec. 28, 2009, Advisory Action. Feb. 4, 2010, Request for Continued Examination and Response to Advisory Action. Mar. 29, 2010, Office Action. July 27, 2010, Response to Office Action. Oct. 1, 2010, Office Action. Feb. 1, 2011, Response to Office Action.

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Feb. 1, 2011, Notice of Appeal. Feb. 22, 2011, Office Action. May 23, 2011, Response to Office Action. Aug. 1, 2011, Office Action. Oct. 28, 2011, Request for Continued Examination and Response to Office Action. Apr. 18, 2012, Office Action. Aug. 20, 2012. Response to Office Action. Oct. 17, 2012, Office Action. Dec. 17, 2012, Response to Office Action. Jan. 2, 2013, Advisory Action.

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Jan. 17, 2013, Notice of Appeal. Apr. 12, 2013, Appeal Brief, Response to Office Action. May 31, 2013, Notice of Allowance. Apr. 18, 2014, Certificate of Correction. June 10, 2014, Certificate of Correction. July 15, 2014, Certificate of Correction. U.S. Patent No. 7,295,518 <u>Extrinsic Evidence</u>: Newton, Newton’s Telecom Dictionary 16th Edition (2000), 128. Tanenbaum, Computer

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Networks Third Edition (1996), 84-86.
“node” (’539 Patent, claim 1)	terminal downstream of the point of entry	The specification and claims of the ’539 Patent, including *e.g.*: Abstract, 1:37–39; 1:64–3:3; 3:51–54, 4:26–5:32; 6:48–7:56; 9:66–10:11; Figs. 1–3. The ’518 Patent, including: Abstract; 1:33–52; 4:19–47. The ’539 Patent file history, including *e.g.*: Appeal Brief at 6.	Plain and ordinary meaning	Intrinsic Evidence: The specification and claims of the ’539 patent, including, *e.g.*, 1:25-42, 1:64-2:3, 2:17-27, 2:35-3:3, 3:38-61, 4:37-5:31, 5:54-58, 6:48-8:18, 8:42-49, 9:46-11:29, 11:52-12:3, 12:38-48, 13:55-59, 16:39-57; Figures 2-4, 6, 9-11; Claims 1-7. Appl. No. 11/241,748 File History (’539 File History), including *e.g.*: Apr. 1, 2009, Office Action. July 1, 2009, Response to Office Action. Sep. 16, 2009, Office Action. Dec. 15, 2009, Response to

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Office Action. Dec. 28, 2009, Advisory Action. Feb. 4, 2010, Request for Continued Examination and Response to Advisory Action. Mar. 29, 2010, Office Action. July 27, 2010, Response to Office Action. Oct. 1, 2010, Office Action. Feb. 1, 2011, Response to Office Action. Feb. 1, 2011, Notice of Appeal. Feb. 22, 2011, Office Action. May 23, 2011, Response to

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Office Action. Aug. 1, 2011, Office Action. Oct. 28, 2011, Request for Continued Examination and Response to Office Action. Apr. 18, 2012, Office Action. Aug. 20, 2012. Response to Office Action. Oct. 17, 2012, Office Action. Dec. 17, 2012, Response to Office Action. Jan. 2, 2013, Advisory Action. Jan. 17, 2013, Notice of Appeal. Apr. 12, 2013, Appeal Brief, Response to Office Action.

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				May 31, 2013, Notice of Allowance. Apr. 18, 2014, Certificate of Correction. June 10, 2014, Certificate of Correction. July 15, 2014, Certificate of Correction. <u>Extrinsic Evidence</u>: Newton, Newton’s Telecom Dictionary 16th Edition (2000), 613. Ciciora, Modern Cable Television Technology (1999), 576-577. Evans, Digital Telephony Over Cable (2001), 7-8.

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Armitage, Quality of Service in IP Networks (2000), 36. Gast, 802.11 Wireless Networks: The Definitive Guide (2002), 25-27. Elsenpeter, Optical Networking (2002), 62.
“MAC layer” (’539 Patent, claims 1, 4, 7)	MAC subsystem	The specification and claims of the ’539 Patent, including *e.g.*: 4:51–55; 5:7–16; 8:25–28; 8:62–9:5; 17:12–15; Fig. 4.	Plain and ordinary meaning, which is “media access control layer”	Intrinsic Evidence: The specification and claims of the ’539 patent, including, *e.g.*, 4:51-55, 5:7-10, 7:39-50, 8:25-49, 8:62-9:22, 11:6-15, 11:30-37; Figure 5, 10; Claims 1-7. Appl. No. 11/241,748 File History (’539 File History), including *e.g.*: Apr. 1, 2009, Office Action. July 1, 2009, Response to

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Office Action. Sep. 16, 2009, Office Action. Dec. 15, 2009, Response to Office Action. Dec. 28, 2009, Advisory Action. Feb. 4, 2010, Request for Continued Examination and Response to Advisory Action. Mar. 29, 2010, Office Action. July 27, 2010, Response to Office Action. Oct. 1, 2010, Office Action. Feb. 1, 2011, Response to Office Action. Feb. 1, 2011, Notice of

