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13 **UNITED STATES DISTRICT COURT**
14 **CENTRAL DISTRICT OF CALIFORNIA**

15 ENTROPIC COMMUNICATIONS, LLC,

16 Plaintiff,

17 v.

18 COX COMMUNICATIONS, INC.;
19 COXCOM, LLC; AND COX
20 COMMUNICATIONS CALIFORNIA,
21 LLC,

22 Defendants.

Case No. 2:23-cv-01047

**ORIGINAL COMPLAINT FOR
PATENT INFRINGEMENT**

1 Plaintiff, Entropic Communications, LLC (“Entropic”), files this complaint for
2 patent infringement against Cox Communications, Inc. (“Cox Communications”),
3 CoxCom LLC (“CoxCom”), and Cox Communications California, LLC (“Cox
4 California”), (together “Cox”) and in support thereof alleges as follows:

5 1. Around the turn of the millennium, cable and satellite providers were eager
6 to deploy new and improved services, but they faced a big problem. The providers
7 needed a high-speed data network inside buildings to deliver those services to various
8 rooms. With existing technology, this meant installing new cabling inside each premises
9 to carry the network. Aside from the costly materials themselves, technicians would be
10 forced to spend hours planning the work, cutting and drilling into walls, and fishing
11 cables throughout a building, all while doing so in ways customers might tolerate. The
12 costs would run into the billions of dollars.

13 2. A group of inventors had a vision: what if they could repurpose the already-
14 existing coaxial cables common in buildings to do the job? The challenges were
15 daunting. Existing coaxial cabling was never intended to work this way. The mess of
16 existing coax topologies in homes and businesses was a formidable barrier. The splitter
17 devices used to distribute legacy TV obstructed signals from room-to-room. Making it
18 all work would require nothing less than the invention of a new networking architecture
19 founded upon a host of new technologies.

20 3. They succeeded. The inventors’ company, called Entropic
21 Communications Inc. (“Entropic Inc.”), made the technology work. The company was
22 awarded a portfolio of patents for the advances that made it possible. And the company
23 spearheaded forming a new industry standard for the architecture, commonly called
24 MoCA.

25 4. Today, MoCA is the backbone of data and entertainment services for tens
26 of millions of customers. MoCA is widely used by every major provider in the industry,
27 saving them billions of dollars in costs and avoiding the hassle of re-wiring for providers
28 and customers alike. Unfortunately, the defendants take advantage of MoCA without

1 paying appropriate licensing fees for the technology. This lawsuit is about redressing
2 that wrong.

3 5. This is a civil action arising under the patent laws of the United States, 35
4 U.S.C. § 1 *et seq.*, including specifically 35 U.S.C. § 271, based on the defendants'
5 infringement of U.S. Patent Nos. 7,295,518 (the "518 Patent"), 7,594,249 (the "249
6 Patent") (together the "Network Patents"); U.S. Patent Nos. 7,889,759 (the "759
7 Patent"), 8,085,802 (the "802 Patent") (together the "Node Admission Patents"); U.S.
8 Patent Nos. 9,838,213 (the "213 Patent"), 10,432,422 (the "422 Patent") (together the
9 "PQoS Flows Patents"); U.S. Patent Nos. 8,631,450 (the "450 Patent"), 8,621,539 (the
10 "539 Patent") (together the "Link Maintenance Patents"); U.S. Patent No. 8,320,566
11 (the "0,566 Patent" or the "OFDMA Patent"); U.S. Patent No. 10,257,566 (the "7,566
12 Patent" or the "Network Coordinator Patent"); U.S. Patent No. 8,228,910 (the "910
13 Patent" or the "Packet Aggregation Patent"); U.S. Patent No. 8,363,681 (the "681
14 Patent" or the "Clock Sync Patent") (collectively all of the patents are referred to herein
15 as the "Patents-in-Suit" or "Asserted Patents"). These patents incorporate various
16 elements of technology set forth in the Multimedia over Coax Alliance standards (the
17 "MoCA" standards)¹.

18 **THE PARTIES**

19 6. Entropic is a Delaware limited liability company with an office at 7150
20 Preston Road, Suite 300, Plano, Texas 75024.

21 7. Entropic is the owner by assignment to all right, title, and interest to the
22 Patents-in-Suit. Entropic is the successor-in-interest for the Patents-in-Suit.

23 8. Upon information and belief, Cox Communications is a privately-owned
24 subsidiary of Cox Enterprises Inc. and is a Delaware Corporation with a principal place
25 of business at 6205 Peachtree Dunwoody Road, Atlanta, Georgia 30328.

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27 ¹ Each version of the MoCA standards is referred to herein as "MoCA 1.0," "MoCA
28 1.1," and "MoCA 2.0."

1 18. Upon information and belief, employees of Cox employees, regardless of
2 the Cox entity for which they work, have email addresses with the @cox.com domain.

3 19. Cox Communications is a manager/member of CoxCom.

4 20. Cox Communications has complete control over CoxCom.³

5 21. CoxCom is a manager/member of Cox California.

6 22. Cox Communications provides cable services in at least California through
7 its agent Cox California.⁴

8 23. Cox Communications provides its customers with a “Residential Customer
9 Service Agreement” in which it “sets for the terms and conditions under which CoxCom,
10 LLC or one or more of its subsidiaries or affiliates authorized by applicable regulatory,
11 franchise or license authority. . . agrees to provide services.”⁵ Upon information and
12 belief, the entity that provides the services to Cox’s customers and subscribers is Cox
13 California.

14 24. Upon information and belief, Cox Communications shares management,
15 common ownership, advertising platforms, facilities, distribution chains and platforms,
16 stores, and accused product lines and products involving related technologies with its
17 agents, including at least CoxCom and Cox California. For example, Cox
18 Communications, CoxCom, and Cox California, share a principal place of business at
19 6205 Peachtree Dunwoody Road, Atlanta, Georgia 30328.

20 25. Upon information and belief, Cox Communications is the corporate
21 manager of its subsidiary LLCs that own or lease property in this Judicial District, that

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23 ³ <https://fcc.report/IBFS/ITC-T-C-20210517-00085/7754627.pdf>

24 ⁴ [https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-
25 outreach/documents/bco/go-156-procurement-plans/2020/cox-
26 communications.pdf?sc_lang=en&hash=CC575B1DDB9F6FBB153692B6B610ED67](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/bco/go-156-procurement-plans/2020/cox-communications.pdf?sc_lang=en&hash=CC575B1DDB9F6FBB153692B6B610ED67)
(Accessed October 13, 2022).

27 ⁵ <https://www.cox.com/aboutus/policies/customer-service-agreement.html> (accessed
28 October 12, 2022).

1 employ employees in this Judicial District, and that own, store, sell, demonstrate, and
2 lease equipment in this Judicial District. Cox has the right to exercise near total control
3 of each entity’s operations through its LLC agreements with each entity.

4 26. As further alleged herein, this Court has personal jurisdiction over the
5 defendants, and venue is proper in this Judicial District.

6 **PRESUIT DISCUSSIONS**

7 27. Prior to filing this Complaint, Entropic sent a communication by physical
8 means to Cox on August 9, 2022, in an attempt to engage Cox and/or its agents in good
9 faith licensing discussions regarding Entropic’s patent portfolio, including the Patents-
10 in-Suit. On December 23, 2022 and January 2, 2023, Entropic sent Cox another
11 communication by both physical and electronic means regarding a separate license to
12 Entropic’s patents for the field of the standardized networking technology commonly
13 called MoCA, and also seeking to discuss with Cox a typical non-disclosure agreement
14 in order to share such information. Cox has not responded to any of these
15 communications.

16 **ENTROPIC’S LEGACY AS AN INNOVATOR**

17 28. Entropic Inc., the predecessor-in-interest to Entropic as to the Patents-in-
18 Suit, was founded in San Diego, California in 2001 by Dr. Anton Monk, Itzhak Gurantz,
19 Ladd El Wardani and others. Entropic Inc. was exclusively responsible for the
20 development of the initial versions of the MoCA standards, including MoCA 1.0, ratified
21 in 2006, MoCA 1.1, ratified in 2007, and was instrumental in the development of MoCA
22 2.0, ratified in 2010. It also developed Direct Broadcast Satellite (“DBS”) Outdoor Unit
23 (“ODU”) single wire technology, and System-on-Chip (“SoC”) solutions for set-top
24 boxes (STBs) in the home television and home video markets.

25 29. Under the technical guidance of Dr. Monk, Entropic Inc. grew to be
26 publicly listed on the NASDAQ in 2007. After the public listing, the company acquired
27 RF Magic, Inc. in 2007, a company specializing in DBS ODU technology and related
28 hardware.

1 30. Additional growth between 2007 and 2015 bolstered the technical expertise
2 of Entropic Inc. with respect to signal acquisition, stacking, filtering, processing, and
3 distribution for STBs and cable modems.

4 31. For years, Entropic Inc. pioneered innovative networking technologies, as
5 well as television and internet related technologies. These technologies simplified the
6 installation required to support wideband reception of multiple channels for
7 demodulation, improved home internet performance, and enabled more efficient and
8 responsive troubleshooting and upstream signal management for cable providers. These
9 innovations represented significant advances in the field, simplified the implementation
10 of those advances, and reduced expenses for providers and customers alike.

11 32. In 2015, MaxLinear, Inc. (“MaxLinear”)—a leading provider of radio-
12 frequency, analog, digital, and mixed-signal semiconductor solutions—acquired
13 Entropic Inc., and the pioneering intellectual property developed by Dr. Monk and his
14 team.

15 33. In 2021, Plaintiff Entropic was established and MaxLinear transferred to
16 Entropic a portfolio of intellectual property representing the Entropic and MaxLinear
17 innovation in the cable and satellite services markets.

18 **MOCA® AND THE MOCA® STANDARDS**

19 34. MoCA is an alliance of companies that operate in the field of technology
20 associated with providing multimedia services, such as television operators, consumer
21 electronics, manufacturers, semiconductor vendors, and original equipment
22 manufacturers (OEMs). MoCA has developed and published a standard governing the
23 operation of devices using existing coaxial cable.

24 35. By the year 2000, cable and satellite providers were facing the problem of
25 distributing services as data between the various locations in a dwelling where desired
26 by customers. This would require a full digital network, capable of communication
27 between any node in the network, in any direction. Traditional computer networking
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1 such as Ethernet provided some of the functionality, but the cabling necessary for
2 Ethernet or the like was (and is) very expensive to install.