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Appeal. Feb. 22, 2011, Office Action. May 23, 2011, Response to Office Action. Aug. 1, 2011, Office Action. Oct. 28, 2011, Request for Continued Examination and Response to Office Action. Apr. 18, 2012, Office Action. Aug. 20, 2012. Response to Office Action. Oct. 17, 2012, Office Action. Dec. 17, 2012, Response to Office Action. Jan. 2, 2013, Advisory Action. Jan. 17, 2013, Notice of

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Appeal. Apr. 12, 2013, Appeal Brief, Response to Office Action. May 31, 2013, Notice of Allowance. Apr. 18, 2014, Certificate of Correction. June 10, 2014, Certificate of Correction. July 15, 2014, Certificate of Correction. U.S. Patent No. 8,085,802, 31:52 (claim 1), 32:24 (claim 2), 32:36 (claim 3), 33:6-7 (claim 4). <u>Extrinsic Evidence</u>: W.O. Publ. No. 2001/080547, e.g., 1:7-16.

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				U.S. Patent No. 6,917,591, e.g., 1:22-32. U.S. Patent No. 6,826,195, e.g., 1:42-56. US 5,953,344, e.g., Abstract, 4:20-36, 6:3-4. U.S. Patent No. 6,347,084, e.g., 5:35-36, 5:50-60. DOCSIS 1.0 specification.
“node delay spread” (’539 Patent, claim 1)	Plain meaning, not indefinite	The specification and claims of the ’539 Patent, including *e.g.*: 9:46–65; 10:30–37; 14:11–16:23; Fig. 6, 20–22. IPR2024-00546, DISH 1003 at *e.g.,* ¶¶ 41–44; 56–57; 67–68; 104 IPR2024-00546, DISH 1006 at *e.g.*, ¶¶ [0003]–[0014]	the difference in the amount of delay encountered by different components of the same signal due to the various frequencies that make up the signal used to	Intrinsic Evidence: The specification and claims of the ’539 patent, including, *e.g.*, 8:55-61, 9:53-65, 14:11-15, 16:39-57, Claims 1-7. Appl. No. 11/241,748 File History (’539 File History), including *e.g.*: Apr. 1, 2009, Office Action. July 1, 2009, Response to

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
		Prov. App. No. 60/633,002 ¶¶ 82, 152. Prov. App. No. 60/632,797 ¶ 54. The ’518 Patent, including: 7:44–8:3; 10:39–54; Fig. 8. The ’539 Patent file history, including: 4/12/13 Appeal Brief. Extrinsic evidence, including: Expert Declaration of John Holobinko and materials cited therein; THEORY AND DESIGN OF DIGITAL COMMUNICATION SYSTEMS by Tri Ha (2011), including chapter 10 (Entropic-DISH-MoCA_050766–Entropic-	communicate the echo probe	Office Action. Sep. 16, 2009, Office Action. Dec. 15, 2009, Response to Office Action. Dec. 28, 2009, Advisory Action. Feb. 4, 2010, Request for Continued Examination and Response to Advisory Action. Mar. 29, 2010, Office Action. July 27, 2010, Response to Office Action. Oct. 1, 2010, Office Action. Feb. 1, 2011, Response to Office Action. Feb. 1, 2011, Notice of

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
		DISH-MoCA_051435).		Appeal Feb. 22, 2011, Office Action. May 23, 2011, Response to Office Action. Aug. 1, 2011, Office Action. Oct. 28, 2011, Request for Continued Examination and Response to Office Action. Apr. 18, 2012, Office Action. Aug. 20, 2012. Response to Office Action. Oct. 17, 2012, Office Action. Dec. 17, 2012, Response to Office Action. Jan. 2, 2013, Advisory Action. Jan. 17, 2013, Notice of

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Appeal. Apr. 12, 2013, Appeal Brief, Response to Office Action. May 31, 2013, Notice of Allowance. Apr. 18, 2014, Certificate of Correction. June 10, 2014, Certificate of Correction. July 15, 2014, Certificate of Correction. <u>Extrinsic Evidence</u>: IEEE, Seventh Edition Dictionary (2000), 285, 1182. Laplante, Electrical Engineering Dictionary (2000), 203-04.

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Razavi, RF Microelectronics (1998), 102-03. Opinions and testimony of Dr. Krista Jacobsen, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Jacobsen’s anticipated claim construction declaration.
“optimizing the preamble and cyclic prefix requirements or other parameters” (’539 Patent, claim 1)	*See* “other parameters”; otherwise, plain meaning, not indefinite	The specification and claims of the ’539 Patent, including *e.g.*: 9:46–65; 10:30–37; 14:11–16:23; Figs. 6, 20–22. IPR2024-00546, DISH 1003 at *e.g.,* ¶¶ 41–44; 56–57; 67–68; 104 IPR2024-00546, DISH 1006 at *e.g.*, ¶¶ [0003]–[0014] Prov. App. No. 60/633,002 ¶¶ 82, 152.	Indefinite	<u>Intrinsic Evidence</u>: The specification and claims of the ’539 patent, including, *e.g.*, 4:51-55, 5:65-67, 6:11-14, 6:24-31, 9:53-65, 10:18-37, 11:6-29, 12:34-36, 12:54-13:3, 14:11-16:38, 18:13-25; Figures 6, 9-10, 20-22, Claims 1-7. Appl. No. 11/241,748 File History (’539 File History), including *e.g.*:

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
		Prov. App. No. 60/632,797 ¶ 54. The ’518 Patent, including: 7:44–8:3; 10:39–54; Fig. 8. The ’539 Patent file history, including: 4/12/13 Appeal Brief. 8/20/12 Response; 12/17/12 Response. Extrinsic evidence, including: Expert Declaration of John Holobinko and materials cited therein; THE ESSENTIALS OF COMPUTER ORGANIZATION AND ARCHITECTURE by Null and Lobur (2003), including chapter 3 (Entropic-DISH-MoCA_050038–Entropic-		Apr. 1, 2009, Office Action. July 1, 2009, Response to Office Action. Sep. 16, 2009, Office Action. Dec. 15, 2009, Response to Office Action. Dec. 28, 2009, Advisory Action. Feb. 4, 2010, Request for Continued Examination and Response to Advisory Action. Mar. 29, 2010, Office Action. July 27, 2010, Response to Office Action. Oct. 1, 2010, Office Action. Feb. 1, 2011, Response to

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
		DISH-MoCA_050742).		Office Action. Feb. 1, 2011, Notice of Appeal. Feb. 22, 2011, Office Action. May 23, 2011, Response to Office Action. Aug. 1, 2011, Office Action. Oct. 28, 2011, Request for Continued Examination and Response to Office Action. Apr. 18, 2012, Office Action. Aug. 20, 2012. Response to Office Action. Oct. 17, 2012, Office Action. Dec. 17, 2012, Response to Office Action. Jan. 2, 2013, Advisory

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Action. Jan. 17, 2013, Notice of Appeal. Apr. 12, 2013, Appeal Brief, Response to Office Action. May 31, 2013, Notice of Allowance. Apr. 18, 2014, Certificate of Correction. June 10, 2014, Certificate of Correction. July 15, 2014, Certificate of Correction. U.S. Patent Publ. No. 2005/0120097, [0039]-[0040]. <u>Extrinsic Evidence</u>: Jan. 16, 2024, Hearing

’539 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Transcript on Motion to Dismiss for Failure to Claim Patent-Eligible Subject Matter under 35 U.S.C. § 101. Entropic’s Dec. 20, 2023, Opposition to DirectTV’s Motion to Dismiss. Dkt. 215, Entropic Communications, LLC v. DISH Network Corporation et al., 2:23-cv-01043-JWH-KES (C.D. Cal.). Opinions and testimony of Dr. Krista Jacobsen, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Jacobsen’s anticipated claim construction declaration.

See ’539 Patent, claim 1:

A modem for communication to at least one node across at least one channel of a coaxial network, the modem comprising:

a transmitter; and

a MAC layer in signal communication with the transmitter, the MAC layer using at least one probe packet as an echo profile probe to measure node delay spread on the network and the MAC layer optimizing the preamble and cyclic prefix requirements or other parameters in response to the measured node delay spread on the network;

wherein the transmitter communicates the at least one probe packet.

See ’539 Patent, claim 4:

The modem of claim 3 wherein a length of the one probe packet is provided by the MAC layer.

See ’539 Patent, claim 7:

The modem of claim 6 wherein a length of the one probe packet is provided by the MAC layer.

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
“Broadband Coaxial Network	Plain meaning, wherein the network is a local network	The specification and claims of the ’450 Patent, including *e.g.*: 1:22–24; 1:65–2:21; 4:1–8;	Plain and ordinary meaning	Intrinsic Evidence: The specification and claims of the ’450 patent, including, *e.g.*, Title, 1:6-17, 1:20-24,

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
(BCN)” (’450 Patent, claims 29–33)		5:44–6:21; 12:22–46; 13:50–67; 18:10–18; Figs. 1–3, 5; claims 1, 8, 27, 29, 34. The ’518 Patent, including: Abstract; 1:33–52; 4:19–47.		1:26-44, 1:65-2:12, 3:21-40, 4:12-31, 4:48-52, 7:12-16, 17:57-61; Figures 1-2, 10-11; Claims 1, 8, 27, 29, 34. Appl. No. 11/231,349 File History (’450 File History), including *e.g.*: Sep. 4, 2008, Office Action. Dec. 2, 2008, Response to Office Action. Mar. 3, 2009, Office Action. July 2, 2009, Response to Office Action. Aug. 6, 2009, Office Action. Nov. 9, 2009, Response to Office Action. Jan. 21, 2010, Office Action. Apr. 21, 2010, Response to

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Office Action. Apr. 30, 2010, Advisory Action. May 20, 2010, Request for Continued Examination, Response to Action. Nov. 19, 2010, Office Action. Mar. 18, 2011, Response to Office Action. June 7, 2011, Office Action. Sep. 7, 2011, Request for Continued Examination, Response to Office Action. Dec. 20, 2011, Office Action. Mar. 20, 2012, Response to Office Action.