3 36. At the time, millions of dwellings and businesses across the United States
4 often already had existing coaxial cable (“coax”) deployed throughout the premises to
5 provide traditional television programming services to various rooms. However, this
6 cabling was not designed or envisaged as a two-way and point-to-point network, nor a
7 network capable of carrying high speed digital data traffic. The coax was deployed as a
8 “tree” topology which simply splits the signal coming from an external source (the cable
9 or satellite feed) for distribution of video content to the various locations on the premises
10 in the “downlink” direction only. Thus, it was impossible to simply use this existing
11 cable to make the new point-to-point high-quality network connections between devices
12 located on the premises desired by the cable and satellite providers.

13 37. Entropic Inc. tackled the problem and managed what was considered
14 unlikely or impossible—to make a high-speed point-to-point digital communication
15 network using existing coax installations. This required substantial inventive effort that
16 is embodied by the Patents-in-Suit. For example, one of the significant challenges faced
17 by Entropic Inc. was the varying nature of the exact topology of existing on-premises
18 coax infrastructure that a network architecture would have to handle. The topology and
19 types of devices (such as passive or active splitters, their characteristics, etc.) greatly
20 influence the environment for signals transferred from node to node.

21 38. Entropic Inc. later founded an organization to standardize the networking
22 architecture and promote its use. This became known as the Multimedia over Coax
23 Alliance, or “MoCA.” That acronym has also come into common usage as the name
24 given to the networking architecture itself—now embodied in the MoCA standards. The
25 technology defined in the MoCA standards enables the point-to-point high-quality
26 network so badly needed by cable and satellite providers. Crucially it also provides the
27 operators the ability to deploy their services without the enormously costly effort of
28 installing Ethernet or similar cabling to carry the data.

1 39. There have been several iterations of the MoCA standards, beginning with
2 MoCA 1.0, which was ratified in 2006. Since 2006, MoCA has ratified subsequent
3 versions of the MoCA standards, including MoCA 1.1 and MoCA 2.0.

4 40. The MoCA standards ensure network robustness along with inherent low
5 packet error rate performance and very low latency that is relatively independent of
6 network load. The logical network model of the MoCA network is significantly different
7 from the underlying on-premises legacy coaxial network. For example, due to the effects
8 of splitter jumping and reflections, the channel characteristics for a link between two
9 MoCA nodes may be dramatically different from a link between any other two MoCA
10 nodes.

11 41. **The Network Patents (the '518 and '249 Patents)** and the **OFDMA**
12 **Patent (the '0,566 Patent)** describe MoCA networks, including how data
13 communicated via MoCA networks is modulated by full-mesh pre-equalization
14 techniques known as Adaptive Constellation Multitone (ACMT), a form of OFDM
15 modulation.

16 42. As described in the **Network Coordinator Patent (the '7,566 Patent)** and
17 **the Node Admission Patents (the '759 and '802 Patents)**, a particular MoCA node,
18 known as a Network Coordinator, controls the admission of nodes to the MoCA
19 Network. The Network Coordinator sends out a variety of data packets using a
20 modulation profile that all the MoCA nodes can receive. For broadcast and multicast
21 transmissions, a broadcast bitloading profile can be calculated and used for each node
22 receiving the transmissions in the MoCA network.

23 43. MoCA nodes use a modulation profile for every point-to-point link. A
24 variety of probe messages are transmitted by the MoCA nodes and used to create
25 modulation profiles, optimize performance, and allow for various calibration
26 mechanisms. In order to maintain network performance as network conditions change,
27 the MoCA standards define techniques to maintain optimized point-to-point and
28 broadcast links between all of the MoCA nodes. The **Link Maintenance Patents (the**

1 **'450 and '539 Patents)** describe link maintenance operations involving the processing
2 of probe messages at regular intervals to recalculate parameters such as modulation
3 profile and transmit power.

4 44. This MoCA network allows for devices (MoCA nodes) connected to a
5 MoCA network to communicate data formatted in a variety of formats. **The Packet**
6 **Aggregation Patent (the '910 Patent)**, for example, describes the communication of
7 data packets in an Ethernet format, via the on-premises coaxial network without the need
8 to deploy a separate physical network on the premises.

9 45. **The Clock Sync Patent (the '681 Patent)** describes the synchronization
10 of the clocks of each MoCA node in the network with a master clock provided by the
11 Network Coordinator as these transmissions are fully coordinated.

12 46. The MoCA standards and the **PQoS Flow Patents (the '213 and '422**
13 **Patents)** describe how particular MoCA nodes can request additional network resources
14 and/or transmission opportunities. This allows the MoCA node to transfer data more
15 quickly across the MoCA network by borrowing resources that have been scheduled to
16 other MoCA nodes.

17 47. These technological developments enable users to avoid the significant
18 costs associated with rewiring their home or business in order to deploy a number of
19 devices throughout the premises. Further, these technological developments allow
20 services requiring reliable, high-speed data and video communications to be provided to
21 the user while utilizing the on-premises coaxial network already present in the user's
22 home or business.

23 48. Entropic Inc. spearheaded MoCA, and its founders are the inventors of
24 several patents that cover various mandatory aspects of the MoCA standards. In other
25 words, by conforming to the MoCA standards, a product necessarily practices those
26 patents, either by itself, as a part of a MoCA-compliant system, or in the method in
27 which it operates.

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1 **THE ACCUSED MOCA INSTRUMENTALITIES AND**
2 **ACCUSED SERVICES**

3 49. Cox utilizes various instrumentalities, deployable as nodes in a MoCA-
4 compliant coaxial cable network.

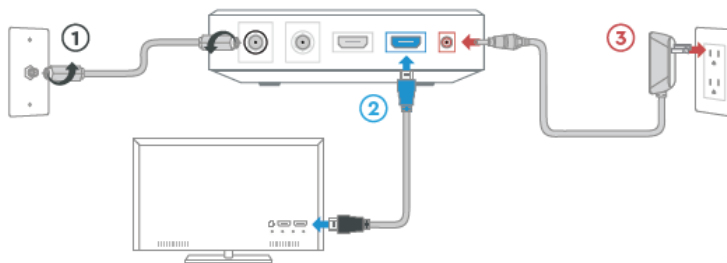
5 50. Cox deploys the instrumentalities to, *inter alia*, provide a whole-premises
6 DVR network over an on-premises coaxial cable network, with components including
7 gateway devices (including, but not limited to, the Cox XG1v3, Cox XG1v2, and devices
8 that operate in a similar matter) and client devices (including, but not limited to, the
9 Arris DCX3200, Arris DCX3200, Arris MR150CNM, Pace PX032ANI, Pace
10 PXD01ANI, and devices that operate in a similar manner) serving as nodes operating
11 with data connections compliant with MoCA 1.0, 1.1, and/or 2.0. Such components are
12 referred to herein as the “Accused MoCA Instrumentalities.” The MoCA-compliant
13 services offered by Cox employing the Accused MoCA Instrumentalities, including the
14 operation of a MoCA-compliant network in which such instrumentalities are deployed,
15 are referred to herein as the “Accused Services.”

16 51. An exemplary illustration of the topology of various Accused MoCA
17 Instrumentalities in a Cox deployment is pictured below.⁶

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27 ⁶ This is an example of the products used in the infringing network and is not intended
28 to limit the scope of products accused of infringement.

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Here's what to do:



IMPORTANT: If you have Cox Internet, your modem must be installed before continuing. If you have a large Contour box (host), that also needs to be up and running before continuing this installation.

1 Plug in the Contour box

First, connect the **coax cable** ① to an active cable outlet and the Contour box. Then connect the **HDMI cord** ② to your TV and the Contour box. Lastly, connect the **power cord** ③ to an electrical outlet and the Contour box. This will power it on.

TIP: Plug the coax cable into a centrally located cable outlet or use the same outlet where the old device was connected.

Multi-Room DVR

With the optional MoCA Home Networking component, the DCX3200-M provides the flexibility to not only watch your favorite programs on your schedule, but also choose the room in your home where you would like to view your programs. The DCX3200-M serves as a multimedia client that can access and playback recorded programs from a separate MoCA-enabled DVR set-top within the home over the existing coaxial cabling.

52. Upon information and belief, the Accused MoCA Instrumentalities form networks over a coaxial cable network in accordance with MoCA 1.0, 1.1, and/or 2.0.

53. Cox’s business includes the provision of Accused Services to its customers, by means of the Accused MoCA Instrumentalities.

54. Most commonly, the Accused Services are offered and provided in exchange for fees paid to Cox.

1 55. Cox itself also sometimes tests and demonstrates the Accused Services, by
2 means of the Accused MoCA Instrumentalities.

3 56. In some deployments of the Accused MoCA Instrumentalities and the
4 performance of the Accused Services, Cox uses one or more of: the XG1v3, XG1v2,
5 Arris DCX3200, Arris DCX3200, Arris MR150CNM, Pace PX032ANI, Pace
6 PXD01ANI, and similarly operating devices to provide signals, programming and
7 content utilizing a data connection carried over a coaxial cable network in accordance
8 with the MoCA standards.

9 57. In or about April 2009, Steve Necessary, in his capacity as vice president
10 of video strategy and product management for “Cox Communications” stated that
11 “MoCA is an important enabling technology for our connected home entertainment
12 strategy. With it, we can offer our subscribers new ways to enjoy Cox’s video services
13 including multi-room DVR and other connected entertainment services.”

14 58. Upon information and belief, Mr. Necessary and/or other authorized Cox
15 Communications personnel authorized the publication and attribution of the preceding
16 quotation to Mr. Necessary.

17 59. In or about April 2009, Mr. Necessary in his capacity as vice president of
18 video strategy and product management for “Cox Communications,” also stated that
19 Cox Communications was “pleased to leverage [Entropic Inc.’s] MoCA solutions as part
20 of our connected entertainment strategy”⁷

21 60. Upon information and belief, Mr. Necessary and/or other authorized Cox
22 Communications personnel authorized the publication and attribution of the preceding
23 quotation to Mr. Necessary.

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25 _____
26 ⁷ [https://www.globenewswire.com/en/news-
27 release/2009/04/21/395888/9308/en/Entropic-Communications-MoCA-Solutions-
28 Selected-by-Cox-Communications-for-Its-Connected-Home-Entertainment-
Platform.html](https://www.globenewswire.com/en/news-release/2009/04/21/395888/9308/en/Entropic-Communications-MoCA-Solutions-Selected-by-Cox-Communications-for-Its-Connected-Home-Entertainment-Platform.html)

1 61. In or about September 2010, Vince Groff, in his capacity as executive
2 director of “Cox Communications” stated, “We believe MoCA will continue to be the
3 primary network connection path between televisions in the home,” and “We are looking
4 forward to commercial availability of MoCA 2.0.”⁸

5 62. Upon information and belief, Mr. Groff and/or other authorized Cox
6 Communications personnel authorized the publication and attribution of the preceding
7 quotation to Mr. Groff.