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				July 18, 2012, Office Action. Oct. 18, 2012, Request for Continued Examination, Response to Office Action. May 13, 2013, Supplemental Amendment. May 13, 2013, Terminal Disclaimer. May 20, 2013, Terminal Disclaimer Approved. May 22, 2013, Notice of Allowance. Aug. 22, 2013, Request for Continued Examination with IDS. Sep. 11, 2013, Notice of Allowance. U.S. Patent No. 7,594,249,

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				9:32-33. <u>Extrinsic Evidence</u>: Newton, Newton's Telecom Dictionary 16th Edition (2000), 128. Tanenbaum, Computer Networks Third Edition (1996), 84-86.
“response signal” (’450 Patent, claim 29)	Plain meaning, not indefinite	The specification and claims of the ’450 Patent, including *e.g.*: 23:41–24:9; claims 1, 8, 27, 29, 34.	signal transmitted in response to the probe signal	<u>Intrinsic Evidence</u>: The specification and claims of the ’450 patent, including, *e.g.*, 23:41-24:9; Figure 19; Claims 29, 34. Appl. No. 11/231,349 File History (’450 File History), including *e.g.*: Sep. 4, 2008, Office Action. Dec. 2, 2008, Response to Office Action.

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Mar. 3, 2009, Office Action. July 2, 2009, Response to Office Action. Aug. 6, 2009, Office Action. Nov. 9, 2009, Response to Office Action. Jan. 21, 2010, Office Action. Apr. 21, 2010, Response to Office Action. Apr. 30, 2010, Advisory Action. May 20, 2010, Request for Continued Examination, Response to Action. Nov. 19, 2010, Office Action. Mar. 18, 2011, Response to

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Office Action. June 7, 2011, Office Action. Sep. 7, 2011, Request for Continued Examination, Response to Office Action. Dec. 20, 2011, Office Action. Mar. 20, 2012, Response to Office Action. July 18, 2012, Office Action. Oct. 18, 2012, Request for Continued Examination, Response to Office Action. May 13, 2013, Supplemental Amendment. May 13, 2013, Terminal Disclaimer. May 20, 2013, Terminal

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Disclaimer Approved. May 22, 2013, Notice of Allowance. Aug. 22, 2013, Request for Continued Examination with IDS. Sep. 11, 2013, Notice of Allowance. <u>Extrinsic Evidence</u>:
“a common bit-loading modulation scheme” (’450 Patent, claim 29)	a bit-loading modulation scheme used for simultaneous transmission to multiple nodes so that each can receive the transmission	The specification and claims of the ’450 Patent, including *e.g.*: 15:18–60; 16:29–35; 17:50–57; 20:12–21:2; 23:41–24:9; Figs. 7–12, 13A–13C, 19; claims 1, 8, 27, 29, 34. IPR2024-00452 and all exhibits submitted in support thereof (*e.g.*, Ex. 1002 ¶¶ 60, 154).	the lowest modulation values supported by the corresponding channel paths	<u>Intrinsic Evidence</u>: The specification and claims of the ’450 patent, including, *e.g.*, 20:12-21:2, 23:41-44, 23:63-24:9; Figures 13A-13C, 19; Claims 1, 8, 27, 29, 33, 34, 37, 38. Appl. No. 11/231,349 File History (’450 File History), including *e.g.*:

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
		IPR2024-00462 and all exhibits submitted in support thereof (*e.g.*, Ex. 1004 ¶¶ 43–45).		Sep. 4, 2008, Office Action. Dec. 2, 2008, Response to Office Action. Mar. 3, 2009, Office Action. July 2, 2009, Response to Office Action. Aug. 6, 2009, Office Action. Nov. 9, 2009, Response to Office Action. Jan. 21, 2010, Office Action. Apr. 21, 2010, Response to Office Action. Apr. 30, 2010, Advisory Action. May 20, 2010, Request for Continued Examination, Response to Action.

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Nov. 19, 2010, Office Action. Mar. 18, 2011, Response to Office Action. June 7, 2011, Office Action. Sep. 7, 2011, Request for Continued Examination, Response to Office Action. Dec. 20, 2011, Office Action. Mar. 20, 2012, Response to Office Action. July 18, 2012, Office Action. Oct. 18, 2012, Request for Continued Examination, Response to Office Action. May 13, 2013, Supplemental Amendment.

'450 PATENT				
Term (Claim)	**Entropic's Proposed Construction**	**Entropic's Evidence**	**Defendants' Proposed Construction**	**Defendants' Evidence**
				May 13, 2013, Terminal Disclaimer. May 20, 2013, Terminal Disclaimer Approved. May 22, 2013, Notice of Allowance. Aug. 22, 2013, Request for Continued Examination with IDS. Sep. 11, 2013, Notice of Allowance. <u>Extrinsic Evidence</u>: U.S. Patent No. 7,594,759. Chen, DSL Simulation Techniques and Standards Development for Digital Subscriber Line Systems (1998), 442-43. Ciciora, Modern Cable

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Television Technology (1999), 175, 177-79, 182. Evans, Digital Telephony Over Cable (2001), 91-93, 95. Rauschmayer, ADSL/VDSL Principles (1999), 159. Jan. 16, 2024, Hearing Transcript on Motion to Dismiss for Failure to Claim Patent-Eligible Subject Matter under 35 U.S.C. § 101. Entropic’s Dec. 20, 2023, Opposition to DirectTV’s Motion to Dismiss. Dkt. 215, Entropic Communications, LLC v. DISH Network Corporation et al., 2:23-cv-01043-JWH-KES (C.D. Cal.).

’450 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Opinions and testimony of Dr. Bertrand Hochwald, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Hochwald’s anticipated claim construction declaration.

See ’450 Patent, claim 29:

A broadcasting method within a Broadband Coaxial Network (“BCN”), comprising:

a transmitting node transmitting a probe signal to a plurality of receiving nodes;

the transmitting node receiving a plurality of response signals comprising a plurality of bit-loading modulation schemes from the plurality of receiving nodes, wherein each of the plurality of receiving nodes

receives the probe signal through a corresponding channel path,

determines transmission characteristics of the corresponding channel path,

determines a bit-loading modulation scheme for the corresponding channel path based on the transmission characteristics, and

transmits a response signal to the transmitting node informing the transmitting node of the bit-loading modulation scheme for the corresponding channel path;

the transmitting node comparing the plurality of bit-loading modulation schemes to determine a common bit-loading modulation scheme; and

the transmitting node transmitting a broadcast signal relaying the common bit-loading modulation scheme to the plurality of receiving nodes.

See ’450 Patent, claim 30:

The broadcasting method within the BCN of claim 29, wherein the broadcast signal comprises handshake data.

See ’450 Patent, claim 31:

The broadcasting method within the BCN of claim 29, wherein the broadcast signal is a communication message comprising video data, music data, or voice data.

See ’450 Patent, claim 32:

The broadcasting method within the BCN of claim 29, wherein each node of the BCN determines a respective common bit-loading modulation scheme for broadcasting to the other nodes of the BCN.

See ’450 Patent, claim 33:

The broadcasting method within the BCN of claim 29, further comprising the transmitting node broadcasting a signal based on the common bit-loading modulation scheme to the plurality of receiving nodes simultaneously.

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
“Network Coordinator (NC) node” (’213 Patent, all claims)	A node dynamically assigned to coordinate communication on a network	The specification and claims of the ’213 Patent, including *e.g.*: Abstract; 1:55–62; 2:15–21; 3:23—28; 4:2–8; 4:31–38; claims 1, 2, 4, 13, 14, 23–24. Extrinsic evidence, including: Expert Declaration of John Holobinko and materials cited therein; MoCA MAC/PHY Specification v1.0 §§ 1.2, 2.3.1, 2.3.2, 3.3.6 (Entropic-DISH-MoCA_051764–Entropic-DISH-MoCA_051954); Westell UltraLine II MoCA Certwave Testing Results § 4.14 (Entropic-DISH-MoCA_051955–Entropic-DISH-MoCA_051978); Cisco Connected Home	Plain and ordinary meaning	Intrinsic Evidence: The specification and claims of the ’213 patent, including, *e.g.*, Abstract, 1:51-62, 2:15-37, 3:23-39, 4:2-8, 4:31-40, 4:61-6:30, 6:34-48, 6:66-7:8, 7:50-67, 8:56-9:7, 9:49-64, 10:49-57, 11:1-4, 11:36-39, 12:1-5, 12:37-43, 13:3-12, 13:32-15:20, 15:49-51, 16:39-40, 17:29-47, 18:40-46, 18:53-61, 19:1-4,19:12-16, 19:30-33, 20:41-52, 21:19-30, 22:36-67, 24:52-63, 25:1-13, 26:12-13, 26:47-50, 27:19-24, 27:44-56, 28:19-24, 28:37-54, 29:65-67, 31:32-35, 31:62-67, 32:20-24, 32:51-54, 33:16-28, 34:21-25, 35:1-9, 35:34-37, 36:38-45, 37:1-17, 38:9-24,38:35-37; Figures 1, 2, 4, 5, 7, 8, 9, 10, 11; Tables 1, 2, 4, 14; Equations 4, 5;

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
		Presentation at Entropic-DISH-MoCA_049990–049991 (Entropic-DISH-MoCA_049975–Entropic-DISH-MoCA_050007); MoCA Alliance Overview Presentation at Entropic-DISH-MoCA_050752 (Entropic-DISH-MoCA_050743–Entropic-DISH-MoCA_050757).		Claims 1-24. Appl. No. 12/027,202 File History (’213 File History), including *e.g.*: Oct. 13, 2009, Office Action. Nov. 12, 2009, Response to Office Action. Dec. 23, 2009, Office Action. Mar. 23, 2010, Response to Office Action. May 11, 2010, Office Action. Sep. 8, 2010, Request for Continued Examination, Response to Office Action. Mar. 18, 2011, Office Action.

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				June 20, 2011, Response to Office Action. July 6, 2011, Office Action. Oct. 4, 2011, Response to Office Action. Oct. 7, 2011, Notice of Non-Compliance. Oct. 26, 2011, Response to Notice of Non-Compliance. Dec. 15, 2011, Office Action. Apr. 13, 2012, Response to Office Action. May 21, 2012, Office Action. July 18, 2012, Response to Office Action. July 30, 2012, Advisory

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Action. Aug. 1, 2012, Request for Continued Examination. Aug. 3, 2012, Notice of Non-Compliance. Aug. 15, 2012, Request for Continued Examination, Response to Office Action. Jan. 31, 2013, Office Action. May 31, 2013, Response to Office Action. June 26, 2013, Office Action. Oct. 28, 2013, Notice of Appeal. May 28, 2014, Appeal Brief. July 17, 2014, Examiner’s