8 63. Cox was aware of its deployment and use of MoCA at least as early as the
9 later of its involvement with MoCA and six years prior to the filing of this complaint.

10 64. Upon information and belief, Cox was aware that Entropic Inc. invented
11 technology underlying the MoCA standards. Accordingly, such Entropic, Inc.
12 technology would be incorporated into any instrumentality compliant with the MoCA
13 standards.

14 65. Upon information and belief, Cox and/or its subsidiaries was a member of
15 the Board of the MoCA Alliance beginning in 2010, which provided Cox full access to
16 all then-existing versions of the MoCA standards.

17 66. Upon information and belief, Cox was aware that Entropic Inc. intended to
18 and did pursue patent protection for technology related to MoCA, at least as early as the
19 later of its involvement with MoCA and the issue date of the Asserted Patents.

20 67. When Cox obtained, deployed and/or used instrumentalities with MoCA
21 functionality not provided by Entropic Inc., Cox knew or should have known that
22 Entropic Inc. had provided no authorization for such activities, for example by a patent
23 license.

24 68. Upon information and belief, when Cox obtained, deployed and/or used
25 instrumentalities with MoCA functionality not provided by Entropic Inc., Cox failed to
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28 ⁸ See Exhibit Y at 6.

1 investigate whether Entropic Inc. authorized the use of Entropic Inc.’s patents for such
2 activity.

3 69. Alternatively, upon information and belief, when Cox obtained, deployed
4 and/or used instrumentalities with MoCA functionality not provided by Entropic Inc.,
5 Cox knew the use of Entropic Inc.’s patents for such activity was not authorized by
6 Entropic Inc.

7 **JURISDICTION AND VENUE**

8 70. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331
9 and 1338(a) because the claims herein arise under the patent laws of the United States,
10 35 U.S.C. § 1 et seq., including 35 U.S.C. § 271.

11 71. Venue in this Judicial District of Central California (“District”) is proper
12 pursuant to 28 U.S.C. § 1400(b), because Cox has regular and established places of
13 business in this Judicial District. The defendants, by themselves and/or through their
14 agents have committed acts of patent infringement within the State of California and in
15 this Judicial District by making, importing, using, selling, offering for sale, and/or
16 leasing the Accused MoCA Instrumentalities, as well as Accused Services employing
17 the Accused MoCA Instrumentalities that comply with one or more of MoCA 1.0, 1.1,
18 and/or 2.0.

19 72. This Court has general personal jurisdiction over Cox because Cox
20 conducts systematic and regular business within the State of California by, *inter alia*
21 providing cable television, internet, and phone services to businesses and residents
22 throughout this State.

23 73. Upon information and belief, Cox Communications has a regular and
24 established place of business within this Judicial District at 27121 Towne Centre Drive,
25 Foothill Ranch, California 92610.

26 74. The Court has specific personal jurisdiction over Cox Communications,
27 CoxCom, and Cox California, because they have committed acts of infringement within
28 the State of California and this Judicial District through, for example, making infringing

1 networks using the Accused MoCA Instrumentalities, and using the Accused MoCA
2 Instrumentalities to provide the Accused Services in the State of California and this
3 Judicial District.

4 75. Upon information and belief, Cox Communications, CoxCom, and Cox
5 California, by themselves and/or through their agents, offer various telecommunication
6 services throughout the United States. Cox operates and maintains a nationwide
7 television and data network through which Cox sells, leases, and offers for sale products
8 and services, including the Accused MoCA Instrumentalities, to businesses, consumers,
9 and government agencies. Through its subsidiaries, Cox Communications offers to sell,
10 sells, and provides Cox branded products and services, including, set top boxes and
11 digital video, audio, and other content services to customers. Subscribers to Cox's
12 television services receive one or more receivers and/or set-top boxes, within this
13 Judicial District.

14 76. Upon information and belief, the Accused Services are provided through
15 and using the Accused MoCA Instrumentalities.

16 77. Upon information and belief, Cox Communications, CoxCom, and Cox
17 California, by themselves, and/or through their agents own, and or operate their
18 businesses through *inter alia*, offices, warehouses, storefronts, and/or other operational
19 locations within the State of California and this Judicial District including, for example,
20 at Cox stores located at 6234 Irvine Blvd., Irvine, California 92620; 6771 Quail Hill
21 Pkwy., Irvine, California 92603; 23704 El Toro Rd., Lake Forest, California 92630;
22 27321 La Paz Rd. Suite B, Laguna Niguel, California 92677; 30652 Santa Margarita
23 Pkwy F-101B, Rancho Santa Margarita, California 92688. Cox holds out these locations
24 as its own through the use of branding on the locations themselves.

25 78. Cox Communications lists these storefronts on its website and holds them
26 out as places where customers can obtain the Accused MoCA Instrumentalities.

1 79. Upon information and belief, Cox Communications, CoxCom and Cox
2 California, by themselves, and/or through their agents own and/or lease the premises
3 where these Cox stores are located.

4 80. Upon information and belief, these Cox stores are staffed by persons
5 directly employed by Cox, many of whom live in this Judicial District.

6 81. Upon information and belief, one or more of the defendants has engaged in
7 regular and established business at physical places within this Judicial District such as
8 at these Cox stores.

9 82. Upon information and belief, Cox employs and/or contracts with persons
10 and directs them to install, service, repair, and/or replace equipment, as appropriate, in
11 this Judicial District.

12 83. Upon information and belief, in each of these stores and/or service centers,
13 Cox owns and stores the Accused MoCA Instrumentalities and demonstrates the
14 Accused Services provided via those products to Cox customers.

15 84. On the Cox Communications website, Cox has a section regarding the
16 California Consumer Privacy Notice, which demonstrates that Cox Communications is
17 purposefully holding itself out as providing products and services in California. Cox
18 Communications explicitly confirms that this agreement applies to CoxCom and its
19 “communication related affiliates.” Upon information and belief, such communication
20 related affiliates include Cox California, and of course, Cox Communications.

21 85. Upon information and belief, Cox Communications, and/or CoxCom, by
22 themselves and/or through their agent Cox California, provides the Accused Services
23 and the Accused MoCA Instrumentalities throughout the United States and in this
24 Judicial District.

25 86. Venue is further proper because Cox has committed and continues to
26 commit acts of patent infringement in this Judicial District, including, making, using,
27 importing, offering to sell, and/or selling Accused Services and Accused MoCA
28 Instrumentalities, and MoCA networks, and thereafter providing Accused Services in

1 this Judicial District, including by Internet sales and sales via retail and wholesale stores.
2 Furthermore, for example, Cox deploys Accused MoCA Instrumentalities to many
3 thousands of locations (customer premises) in this Judicial District and subsequently, by
4 means of the Accused MoCA Instrumentalities, uses the claimed inventions at those
5 locations in this Judicial District. Cox infringes by inducing and contributing to acts of
6 patent infringement in this Judicial District and/or committing at least a portion of any
7 other infringements alleged herein in this Judicial District.

8 87. Cox continues to conduct business in this Judicial District, including the
9 acts and activities described in the preceding paragraph.

10 **COUNT I**

11 **(Infringement of the '518 Patent)**

12 88. Entropic incorporates by reference each allegation of Paragraphs 1 through
13 87.

14 89. The '518 Patent duly issued on November 13, 2007 from an application
15 filed December 18, 2002, an application filed August 29, 2002, and, *inter alia*, a
16 provisional application filed August 30, 2001.

17 90. Entropic owns all substantial rights, interest, and title in and to the '518
18 Patent, including the sole and exclusive right to prosecute this action and enforce the
19 '518 Patent against infringers, and to collect damages for all relevant times.

20 91. The '518 Patent is one of the Network Patents, and is generally directed to,
21 *inter alia*, broadband local area data networks using on-premises coaxial cable wiring
22 for interconnection of devices. Probe messages can be “sent between devices to
23 characterize the communication channel and determine optimum bit loading” for
24 communicating data between devices. '518 Patent, Abstract. The '518 Patent has four
25 claims, of which claims 1 and 4 are independent. At least these claims of the '518 Patent
26 are directed to the creation of the MoCA network using the on-premises coaxial cable
27 wiring. A true and accurate copy of the '518 Patent is attached hereto as Exhibit A.

1 92. The '518 Patent is directed to patent-eligible subject matter pursuant to
2 35 U.S.C. § 101.

3 93. The '518 Patent is valid and enforceable, and presumed as such, pursuant
4 to 35 U.S.C. § 282.

5 94. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
6 XG1v3, XG1v2, Arris DCX3200, Arris DCX3200, Arris MR150CNM, Pace
7 PX032ANI, Pace PXD01ANI, and similarly operating devices) in connection with
8 operating and providing the Accused Services.

9 95. The Accused MoCA Instrumentalities deployed by Cox to customer
10 premises remain the property of Cox while deployed.

11 96. The Accused MoCA Instrumentalities operate while deployed in a manner
12 controlled and intended by Cox.

13 97. As set forth in the attached non-limiting claim chart (Exhibit B), any
14 product or system operating in a MoCA network compliant with the charted provisions
15 of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 1 of the '518 Patent.

16 98. Each aspect of the functioning of the Accused MoCA Instrumentalities
17 described in the claim chart operates while deployed to customer premises in a manner
18 controlled and intended by Cox.

19 99. Cox provides no software, support or other facility to customers to modify
20 any aspect of the functioning described in the claim chart of the Accused MoCA
21 Instrumentalities while deployed to customer premises.

22 100. The Accused MoCA Instrumentalities are compliant with the provisions of
23 MoCA 1.0, 1.1., and/or 2.0, as described in the '518 Patent claim chart, Exhibit B.

24 101. Cox therefore directly infringes at least claim 1 of the '518 Patent by using
25 the Accused MoCA Instrumentalities to provide Accused Services to customers.

26 102. Cox directly infringes at least claim 1 of the '518 Patent when it, for
27 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
28 provide Accused Services.

1 103. Cox directly infringes at least claim 1 of the '518 Patent by making,
2 importing, selling, and/or offering for sale the Accused MoCA Instrumentalities in
3 connection with providing the Accused Services over an on-premises coaxial cable
4 network, which meets each and every limitation of at least claim 1 of the '518 Patent.