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Answer to Appeal Brief. July 31, 2014, Office Communication. June 14, 2016, Office Decision on Appeal. Aug. 15, 2016, Request for Continued Examination, Response to Office Action. Nov. 3, 2016, Office Action. May 3, 2017, Response to Office Action. July 28, 2017, Notice of Allowance. <u>Extrinsic Evidence</u>: U.S. Patent No. 7,633,882, 1:8-13, 2:39-41. 5:28-31, 6:16-17. U.S. Patent No. 7,574,216,

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				3:31-37, 4:58-60. U.S. Patent No. 8,831,028, 3:42-47, 6:31-33, 6:41-44. U.S. Patent No. 9,172,993, 1:66-2:2, 11:11-19, 11:21-23. U.S. Patent No. 8,538,453, 1:20-21, 6:10-12, 7:4-14, 7:23-25, Figure 1. Aug. 9, 2023, Hearing Transcript on Motions to Dismiss for Failure to Claim Patent-Eligible Subject Matter under 35 U.S.C. § 101. Entropic’s June 30, 2023, Opposition to Cox’s Rule 12(c) Motion to Dismiss For Invalidity Under 35 U.S.C. § 101. Dkt. 66, Entropic Communications, LLC v.

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Cox Communications, Inc. et al., 2:23-cv-01047-JWH-KES (C.D. Cal.). Opinions and testimony of Dr. Bertrand Hochwald, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Hochwald’s anticipated claim construction declaration.
“cost” (’213 Patent, claims 5, 7)	A measure of the specific bandwidth required to support a given PQoS flow	The specification of the ’213 Patent, including *e.g.*: 17:29–37; 18:40–44; 27:44–56.	Plain and ordinary meaning	Intrinsic Evidence: The specification and claims of the ’213 patent, including, *e.g.*, 2:4-12, 3:48-53, 3:54-65, 4:51-57, 17:27-19:12, 25:1-4, 26:1-4, 27:44-49; Table 10; Claims 1, 5, 6, 7, 8, 13, 16, 17, 18. Appl. No. 12/027,202 File History (’213 File History), including *e.g.*:

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Oct. 13, 2009, Office Action. Nov. 12, 2009, Response to Office Action. Dec. 23, 2009, Office Action. Mar. 23, 2010, Response to Office Action. May 11, 2010, Office Action. Sep. 8, 2010, Request for Continued Examination, Response to Office Action. Mar. 18, 2011, Office Action. June 20, 2011, Response to Office Action. July 6, 2011, Office Action. Oct. 4, 2011, Response to

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Office Action. Oct. 7, 2011, Notice of Non-Compliance. Oct. 26, 2011, Response to Notice of Non-Compliance. Dec. 15, 2011, Office Action. Apr. 13, 2012, Response to Office Action. May 21, 2012, Office Action. July 18, 2012, Response to Office Action. July 30, 2012, Advisory Action. Aug. 1, 2012, Request for Continued Examination. Aug. 3, 2012, Notice of

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Non-Compliance. Aug. 15, 2012, Request for Continued Examination, Response to Office Action. Jan. 31, 2013, Office Action. May 31, 2013, Response to Office Action. June 26, 2013, Office Action. Oct. 28, 2013, Notice of Appeal. May 28, 2014, Appeal Brief. July 17, 2014, Examiner’s Answer to Appeal Brief. July 31, 2014, Office Communication. June 14, 2016, Office

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Decision on Appeal. Aug. 15, 2016, Request for Continued Examination, Response to Office Action. Nov. 3, 2016, Office Action. May 3, 2017, Response to Office Action. July 28, 2017, Notice of Allowance. <u>Extrinsic Evidence</u>: U.S. Patent No. 6,272,127, 1:7-24, 47:8-25. Aug. 9, 2023, Hearing Transcript on Motions to Dismiss for Failure to Claim Patent-Eligible Subject Matter under 35 U.S.C. § 101.

’213 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				Entropic’s June 30, 2023, Opposition to Cox’s Rule 12(c) Motion to Dismiss For Invalidity Under 35 U.S.C. § 101. Dkt. 66, Entropic Communications, LLC v. Cox Communications, Inc. et al., 2:23-cv-01047-JWH-KES (C.D. Cal.). Opinions and testimony of Dr. Bertrand Hochwald, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Hochwald’s anticipated claim construction declaration.

See ’213 Patent, claim 1:

> A communication method implemented in a Network Coordinator (NC) node of a communication network of a premises, the method comprising:

broadcasting to a plurality of nodes of the network, a request for a guaranteed quality of service flow in the network from a source node to at least one egress node, the plurality of nodes of the network to which the NC node broadcasts the request including at least the source node and the at least one egress node;

receiving a first response to the request from the source node, wherein the source node is the point of origin for the purposes of the guaranteed quality of service flow for data to be communicated within the guaranteed quality of service flow, the first response indicating whether the source node has available resources to support the guaranteed quality of service flow;

receiving a second response to the request from the at least one egress node indicating whether the at least one egress node has available resources to support the guaranteed quality of service flow; and

if the source node and the at least one egress node have available resources to support the guaranteed quality of service flow, then allocating resources for the guaranteed quality of service flow;

if the source node and the at least one egress node do not have available resources to support the guaranteed quality of service flow, then:

denying the guaranteed quality of service flow; and

if the guaranteed quality of service flow is denied based on bandwidth-related reasons, then determining a maximum data rate that would have resulted in a successful request for a guaranteed quality of service flow, and transmitting a message comprising information describing the maximum data rate that would have resulted in a successful request for a guaranteed quality of service flow.

See ’213 Patent, claim 2:

> The communication method of claim 1, further comprising receiving from an entry node of the network a Submit message, wherein the request is broadcast from the Network Coordinator node as a consequence of the received Submit message,
>
> wherein the Submit message comprises information identifying the source node, and information identifying a data rate and packet size of the requested guaranteed quality of service flow.

See ’213 Patent, claim 3:

> The communication method of claim 1, wherein the network of a premises is a network of a home.

See ’213 Patent, claim 4:

> The communication method of claim 3, wherein the network of a home is a coaxial cable-based network, in which the NC node schedules all traffic for all other nodes of the network.

See ’213 Patent, claim 5:

> The communication method of claim 1, wherein the first response comprises information indicating the source node's cost associated with admitting the flow, and the second response does not comprise information indicating the at least one egress node's cost associated with admitting the flow.

See ’213 Patent, claim 6:

> The communication method of claim 1, wherein:
>
> the received first response comprises first information indicating a peak data rate that the source node can commit to the requested guaranteed quality of service flow; and

the method comprises determining whether there are sufficient resources to admit the flow based, at least in part, on the first information.

See ’213 Patent, claim 7:

The communication method of claim 6, wherein:

the received first response comprises second information indicating the source node's cost of supporting the requested guaranteed quality of service flow; and

the method comprises determining whether there are sufficient resources to admit the flow based, at least in part, on the second information.

See ’213 Patent, claim 10:

The communication method of claim 1, comprising if the source node and the at least one egress node have available resources to support the guaranteed quality of service flow, then transmitting at least one request message indicating that the requested guaranteed quality of service flow is admitted.

See ’213 Patent, claim 11:

The communication method of claim 10, wherein the message, comprising information describing the maximum data rate that would have resulted in a successful request for a guaranteed quality of service flow, additionally comprises a code indicating that the request for the guaranteed quality of service flow was denied based on bandwidth-related reasons.

See ’213 Patent, claim 12:

> The communication method of claim 11, comprising at the source node and the egress node, if the at least one message transmitted by the NC node indicating that the requested guaranteed quality of service flow is admitted is received, then:
>
> allocating resources necessary to support the guaranteed quality of service flow; and
>
> communicating a response message to the NC node indicating that the necessary resources have been allocated.

’422 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
“Network Coordinator (NC) node” (’422 Patent, claims 1–4, 6)	A node dynamically assigned to coordinate communication on a network	The specification and claims of the ’422 Patent, including *e.g.*: Abstract; 1:60–66; 2:22–28; 3:30–37; 4:9–14; 4:36–45. Extrinsic evidence, including: Expert Declaration of John Holobinko and materials cited thereing; MoCA MAC/PHY	Plain and ordinary meaning	Intrinsic Evidence: The specification and claims of the ’422 patent, including, *e.g.*, Abstract, 1:56-67, 2:22-28, 3:30-46, 4:6-26, 4:36-45, 4:56-62, 4:66-6:36, 6:41-55, 7:7-16, 7:58-8:5, 8:64-9:14, 10:2-5, 10:55-67, 11:12-15, 12:1-10, 12:19-22, 13:14-17, 13:19-24, 13:44-15:42, 16:4-6, 16:60-61, 17:51-56, 17:64-18:1, 18:54-60, 19:1-

'422 PATENT				
Term (Claim)	**Entropic's Proposed Construction**	**Entropic's Evidence**	**Defendants' Proposed Construction**	**Defendants' Evidence**
		Specification v1.0 §§ 1.2, 2.3.1, 2.3.2, 3.3.6 (Entropic-DISH-MoCA_051764–Entropic-DISH-MoCA_051954); Westell UltraLine II MoCA Certwave Testing Results § 4.14 (Entropic-DISH-MoCA_051955–Entropic-DISH-MoCA_051978); Cisco Connected Home Presentation at Entropic-DISH-MoCA_049990–049991 (Entropic-DISH-MoCA_049975–Entropic-DISH-MoCA_050007); MoCA Alliance Overview Presentation at Entropic-DISH-MoCA_050752 (Entropic-DISH-MoCA_050743–Entropic-DISH-MoCA_050757).		9, 19:16-19, 19:27-31, 19:46-48, 20:54-65, 21:30-42, 22:44-23:6, 24:59-25:20, 26:15-20, 27:23-28, 27:48-67, 28:23-28, 28:46-52, 29:65-67, 30:60-67, 31:30-33, 31:59-61, 32:27-30, 32:60-62, 33:27-31, 34:13-20, 34:46-49, 35:16-21, 35:60-67, 36:25-40, 37:23-28, 37:34-37, 37:52-54; Figures 1, 2, 4, 5, 7, 8, 9, 10, 11; Tables 1, 2, 4, 14; Equations 4, 5; Claims 1-6. Appl. No. 15/832,390 File History ('422 File History), including *e.g.*: March 7, 2019, Office Action. March 14, 2019, Response to Office Action.