5 104. Cox had knowledge of '518 Patent no later than its receipt of Entropic's
6 communications sent to Cox on August 9, 2022.

7 105. Cox has been aware that it infringes the '518 Patent since at least as early
8 as receipt of Entropic's communications sent to Cox on August 9, 2022.

9 106. Cox has known of or has been willfully blind to the '518 Patent since before
10 the August 9, 2022 communications from Entropic.

11 107. The '518 Patent issued while or before Cox was a member of MoCA.

12 108. Because of Cox's knowledge of Entropic Inc.'s work and contributions
13 related to MoCA technology, Cox had knowledge of the '518 Patent before August 9,
14 2022 or was willfully blind to its existence.

15 109. The claims of the '518 Patent are essential to practicing at least MoCA
16 standards versions 1.0, 1.1, and/or 2.0.

17 110. Cox knew, or was willfully blind to the fact that the technology of the '518
18 Patent directly relates to networking over coaxial cable, including MoCA, at least as
19 early as Cox became aware of the existence of the '518 Patent. Because of its familiarity
20 with, and access to, the MoCA standards, Cox knew, or was willfully blind to the fact,
21 that use (by Cox or its customers) of instrumentalities compliant with MoCA 1.0, 1.1,
22 and/or 2.0 to deliver Cox services would necessarily infringe one or more claims of the
23 '518 Patent.

24 111. Since learning of the '518 Patent and its infringing activities, Cox has failed
25 to cease its infringing activities.

26 112. Cox's customers and subscribers directly infringe at least claim 1 of the
27 '518 Patent by using the Accused MoCA Instrumentalities in connection with the
28 Accused Services provided by Cox.

1 113. Cox actively induces its customers' and subscribers' direct infringement by
2 providing the Accused Services and associated support.

3 114. For example, Cox actively induces infringement of at least claim 1 of the
4 '518 Patent by providing the Accused MoCA Instrumentalities to Cox customers with
5 specific instructions and/or assistance (including installation and maintenance)
6 regarding the instantiation of a MoCA network and the use of the Accused MoCA
7 Instrumentalities in a manner that infringes the '518 Patent.

8 115. Cox aids, instructs, supports, and otherwise acts with, the intent to cause an
9 end user to make and/or use the MoCA network and/or use the Accused MoCA
10 Instrumentalities in a manner that infringes each and every element of at least claim 1 of
11 the '518 Patent.

12 116. Additionally, Cox contributes to the customers' and subscribers' direct
13 infringement. Cox provides at least the Accused MoCA Instrumentalities that create and
14 are at least substantially all of a MoCA network to be used to infringe at least claim 1 of
15 the '518 Patent.

16 117. The Accused MoCA Instrumentalities have no substantial noninfringing
17 uses. When an end user uses the Accused MoCA Instrumentalities in connection with
18 the Accused Services provided by Cox, the end user necessarily directly infringes at
19 least claim 1 of the '518 Patent. The Accused MoCA Instrumentalities are therefore
20 especially made or especially adapted for use in an infringing manner.

21 118. Cox's inducement of, and contribution to, the direct infringement of at least
22 claim 1 of the '518 Patent has been, and is, continuous and ongoing through the acts
23 described above in connection with Cox's provision of the Accused Services.

24 119. Cox's infringement of the '518 Patent is, has been, and continues to be
25 willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under
26 the patent.

27 120. Entropic has been damaged as a result of the infringing conduct alleged
28 above. Cox is liable to Entropic in an amount that compensates Entropic for Cox's

1 infringement, which by law cannot be less than a reasonable royalty, together with
2 interest and costs as fixed by this Court under 35 U.S.C. § 284.

3 121. Upon information and belief there is no duty to mark any instrumentality
4 with the '518 Patent in accordance with 35 U.S.C. § 287.

5 **COUNT II**

6 **(Infringement of the '249 Patent)**

7 122. Entropic incorporates by reference each allegation of Paragraphs 1 through
8 121.

9 123. The '249 Patent duly issued on September 22, 2009 from an application
10 filed July 21, 2001, a provisional application filed May 4, 2001.

11 124. Entropic owns all substantial rights, interest, and title in and to the '249
12 Patent, including the sole and exclusive right to prosecute this action and enforce the
13 '249 Patent against infringers, and to collect damages for all relevant times.

14 125. The '249 Patent is one of the Network Patents, and is generally directed to,
15 *inter alia*, broadband cable networks that allow devices to communicate directly over
16 the existing coaxial cable with its current architecture without the need to modify the
17 existing cable infrastructure. Each device communicates with the other devices in the
18 network and establishes parameters to overcome channel impairments in the coaxial
19 cable network. '249 Patent, col. 3, lines 11–22. The '249 Patent has 17 claims, of which
20 claims 1, 5, and 10 are independent. At least these claims of the '249 Patent are directed
21 to the creation of the MoCA network using the on-premises coaxial cable wiring. A true
22 and accurate copy of the '249 Patent is attached hereto as Exhibit C.

23 126. The '249 Patent is directed to patent-eligible subject matter pursuant to
24 35 U.S.C. § 101.

25 127. The '249 Patent is valid and enforceable, and presumed as such, pursuant
26 to 35 U.S.C. § 282.

27 128. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
28 XG1v3, XG1v2, Arris DCX3200, Arris DCX3200, Arris MR150CNM, Pace

1 PX032ANI, Pace PXD01ANI, and similarly operating devices) in connection with
2 operating and providing the Accused Services.

3 129. The Accused MoCA Instrumentalities deployed by Cox to customer
4 premises remain the property of Cox while deployed.

5 130. The Accused MoCA Instrumentalities operate while deployed in a manner
6 controlled and intended by Cox.

7 131. As set forth in the attached non-limiting claim chart (Exhibit D), any
8 product or system operating in a MoCA network compliant with the charted provisions
9 of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 10 of the '249 Patent.

10 132. Each aspect of the functioning of the Accused MoCA Instrumentalities
11 described in the claim chart operates while deployed to customer premises in a manner
12 controlled and intended by Cox.

13 133. Cox provides no software, support or other facility to customers to modify
14 any aspect of the functioning described in the claim chart of the Accused MoCA
15 Instrumentalities while deployed to customer premises.

16 134. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1.,
17 and/or 2.0, as described in the '249 Patent claim chart, Exhibit D.

18 135. Cox therefore directly infringes at least claim 10 of the '249 Patent by using
19 the Accused MoCA Instrumentalities to provide Accused Services to customers.

20 136. Cox directly infringes at least claim 10 of the '249 Patent when it, for
21 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
22 provide Accused Services.

23 137. Cox directly infringes at least claim 10 of the '249 Patent by making,
24 importing, selling, and/or offering for sale the Accused MoCA Instrumentalities in
25 connection with providing the Accused Services over an on-premises coaxial cable
26 network, which meets each and every limitation of at least claim 10 of the '249 Patent.

27 138. Cox had knowledge of the '249 Patent no later than its receipt of Entropic's
28 communications sent to Cox on August 9, 2022.

1 139. Cox has been aware that it infringes the '249 Patent no later than its receipt
2 of Entropic's communications sent to Cox on August 9, 2022.

3 140. Cox has known of or has been willfully blind to the '249 Patent since before
4 the August 9, 2022 communications from Entropic.

5 141. The '249 Patent issued while or before Cox was a member of MoCA.

6 142. Because of Cox's knowledge of Entropic Inc.'s work and contributions
7 related to MoCA technology, Cox had knowledge of the '249 Patent before August 9,
8 2022 or was willfully blind to its existence.

9 143. The claims of the '249 Patent are essential to practicing at least MoCA
10 standards versions 1.0, 1.1, and/or 2.0.

11 144. Cox knew, or was willfully blind to the fact that the technology of the '249
12 Patent directly relates to networking over coaxial cable, including MoCA, at least as
13 early as Cox became aware of the existence of the '249 Patent. Because of its familiarity
14 with, and access to, the MoCA standards, Cox knew, or was willfully blind to the fact,
15 that use (by Cox or its customers) of instrumentalities compliant with MoCA 1.0, 1.1,
16 and/or 2.0 to deliver Cox services would necessarily infringe one or more claims of the
17 '249 Patent.

18 145. Since learning of the '249 Patent and its infringing activities, Cox has failed
19 to cease its infringing activities.

20 146. Cox's customers and subscribers directly infringe at least claim 10 of the
21 '249 Patent by using the Accused MoCA Instrumentalities in connection with the
22 Accused Services provided by Cox.

23 147. Cox actively induces its customers' and subscribers' direct infringement by
24 providing the Accused Services and associated support.

25 148. For example, Cox actively induces infringement of at least claim 10 of the
26 '249 Patent by providing the Accused MoCA Instrumentalities to Cox customers with
27 specific instructions and/or assistance (including installation and maintenance)
28

1 regarding the instantiation of a MoCA network and the use of the Accused MoCA
2 Instrumentalities in a manner that infringes the '249 Patent.

3 149. Cox aids, instructs, supports, and otherwise acts with the intent to cause an
4 end user to make and/or use the MoCA network and/or use the Accused MoCA
5 Instrumentalities in a manner that infringes every element of at least claim 10 of the '249
6 Patent.

7 150. Additionally, Cox contributes to the customers' and subscribers' direct
8 infringement. Cox provides at least the Accused MoCA Instrumentalities that create and
9 are at least substantially all of a MoCA network to be used to infringe at least claim 10
10 of the '249 Patent.

11 151. The Accused MoCA Instrumentalities have no substantial noninfringing
12 uses. When an end user uses the Accused MoCA Instrumentalities in connection with
13 the Accused Services provided by Cox, the end user necessarily directly infringes at
14 least claim 10 of the '249 Patent. The Accused MoCA Instrumentalities are therefore
15 especially made or especially adapted for use in an infringing manner.

16 152. Cox's inducement of, and contribution to, the direct infringement of at least
17 claim 10 of the '249 Patent has been, and is, continuous and ongoing through the acts
18 described above in connection with Cox's provision of the Accused Services.

19 153. Cox's infringement of the '249 Patent is, has been, and continues to be
20 willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under
21 the patent.

22 154. Entropic has been damaged as a result of the infringing conduct alleged
23 above. Cox is liable to Entropic in an amount that compensates Entropic for Cox's
24 infringement, which by law cannot be less than a reasonable royalty, together with
25 interest and costs as fixed by this Court under 35 U.S.C. § 284.

26 155. Entropic is aware of no obligation to mark any instrumentality with the '249
27 Patent in accordance with 35 U.S.C. § 287.