’422 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				May 24, 2019, Notice of Allowance. Aug. 22, 2019, Comments on Statements of Reasons for Allowance. <u>Extrinsic Evidence</u>: U.S. Patent No. 7,633,882, 1:8-13, 2:39-41. 5:28-31, 6:16-17. U.S. Patent No. 7,574,216, 3:31-37, 4:58-60. U.S. Patent No. 8,831,028, 3:42-47, 6:31-33, 6:41-44. U.S. Patent No. 9,172,993, 1:66-2:2, 11:11-19, 11:21-23. U.S. Patent No. 8,538,453, 1:20-21, 6:10-12, 7:4-14,

’422 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				7:23-25, Figure 1. Aug. 9, 2023, Hearing Transcript on Motions to Dismiss for Failure to Claim Patent-Eligible Subject Matter under 35 U.S.C. § 101. Entropic’s June 30, 2023, Opposition to Cox’s Rule 12(c) Motion to Dismiss For Invalidity Under 35 U.S.C. § 101. Dkt. 66, Entropic Communications, LLC v. Cox Communications, Inc. et al., 2:23-cv-01047-JWH-KES (C.D. Cal.). Opinions and testimony of Dr. Bertrand Hochwald, including but not limited to, all intrinsic and extrinsic evidence cited in Dr. Hochwald’s anticipated

’422 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
				claim construction declaration.

See ’422 Patent, claim 1:

A communication network comprising:

a requesting node;

a Network Coordinator (NC) node; and

a plurality of requested nodes,

wherein:

the requesting node is operable to, at least, communicate a first message to the NC node requesting a list comprising parameterized quality of service (PQoS) flows of the communication network; and

the NC node is operable to, at least:

receive the first message from the requesting node; and

in response to the received first message:

communicate a second message to each requested node of the plurality of requested nodes, the second message requesting from said each requested node a list identifying PQoS flows for which said each requested node is an ingress node;

receive, from said each requested node a respective third message comprising a list identifying PQoS flows for which said each requested node is an ingress node;

form an aggregated list of PQoS flows comprising each respective list identifying PQoS flows from each received third message; and

communicate a fourth message to at least the requesting node comprising the aggregated list,

wherein the second message specifies a range of PQoS flows being queried.

See ’422 Patent, claim 2:

The communication network of claim 1, wherein the communication network is a premises-based communication network.

See ’422 Patent, claim 3:

The communication network of claim 1, wherein the second message specifies the range of PQoS flows by, at least in part, specifying a starting index and a maximum number.

See ’422 Patent, claim 4:

The communication network of claim 1, wherein said each respective third message from each respective requested node comprises a list of PQoS Flows in the specified range for which said each respective requested node is an Ingress Node.

See ’422 Patent, claim 6:

The communication network node of claim 5, wherein the communication network node is operable as a Network Coordinator (NC) node of a premises-based communication network.

’681 PATENT				
Term (Claim)	**Entropic’s Proposed Construction**	**Entropic’s Evidence**	**Defendants’ Proposed Construction**	**Defendants’ Evidence**
“scheduled arrival clock time” (’681 Patent, claim 1)	Scheduled time at which the second node is to transmit the second packet to the first node	The specification and claims of the ’681 Patent, including *e.g.*: 4:20–54; 6:64–8:23; Figs. 5–6. IPR2024-00562 and all exhibits submitted in support thereof (*e.g.*, Ex. 1003 ¶¶ 68–70, 86–89). Extrinsic evidence, including: Expert Declaration of John Holobinko and materials cited therein.	Plain and ordinary meaning	Intrinsic Evidence: The specification and claims of the ’681 patent, including, *e.g.*, 3:63-65, 4:5-10, 4:35-54, 4:55-67, 6:28-32, 6:48-7:59, 7:60-9:5, 9:37-40, 9:58-63,10:6-39, 10:64-11:2; Figures 5, 6, 7; Claims 1-40. Appl. No. 12/580,127 File History (’681 File History), including *e.g.*: Feb. 1, 2012, Office Action. Apr. 25, 2012, Response to Office Action. Sep. 19, 2012, Notice of Allowability. Extrinsic Evidence:

See ’681 Patent, claim 1:

A method for synchronizing a plurality of nodes on a communication network, comprising:

exchanging a local clock time between a first node and a second node over the communication network, wherein the exchange comprises:

transmitting a first packet from the first node to the second node, wherein the first packet includes a first packet clock time set to the local clock time of the first node at transmission time, and includes a scheduled arrival clock time, and

setting the local clock time of the second node to the first packet clock time;

performing a ranging method between the first and second nodes based on the local clock time exchanged, wherein the ranging method results in an estimated propagation delay between the first and second node, and wherein the ranging method comprises:

transmitting a second packet from the second node to the first node, wherein the second packet is transmitted from the second node at the scheduled arrival clock time, and wherein the second packet is received by the first node at an actual arrival clock time,

calculating and storing the estimated propagation delay at the first node, wherein calculating the estimated propagation delay is based on the scheduled arrival clock time and the actual arrival time, and

transmitting a third packet from the first node to the second node, wherein the third packet comprises the estimated propagation delay; and

adjusting the local clock time of either the first or second node based on the estimated propagation delay, thereby resulting in a synchronized local clock time between the first and second node.