28

COUNT III

(Infringement of the '759 Patent)

1
2
3 156. Entropic incorporates by reference each allegation of Paragraphs 1 through
4 155.

5 157. The '759 Patent duly issued on February 15, 2011 from an application filed
6 July 12, 2004, an application filed August 29, 2002, and, *inter alia* a provisional
7 application filed August 30, 2001.

8 158. Entropic owns all substantial rights, interest, and title in and to the '759
9 Patent, including the sole and exclusive right to prosecute this action and enforce the
10 '759 Patent against infringers, and to collect damages for all relevant times.

11 159. The '759 Patent is one of the Node Admission Patents, and is generally
12 directed to, *inter alia*, broadband cable networks that allow devices to communicate
13 directly over the existing coaxial cable with its current architecture without the need to
14 modify the existing cable infrastructure. Each device communicates with the other
15 devices in the network and establishes a common modulation scheme between the
16 devices in the network. '759 Patent, Abstract. The '759 Patent has 22 claims, of which
17 claims 1–7, 14, 20–22 are independent. At least these claims of the '759 Patent are
18 directed to a variety of techniques for establishing a modulation scheme for
19 communications between nodes in the MoCA network. A true and correct copy of the
20 '759 Patent is attached hereto as Exhibit E.

21 160. The '759 Patent is directed to patent-eligible subject matter pursuant to
22 35 U.S.C. § 101.

23 161. The '759 Patent is valid and enforceable, and presumed as such, pursuant
24 to 35 U.S.C. § 282.

25 162. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
26 XG1v3, XG1v2, Arris DCX3200, Arris DCX3200, Arris MR150CNM, Pace
27 PX032ANI, Pace PXD01ANI, and similarly operating devices) in connection with
28 operating and providing the Accused Services.

1 163. The Accused MoCA Instrumentalities deployed by Cox to customer
2 premises remain the property of Cox while deployed.

3 164. The Accused MoCA Instrumentalities operate while deployed in a manner
4 controlled and intended by Cox.

5 165. As set forth in the attached non-limiting claim chart (Exhibit F), any
6 product or system operating in a MoCA network compliant with the charted provisions
7 of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 2 of the '759 Patent.

8 166. Each aspect of the functioning of the Accused MoCA Instrumentalities
9 described in the claim chart operates while deployed to customer premises in a manner
10 controlled and intended by Cox.

11 167. Cox provides no software, support or other facility to customers to modify
12 any aspect of the functioning described in the claim chart of the Accused MoCA
13 Instrumentalities while deployed to customer premises.

14 168. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1.,
15 and/or 2.0, as described in the '759 Patent claim chart, Exhibit F.

16 169. Cox therefore directly infringes at least claim 2 of the '759 Patent by using
17 the Accused MoCA Instrumentalities to provide Accused Services to customers.

18 170. Cox sells the Accused Services to its customers and subscribers for a fee.
19 Pursuant to the sale of these services, Cox uses the method recited in at least claim 2 of
20 the '759 Patent to provide the Accused Services to Cox's customers and subscribers
21 through the Accused MoCA Instrumentalities. Cox is therefore engaging in the
22 infringing use of at least claim 2 of the '759 Patent in order to generate revenue from its
23 customers and subscribers.

24 171. Cox directly infringes at least claim 2 of the '759 Patent when it, for
25 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
26 provide Accused Services.

27 172. Cox had knowledge of the '759 Patent no later than its receipt of Entropic's
28 communications sent to Cox on August 9, 2022.

1 173. Cox has been aware that it infringes the '759 Patent no later than its receipt
2 of Entropic's communications sent to Cox on August 9, 2022.

3 174. Cox has known of or has been willfully blind to the '759 Patent since before
4 the August 9, 2022 communications from Entropic.

5 175. The '759 Patent issued while or before Cox was a member of MoCA.

6 176. Because of Cox's knowledge of Entropic Inc.'s work and contributions
7 related to MoCA technology, Cox had knowledge of the '759 Patent before August 9,
8 2022 or was willfully blind to its existence.

9 177. The claims of the '759 Patent are essential to practicing at least MoCA
10 standards versions 1.0, 1.1, and/or 2.0.

11 178. Cox knew, or was willfully blind to the fact that the technology of the '759
12 Patent directly relates to networking over coaxial cable, including MoCA, at least as
13 early as Cox became aware of the existence of the '759 Patent. Because of its familiarity
14 with, and access to, the MoCA standards, Cox knew, or was willfully blind to the fact,
15 that use (by Cox or its customers) of instrumentalities compliant with MoCA 1.0, 1.1,
16 and/or 2.0 to deliver Cox services would necessarily infringe one or more claims of the
17 '759 Patent.

18 179. Since learning of the '759 Patent and its infringing activities, Cox has failed
19 to cease its infringing activities.

20 180. Cox's customers and subscribers directly infringe at least claim 2 of the
21 '759 Patent by using the Accused MoCA Instrumentalities in connection with the
22 Accused Services provided by Cox.

23 181. Cox actively induces its customers' and subscribers' direct infringement by
24 providing the Accused Services and associated support.

25 182. For example, Cox actively induces infringement of at least claim 2 of the
26 '759 Patent by providing the Accused MoCA Instrumentalities to Cox customers with
27 specific instructions and/or assistance (including installation and maintenance)

28

1 regarding the instantiation of a MoCA network and the use of the Accused MoCA
2 Instrumentalities to infringe the '759 Patent.

3 183. Cox aids, instructs, supports, and otherwise acts with the intent to cause an
4 end user to make and/or use the MoCA network and/or use the Accused MoCA
5 Instrumentalities to infringe every element of at least claim 2 of the '759 Patent.

6 184. Additionally, Cox contributes to the customers' and subscribers' direct
7 infringement. Cox provides at least the Accused MoCA Instrumentalities that create and
8 are at least substantially all of a MoCA network to be used to infringe at least claim 2 of
9 the '759 Patent.

10 185. The Accused MoCA Instrumentalities have no substantial noninfringing
11 uses. When an end user uses the Accused MoCA Instrumentalities in connection with
12 the Accused Services provided by Cox, the end user necessarily directly infringes at
13 least claim 2 of the '759 Patent. The Accused MoCA Instrumentalities are therefore
14 especially made or especially adapted for use in an infringing manner.

15 186. Cox's inducement of, and contribution to, the direct infringement of at least
16 claim 2 of the '759 Patent has been, and is, continuous and ongoing through the acts
17 described above in connection with Cox's provision of the Accused Services.

18 187. Cox's infringement of the '759 Patent is, has been, and continues to be
19 willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under
20 the patent.

21 188. Entropic has been damaged as a result of the infringing conduct alleged
22 above. Cox is liable to Entropic in an amount that compensates Entropic for Cox's
23 infringement, which by law cannot be less than a reasonable royalty, together with
24 interest and costs as fixed by this Court under 35 U.S.C. § 284.

25 189. Upon information and belief, there is no duty to mark any instrumentality
26 with the '759 Patent in accordance with 35 U.S.C. § 287.

27
28

COUNT IV

(Infringement of the '802 Patent)

1
2
3 190. Entropic incorporates by reference each allegation of Paragraphs 1 through
4 189.

5 191. The '802 Patent duly issued on December 27, 2011 from an application
6 filed December 2, 2005, and a provisional application filed December 2, 2004.

7 192. Entropic owns all substantial rights, interest, and title in and to the '802
8 Patent, including the sole and exclusive right to prosecute this action and enforce the
9 '802 Patent against infringers, and to collect damages for all relevant times.

10 193. The '802 Patent is one of the Node Admission Patents, and is generally
11 directed to, *inter alia*, broadband cable networks that allow devices to communicate
12 directly over the existing coaxial cable with its current architecture without the need to
13 modify the existing cable infrastructure. Each device communicates with the other
14 devices in the network and establishes the best modulation and other transmission
15 parameters that is optimized and periodically adapted to the channel between each pair
16 of devices. '802 Patent, col. 4, lines 7–24. The '802 Patent has four claims, all of which
17 are independent. At least these claims of the '802 Patent are directed to a variety of
18 techniques for establishing a modulation scheme for communications between nodes in
19 the MoCA network. A true and accurate copy of the '802 Patent is attached hereto as
20 Exhibit G.

21 194. The '802 Patent is directed to patent-eligible subject matter pursuant to 35
22 U.S.C. § 101.

23 195. The '802 Patent is valid and enforceable, and presumed as such, pursuant
24 to 35 U.S.C. § 282.

25 196. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
26 XG1v3, XG1v2, Arris DCX3200, Arris MR150CNM, Pace PX032ANI, Pace
27 PXD01ANI, and similarly operating devices) in connection with operating and
28 providing the Accused Services.

1 197. The Accused MoCA Instrumentalities deployed by Cox to customer
2 premises remain the property of Cox while deployed.

3 198. The Accused MoCA Instrumentalities operate while deployed in a manner
4 controlled and intended by Cox.

5 199. As set forth in the attached non-limiting claim chart (Exhibit H), any
6 product or system operating in a MoCA network compliant with the charted provisions
7 of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 3 of the '802 Patent.

8 200. Each aspect of the functioning of the Accused MoCA Instrumentalities
9 described in the claim chart operates while deployed to customer premises in a manner
10 controlled and intended by Cox.

11 201. Cox provides no software, support or other facility to customers to modify
12 any aspect of the functioning described in the claim chart of the Accused MoCA
13 Instrumentalities while deployed to customer premises.

14 202. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1.,
15 and/or 2.0, as described in the '802 Patent claim chart, Exhibit H.

16 203. Cox therefore directly infringes at least claim 3 of the '802 Patent by using
17 the Accused MoCA Instrumentalities to provide Accused Services to customers.

18 204. Cox sells the Accused Services to its customers and subscribers for a fee.
19 Pursuant to the sale of these services, Cox uses the method recited in at least claim 3 of
20 the '802 Patent to provide the Accused Services to Cox's customers and subscribers
21 through the Accused MoCA Instrumentalities. Cox is therefore engaging in the
22 infringing use of at least claim 3 of the '802 Patent in order to generate revenue from its
23 customers and subscribers.

24 205. Cox directly infringes at least claim 3 of the '802 Patent when it, for
25 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
26 provide Accused Services and/or the Accused MoCA Instrumentalities.

27 206. Cox had knowledge of the '802 Patent no later than its receipt of Entropic's
28 communications sent to Cox on August 9, 2022.

1 207. Cox has been aware that it infringes the '802 Patent no later than its receipt
2 of Entropic's communication sent to Cox on August 9, 2022.

3 208. Cox has known of or has been willfully blind to the '802 Patent since before
4 the August 9, 2022 communications from Entropic.

5 209. The '802 Patent issued while or before Cox was a member of MoCA.

6 210. Because of Cox's knowledge of Entropic Inc.'s work and contributions
7 related to MoCA technology, Cox had knowledge of the '802 Patent before August 9,
8 2022 or was willfully blind to its existence.

9 211. The claims of the '802 Patent are essential to practicing at least MoCA
10 standards versions 1.0, 1.1, and/or 2.0.

11 212. Cox knew, or was willfully blind to the fact that the technology of the '802
12 Patent directly relates to networking over coaxial cable, including MoCA, at least as
13 early as Cox became aware of the existence of the '802 Patent. Because of its familiarity
14 with, and access to, the MoCA standards, Cox knew, or was willfully blind to the fact,
15 that use (by Cox or its customers) of instrumentalities compliant with MoCA 1.0, 1.1,
16 and/or 2.0 to deliver Cox services would necessarily infringe one or more claims of the
17 '802 Patent.

18 213. Since learning of the '802 Patent and its infringing activities, Cox has failed
19 to cease its infringing activities.

20 214. Cox's customers and subscribers directly infringe at least claim 3 of the
21 '802 Patent by using the Accused MoCA Instrumentalities in connection with the
22 Accused Services provided by Cox.

23 215. Cox actively induces its customers' and subscribers' direct infringement by
24 providing the Accused Services and associated support.

25 216. For example, Cox actively induces infringement of at least claim 3 of the
26 '802 Patent by providing the Accused MoCA Instrumentalities to Cox customers with
27 specific instructions and/or assistance (including installation and maintenance)
28

1 regarding the instantiation of a MoCA network and the use of the Accused MoCA
2 Instrumentalities to infringe the '802 Patent.

3 217. Cox aids, instructs, supports, and otherwise acts with the intent to cause an
4 end user to make and/or use the MoCA network and/or use the Accused MoCA
5 Instrumentalities to infringe every element of at least claim 3 of the '802 Patent.

6 218. Additionally, Cox contributes to the customers' and subscribers' direct
7 infringement. Cox provides at least the Accused MoCA Instrumentalities that create and
8 are at least substantially all of a MoCA network to be used to infringe at least claim 3 of
9 the '802 Patent.

10 219. The Accused MoCA Instrumentalities have no substantial noninfringing
11 uses. When an end user uses the Accused MoCA Instrumentalities in connection with
12 the Accused Services provided by Cox, the end user necessarily directly infringes at
13 least claim 3 of the '802 Patent. The Accused MoCA Instrumentalities are therefore
14 especially made or especially adapted for use in an infringing manner.

15 220. Cox's inducement of, and contribution to, the direct infringement of at least
16 claim 3 of the '802 Patent has been, and is, continuous and ongoing through the acts
17 described above in connection with Cox's provision of the Accused Services.

18 221. Cox's infringement of the '802 Patent is, has been, and continues to be
19 willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under
20 the patent.

21 222. Entropic has been damaged as a result of the infringing conduct alleged
22 above. Cox is liable to Entropic in an amount that compensates Entropic for Cox's
23 infringement, which by law cannot be less than a reasonable royalty, together with
24 interest and costs as fixed by this Court under 35 U.S.C. § 284.

25 223. Upon information and belief, there is no duty to mark any instrumentality
26 with the '802 Patent in accordance with 35 U.S.C. § 287.

27
28

COUNT V

(Infringement of the '450 Patent)

1
2
3 224. Entropic incorporates by reference each allegation of Paragraphs 1 through
4 223.

5 225. The '450 Patent duly issued on January 14, 2014, from an application filed
6 September 19, 2005 and, *inter alia*, a provisional application filed December 2, 2004.

7 226. Entropic owns all substantial rights, interest, and title in and to the '450
8 Patent, including the sole and exclusive right to prosecute this action and enforce the
9 '450 Patent against infringers, and to collect damages for all relevant times.

10 227. The '450 Patent is one of the Link Maintenance Patents, and is generally
11 directed to, *inter alia*, broadband cable networks that allow devices to communicate
12 directly over the existing coaxial cable with its current architecture without the need to
13 modify the existing cable infrastructure. Each device communicates with the other
14 devices in the network and establishes a common modulation scheme between the
15 devices in the network. '450 Patent, col. 4, lines 12-28. The '450 Patent has 38 claims,
16 of which, claim 1, 8, 27, 29, and 34 are independent. At least these claims of the '450
17 Patent are directed to a variety of techniques for determining a common modulation
18 scheme for communications between nodes in the MoCA network. A true and accurate
19 copy of the '450 Patent is attached hereto as Exhibit I.

20 228. The '450 Patent is directed to patent-eligible subject matter pursuant to 35
21 U.S.C. § 101.

22 229. The '450 Patent is valid and enforceable, and presumed as such, pursuant
23 to 35 U.S.C. § 282.

24 230. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
25 XG1v3, XG1v2, Arris DCX3200, Arris MR150CNM, Pace PX032ANI, Pace
26 PXD01ANI, and similarly operating devices) in connection with operating and
27 providing the Accused Services.
28

1 231. The Accused MoCA Instrumentalities deployed by Cox to customer
2 premises remain the property of Cox while deployed.

3 232. The Accused MoCA Instrumentalities operate while deployed in a manner
4 controlled and intended by Cox.

5 233. As set forth in the attached non-limiting claim chart (Exhibit J), any product
6 or system operating in a MoCA network compliant with the charted provisions of MoCA
7 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 29 of the '450 Patent.

8 234. Each aspect of the functioning of the Accused MoCA Instrumentalities
9 described in the claim chart operates while deployed to customer premises in a manner
10 controlled and intended by Cox.

11 235. Cox provides no software, support or other facility to customers to modify
12 any aspect of the functioning described in the claim chart of the Accused MoCA
13 Instrumentalities while deployed to customer premises.

14 236. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1.,
15 and/or 2.0, as described in the '450 Patent claim chart, Exhibit J.

16 237. Cox therefore directly infringes at least claim 29 of the '450 Patent by using
17 the Accused MoCA Instrumentalities to provide Accused Services to customers.

18 238. Cox sells the Accused Services to its customers and subscribers for a fee.
19 Pursuant to the sale of these services, Cox uses the method recited in at least claim 29
20 of the '450 Patent to provide the Accused Services to Cox's customers and subscribers
21 through the Accused MoCA Instrumentalities. Cox is therefore engaging in the
22 infringing use of at least claim 29 of the '450 Patent in order to generate revenue from
23 its customers and subscribers.

24 239. Cox directly infringes at least claim 29 of the '450 Patent when it, for
25 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
26 provide Accused Services.

27 240. Cox had knowledge of the '450 Patent no later than its receipt of Entropic's
28 communications sent to Cox on August 9, 2022.

1 241. Cox has been aware that it infringes the '450 Patent no later than its receipt
2 of Entropic's communication sent to Cox on August 9, 2022.

3 242. Cox has known of or has been willfully blind to the '450 Patent since before
4 the August 9, 2022 communications from Entropic.

5 243. The '450 Patent issued while or before Cox was a member of MoCA.

6 244. Because of Cox's knowledge of Entropic Inc.'s work and contributions
7 related to MoCA technology, Cox had knowledge of the '450 Patent before August 9,
8 2022 or was willfully blind to its existence.

9 245. The claims of the '450 Patent are essential to practicing at least MoCA
10 standards versions 1.0, 1.1, and/or 2.0.

11 246. Cox knew, or was willfully blind to the fact that the technology of the '450
12 Patent directly relates to networking over coaxial cable, including MoCA, at least as
13 early as Cox became aware of the existence of the '450 Patent. Because of its familiarity
14 with, and access to, the MoCA standards, Cox knew, or was willfully blind to the fact,
15 that use (by Cox or its customers) of instrumentalities compliant with MoCA 1.0, 1.1,
16 and/or 2.0 to deliver Cox services would necessarily infringe one or more claims of the
17 '450 Patent.

18 247. Since learning of the '450 Patent and its infringing activities, Cox has failed
19 to cease its infringing activities.

20 248. Cox's customers and subscribers directly infringe at least claim 29 of the
21 '450 Patent by using the Accused MoCA Instrumentalities in connection with the
22 Accused Services provided by Cox.

23 249. Cox actively induces its customers' and subscribers' direct infringement by
24 providing the Accused Services and associated support.

25 250. For example, Cox actively induces infringement of at least claim 29 of the
26 '450 Patent by providing the Accused MoCA Instrumentalities to Cox customers with
27 specific instructions and/or assistance (including installation and maintenance)
28

1 regarding the instantiation of a MoCA network and the use of the Accused MoCA
2 Instrumentalities to infringe the '450 Patent.

3 251. Cox aids, instructs, supports, and otherwise acts with the intent to cause an
4 end user to make and/or use the MoCA network and/or use the Accused MoCA
5 Instrumentalities to infringe every element of at least claim 29 of the '450 Patent.

6 252. Additionally, Cox contributes to the customers' and subscribers' direct
7 infringement. Cox provides at least the Accused MoCA Instrumentalities that create and
8 are at least substantially all of a MoCA network to be used to infringe at least claim 29
9 of the '450 Patent.

10 253. The Accused MoCA Instrumentalities have no substantial noninfringing
11 uses. When an end user uses the Accused MoCA Instrumentalities in connection with
12 the Accused Services provided by Cox, the end user directly infringes at least claim 29
13 of the '450 Patent. The Accused MoCA Instrumentalities are especially made or
14 especially adapted for use in an infringing manner.

15 254. Cox's inducement of, and contribution to, the direct infringement of at least
16 claim 29 of the '450 Patent has been, and is, continuous and ongoing through the acts
17 described above in connection with Cox's provision of the Accused Services.

18 255. Cox's infringement of the '450 Patent is, has been, and continues to be
19 willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under
20 the patent.

21 256. Entropic has been damaged as a result of the infringing conduct alleged
22 above. Cox is liable to Entropic in an amount that compensates Entropic for Cox's
23 infringement, which by law cannot be less than a reasonable royalty, together with
24 interest and costs as fixed by this Court under 35 U.S.C. § 284.

25 257. Upon information and belief, there is no duty to mark any instrumentality
26 with the '450 Patent in accordance with 35 U.S.C. § 287.

27
28

COUNT VI

(Infringement of the '7,566 Patent)

1
2
3 258. Entropic incorporates by reference each allegation of Paragraphs 1 through
4 257.

5 259. The '7,566 Patent duly issued on April 9, 2019 from an application filed
6 February 7, 2017, an application filed September 19, 2005, and *inter alia*, a provisional
7 application filed December 2, 2004.

8 260. Entropic owns all substantial rights, interest, and title in and to the '7,566
9 Patent, including the sole and exclusive right to prosecute this action and enforce the
10 '7,566 Patent against infringers, and to collect damages for all relevant times.

11 261. The '7,566 Patent is the Network Coordinator Patent, and is generally
12 directed to, *inter alia*, broadband cable networks that allow devices to communicate
13 directly over the existing coaxial cable with its current architecture without the need to
14 modify the existing cable infrastructure. Each device communicates with the other
15 devices in the network and establishes the best modulation and other transmission
16 parameters that is optimized and periodically adapted to the channel between each pair
17 of devices. '7,566 Patent, col. 4, lines 23–39. The '7,566 Patent has 20 claims, of which
18 claims 1, 11, and 19 are independent. At least these claims of the '7,566 Patent are
19 directed to a variety of techniques for controlling the admission of nodes in the MoCA
20 network. A true and accurate copy of the '7,566 Patent is attached hereto as Exhibit K.

21 262. The '7,566 Patent is directed to patent-eligible subject matter pursuant to
22 35 U.S.C. § 101.

23 263. The '7,566 Patent is valid and enforceable, and presumed as such, pursuant
24 to 35 U.S.C. § 282.

25 264. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
26 XG1v3, XG1v2, Arris DCX3200, Arris MR150CNM, Pace PX032ANI, Pace
27 PXD01ANI, and similarly operating devices) in connection with operating and
28 providing the Accused Services.

1 265. The Accused MoCA Instrumentalities deployed by Cox to customer
2 premises remain the property of Cox while deployed.

3 266. The Accused MoCA Instrumentalities operate while deployed in a manner
4 controlled and intended by Cox.

5 267. As set forth in the attached non-limiting claim chart (Exhibit L), any
6 product or system operating in a MoCA network compliant with the charted provisions
7 of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 11 of the '7,566 Patent.

8 268. Each aspect of the functioning of the Accused MoCA Instrumentalities
9 described in the claim chart operates while deployed to customer premises in a manner
10 controlled and intended by Cox.

11 269. Cox provides no software, support or other facility to customers to modify
12 any aspect of the functioning described in the claim chart of the Accused MoCA
13 Instrumentalities while deployed to customer premises.

14 270. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1.,
15 and/or 2.0, as described in the '7,566 Patent claim chart, Exhibit L.

16 271. Cox therefore directly infringes at least claim 11 of the '7,566 Patent by
17 using the Accused MoCA Instrumentalities to provide Accused Services to customers.

18 272. Cox directly infringes at least claim 11 of the '7,566 Patent when it, for
19 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
20 provide Accused Services and/or the Accused MoCA Instrumentalities.

21 273. Cox directly infringes at least claim 11 of the '7,566 Patent by making,
22 importing, selling, and/or offering for sale the Accused MoCA Instrumentalities, which
23 meet every limitation of at least claim 11 of the '7,566 Patent, in connection with
24 providing the Accused Services over an on-premises coaxial cable network.

25 274. Cox had knowledge of the '7,566 Patent no later than its receipt of
26 Entropic's communications sent to Cox on August 9, 2022.

27 275. Cox has been aware that it infringes the '7,566 Patent no later than its
28 receipt of Entropic's communication sent to Cox on August 9, 2022.

1 276. Cox has known of or has been willfully blind to the '7,566 Patent since
2 before the August 9, 2022 communications from Entropic.

3 277. The '7,566 Patent issued while or before Cox was a member of MoCA.

4 278. Because of Cox's knowledge of Entropic Inc.'s work and contributions
5 related to MoCA technology, Cox had knowledge of the '7,566 Patent before August 9,
6 2022 or was willfully blind to its existence.

7 279. The claims of the '7,566 Patent are essential to practicing at least MoCA
8 standards versions 1.0, 1.1, and/or 2.0.

9 280. Cox knew, or was willfully blind to the fact that the technology of
10 the '7,566 Patent directly relates to networking over coaxial cable, including MoCA, at
11 least as early as Cox became aware of the existence of the '7,566 Patent. Because of its
12 familiarity with, and access to, the MoCA standards, Cox knew, or was willfully blind
13 to the fact, that use (by Cox or its customers) of instrumentalities compliant with MoCA
14 1.0, 1.1, and/or 2.0 to deliver Cox services would necessarily infringe one or more claims
15 of the '7,566 Patent.

16 281. Since learning of the '7,566 Patent and its infringing activities, Cox has
17 failed to cease its infringing activities.

18 282. Cox's customers and subscribers directly infringe at least claim 11 of the
19 '7,566 Patent by using the Accused MoCA Instrumentalities in connection with the
20 Accused Services provided by Cox.

21 283. Cox actively induces its customers' and subscribers' direct infringement by
22 providing the Accused Services through the Accused MoCA Instrumentalities, and
23 associated support.

24 284. For example, Cox actively induces infringement of at least claim 11 of the
25 '7,566 Patent by providing the Accused MoCA Instrumentalities to Cox customers with
26 specific instructions and/or assistance (including installation and maintenance)
27 regarding the instantiation of a MoCA network and the use of the Accused MoCA
28 Instrumentalities to infringe the '7,566 Patent.

1 293. The '539 Patent duly issued on December 31, 2013 from an application
2 filed September 29, 2005 and, *inter alia*, a provisional application filed December 2,
3 2004.

4 294. Entropic owns all substantial rights, interest, and title in and to the '539
5 Patent, including the sole and exclusive right to prosecute this action and enforce the
6 '539 Patent against infringers, and to collect damages for all relevant times.

7 295. The '539 Patent is one of the Link Maintenance Patents, and is generally
8 directed to, *inter alia*, a physical layer transmitter that performs all of the necessary RF,
9 analog and digital processing required for transmitting MAC messages between devices
10 in a broadband cable network. '539 Patent, col. 4, lines 37–48. The '539 Patent has seven
11 claims, of which claim 1 is independent. At least this claim of the '539 Patent is directed
12 at a variety of techniques for monitoring and maintaining utilized modulation profiles in
13 the MoCA network. A true and accurate copy of the '539 Patent is attached hereto as
14 Exhibit M.

15 296. The '539 Patent is directed to patent-eligible subject matter pursuant to 35
16 U.S.C. § 101.

17 297. The '539 Patent is valid and enforceable, and presumed as such, pursuant
18 to 35 U.S.C. § 282.

19 298. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
20 XG1v3, XG1v2, Arris DCX3200, Arris MR150CNM, Pace PX032ANI, Pace
21 PXD01ANI, and similarly operating devices) in connection with operating and
22 providing the Accused Services.

23 299. The Accused MoCA Instrumentalities deployed by Cox to customer
24 premises remain the property of Cox while deployed.

25 300. The Accused MoCA Instrumentalities operate while deployed in a manner
26 controlled and intended by Cox.
27
28

1 301. As set forth in the attached non-limiting claim chart (Exhibit N), any
2 product or system operating in a MoCA network compliant with the charted provisions
3 of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 1 of the '539 Patent.

4 302. Each aspect of the functioning of the Accused MoCA Instrumentalities
5 described in the claim chart operates while deployed to customer premises in a manner
6 controlled and intended by Cox.

7 303. Cox provides no software, support or other facility to customers to modify
8 any aspect of the functioning described in the claim chart of the Accused MoCA
9 Instrumentalities while deployed to customer premises.

10 304. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1.,
11 and/or MoCA 2.0, as described in the '539 Patent claim chart, Exhibit N.

12 305. Cox therefore directly infringes at least claim 1 of the '539 Patent by using
13 the Accused MoCA Instrumentalities to provide Accused Services to customers.

14 306. Cox directly infringes at least claim 1 of the '539 Patent when it, for
15 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
16 provide Accused Services.

17 307. Cox directly infringes at least claim 1 of the '539 Patent by making,
18 importing, selling, and/or offering for sale the Accused MoCA Instrumentalities, which
19 meet every limitation of at least claim 1 of the '539 Patent, in connection with providing
20 the Accused Services over an on-premises coaxial cable network.

21 308. Cox had knowledge of the '539 Patent no later than its receipt of Entropic's
22 communications sent to Cox on August 9, 2022.

23 309. Cox has been aware that it infringes the '539 Patent no later than its receipt
24 of Entropic's communication sent to Cox on August 9, 2022.

25 310. Cox has known of or has been willfully blind to the '539 Patent since before
26 the August 9, 2022 communications from Entropic.

27 311. The '539 Patent issued while or before Cox was a member of MoCA.
28

1 312. Because of Cox’s knowledge of Entropic Inc.’s work and contributions
2 related to MoCA technology, Cox had knowledge of the ’539 Patent before August 9,
3 2022 or was willfully blind to its existence.

4 313. The claims of the ’539 Patent are essential to practicing at least MoCA
5 standards versions 1.0, 1.1, and/or 2.0.

6 314. Cox knew, or was willfully blind to the fact that the technology of the ’539
7 Patent directly relates to networking over coaxial cable, including MoCA, at least as
8 early as Cox became aware of the existence of the ’539 Patent. Because of its familiarity
9 with, and access to, the MoCA standards, Cox knew, or was willfully blind to the fact,
10 that use (by Cox or its customers) of instrumentalities compliant with MoCA 1.0, 1.1,
11 and/or 2.0 to deliver Cox services would necessarily infringe one or more claims of the
12 ’539 Patent.

13 315. Since learning of the ’539 Patent and its infringing activities, Cox has failed
14 to cease its infringing activities.

15 316. Cox’s customers and subscribers directly infringe at least claim 1 of the
16 ’539 Patent by using the Accused MoCA Instrumentalities in connection with the
17 Accused Services provided by Cox.

18 317. Cox actively induces its customers’ and subscribers’ direct infringement by
19 providing the Accused Services through the Accused MoCA Instrumentalities, and
20 associated support.

21 318. For example, Cox actively induces infringement of at least claim 1 of the
22 ’539 Patent by providing the Accused MoCA Instrumentalities to Cox customers with
23 specific instructions and/or assistance (including installation and maintenance)
24 regarding the instantiation of a MoCA network and the use of the Accused MoCA
25 Instrumentalities to infringe the ’539 Patent.

26 319. Cox aids, instructs, supports, and otherwise acts with the intent to cause an
27 end user to make and/or use the MoCA network and/or use the Accused MoCA
28 Instrumentalities to infringe every element of at least claim 1 of the ’539 Patent.

1 328. Entropic owns all substantial rights, interest, and title in and to the '213
2 Patent, including the sole and exclusive right to prosecute this action and enforce the
3 '213 Patent against infringers, and to collect damages for all relevant times.

4 329. The '213 Patent is one of the PQoS Flows Patents, and is generally directed
5 to, *inter alia*, low-cost and high-speed management of resources within a network in
6 order to secure the capability to distribute multimedia data (such as video/audio, games,
7 images, generic data, and interactive services) between devices within existing on-
8 premises coaxial cable networks. '213 Patent, col. 3, lines 46–53. The '213 Patent has
9 24 claims, of which claims 1, 13, and 23 are independent. At least these claims of the
10 '213 Patent are directed to a variety of techniques for allocating resources for guaranteed
11 quality of service flows in the MoCA network. A true and accurate copy of the '213
12 Patent is attached hereto as Exhibit O.

13 330. The '213 Patent is directed to patent-eligible subject matter pursuant to 35
14 U.S.C. § 101.

15 331. The '213 Patent is valid and enforceable, and presumed as such, pursuant
16 to 35 U.S.C. § 282.

17 332. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
18 XG1v3, XG1v2, Arris DCX3200, Arris MR150CNM, Pace PX032ANI, Pace
19 PXD01ANI, and similarly operating devices) in connection with operating and
20 providing the Accused Services.

21 333. The Accused MoCA Instrumentalities deployed by Cox to customer
22 premises remain the property of Cox while deployed.

23 334. The Accused MoCA Instrumentalities operate while deployed in a manner
24 controlled and intended by Cox.

25 335. As set forth in the attached non-limiting claim chart (Exhibit P), any
26 product or system operating in a MoCA network compliant with the charted provisions
27 of MoCA 1.1, and/or 2.0 necessarily infringes at least claim 1 of the '213 Patent.
28

1 336. Each aspect of the functioning of the Accused MoCA Instrumentalities
2 described in the claim chart operates while deployed to customer premises in a manner
3 controlled and intended by Cox.

4 337. Cox provides no software, support or other facility to customers to modify
5 any aspect of the functioning described in the claim chart of the Accused MoCA
6 Instrumentalities while deployed to customer premises.

7 338. The Accused MoCA Instrumentalities are compliant with MoCA 1.1 and/or
8 MoCA 2.0, as described in the '213 Patent claim chart, Exhibit P.

9 339. Cox therefore directly infringes at least claim 1 of the '213 Patent by using
10 the Accused MoCA Instrumentalities to provide Accused Services to customers.

11 340. Cox sells the Accused Services to its customers and subscribers for a fee.
12 Pursuant to the sale of these services, Cox uses the method recited in at least claim 1 of
13 the '213 Patent to provide the Accused Services to Cox's customers and subscribers
14 through the Accused MoCA Instrumentalities. Cox is therefore engaging in the
15 infringing use of at least claim 1 of the '213 Patent in order to generate revenue from its
16 customers and subscribers.

17 341. Cox directly infringes at least claim 1 of the '213 Patent when it, for
18 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
19 provide Accused Services.

20 342. Cox had knowledge of the '213 Patent no later than its receipt of Entropic's
21 communications sent to Cox on August 9, 2022.

22 343. Cox has been aware that it infringes the '213 Patent no later than its receipt
23 of Entropic's communications sent to Cox on August 9, 2022.

24 344. Cox has known of or has been willfully blind to the '213 Patent since before
25 the August 9, 2022 communications from Entropic.

26 345. The '213 Patent issued while or before Cox was a member of MoCA.

27
28

1 346. Because of Cox’s knowledge of Entropic Inc.’s work and contributions
2 related to MoCA technology, Cox had knowledge of the ’213 Patent before August 9,
3 2022 or was willfully blind to its existence.

4 347. The claims of the ’213 Patent are essential to practicing at least MoCA
5 standards versions 1.1, and/or 2.0.

6 348. Cox knew, or was willfully blind to the fact that the technology of the ’213
7 Patent directly relates to networking over coaxial cable, including MoCA, at least as
8 early as Cox became aware of the existence of the ’213 Patent. Because of its familiarity
9 with, and access to, the MoCA standards, Cox knew, or was willfully blind to the fact,
10 that use (by Cox or its customers) of instrumentalities compliant with MoCA 1.1, and/or
11 2.0 to deliver Cox services would necessarily infringe one or more claims of the ’213
12 Patent.

13 349. Since learning of the ’213 Patent and its infringing activities, Cox has failed
14 to cease its infringing activities.

15 350. Cox’s customers and subscribers directly infringe at least claim 1 of the
16 ’213 Patent by using the Accused MoCA Instrumentalities in connection with the
17 Accused Services provided by Cox.

18 351. Cox actively induces its customers’ and subscribers’ direct infringement by
19 providing the Accused Services and associated support.

20 352. For example, Cox actively induces infringement of at least claim 1 of the
21 ’213 Patent by providing the Accused MoCA Instrumentalities to Cox customers with
22 specific instructions and/or assistance (including installation and maintenance)
23 regarding the instantiation of a MoCA network and the use of the Accused MoCA
24 Instrumentalities to infringe the ’213 Patent.

25 353. Cox aids, instructs, supports, and otherwise acts with the intent to cause an
26 end user to make and/or use the MoCA network and/or use the Accused MoCA
27 Instrumentalities to infringe every element of at least claim 1 of the ’213 Patent.
28

1 354. Additionally, Cox contributes to the customers' and subscribers' direct
2 infringement. Cox provides at least the Accused MoCA Instrumentalities that create and
3 are at least substantially all of a MoCA network to be used to infringe at least claim 1 of
4 the '213 Patent.

5 355. The Accused MoCA Instrumentalities have no substantial noninfringing
6 uses. When an end user uses the Accused MoCA Instrumentalities in connection with
7 the Accused Services provided by Cox, the end user directly infringes at least claim 1 of
8 the '213 Patent. The Accused MoCA Instrumentalities are therefore especially made or
9 especially adapted for use in an infringing manner.

10 356. Cox's inducement of, and contribution to, the direct infringement of at least
11 claim 1 of the '213 Patent has been, and is, continuous and ongoing through the acts
12 described above in connection with Cox's provision of the Accused Services.

13 357. Cox's infringement of the '213 Patent is, has been, and continues to be
14 willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under
15 the patent.

16 358. Entropic has been damaged as a result of the infringing conduct alleged
17 above. Cox is liable to Entropic in an amount that compensates Entropic for Cox's
18 infringement, which by law cannot be less than a reasonable royalty, together with
19 interest and costs as fixed by this Court under 35 U.S.C. § 284.

20 359. Upon information and belief, there is no duty to mark any instrumentality
21 with the '213 Patent in accordance with 35 U.S.C. § 287(a).

22 **COUNT IX**

23 **(Infringement of the '422 Patent)**

24 360. Entropic incorporates by reference each allegation of Paragraphs 1 through
25 359.

26 361. The '422 Patent duly issued on October 1, 2019 from an application filed
27 December 5, 2017, an application filed February 6, 2008, and, *inter alia*, a provisional
28 application filed February 6, 2007.

1 362. Entropic owns all substantial rights, interest, and title in and to the '422
2 Patent, including the sole and exclusive right to prosecute this action and enforce the
3 '422 Patent against infringers, and to collect damages for all relevant times.

4 363. The '422 Patent is one of the PQoS Flows Patents, and is generally directed
5 to, *inter alia*, low-cost and high-speed management of resources within a network in
6 order to secure the capability to distribute multimedia data (such as video/audio, games,
7 images, generic data, and interactive services) between devices within existing on-
8 premises coaxial cable networks. '422 Patent, col. 3, lines 53–60. The '422 Patent has
9 20 claims, of which, claims 1, 5, 12–17 are independent. At least these claims of the
10 '422 Patent are directed to a variety of techniques for allocating resources for guaranteed
11 quality of service flows in the MoCA network. A true and accurate copy of the '422
12 Patent is attached hereto as Exhibit Q.

13 364. The '422 Patent is directed to patent-eligible subject matter pursuant to
14 35 U.S.C. § 101.

15 365. The '422 Patent is valid and enforceable, and presumed as such, pursuant
16 to 35 U.S.C. § 282.

17 366. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
18 XG1v3, XG1v2, Arris DCX3200, Arris MR150CNM, Pace PX032ANI, Pace
19 PXD01ANI, and similarly operating devices) in connection with operating and
20 providing the Accused Services.

21 367. The Accused MoCA Instrumentalities deployed by Cox to customer
22 premises remain the property of Cox while deployed.

23 368. The Accused MoCA Instrumentalities operate while deployed in a manner
24 controlled and intended by Cox.

25 369. As set forth in the attached non-limiting claim chart (Exhibit R), any
26 product or system operating in a MoCA network compliant with the charted provisions
27 of MoCA 1.1, and/or 2.0 necessarily infringes at least claim 1 of the '422 Patent.
28

1 370. Each aspect of the functioning of the Accused MoCA Instrumentalities
2 described in the claim chart operates while deployed to customer premises in a manner
3 controlled and intended by Cox.

4 371. Cox provides no software, support or other facility to customers to modify
5 any aspect of the functioning described in the claim chart of the Accused MoCA
6 Instrumentalities while deployed to customer premises.

7 372. The Accused MoCA Instrumentalities are compliant with MoCA 1.1 and/or
8 MoCA 2.0, as described in the '422 Patent claim chart, Exhibit R.

9 373. Cox therefore directly infringes at least claim 1 of the '422 Patent by using
10 the Accused MoCA Instrumentalities to provide Accused Services to customers.

11 374. Cox directly infringes at least claim 1 of the '422 Patent when it, for
12 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
13 provide Accused Services.

14 375. Cox directly infringes at least claim 1 of the '422 Patent by making,
15 importing, selling, and/or offering for sale the Accused MoCA Instrumentalities in
16 connection with providing the Accused Services over an on-premises coaxial cable
17 network, which meets every limitation of at least claim 1 of the '422 Patent.

18 376. Cox had knowledge of the '422 Patent no later than its receipt of Entropic's
19 communications sent to Cox on August 9, 2022.

20 377. Cox has been aware that it infringes the '422 Patent no later than its receipt
21 of Entropic's communication sent to Cox on August 9, 2022.

22 378. Cox has known of or has been willfully blind to the '422 Patent since before
23 the August 9, 2022 communications from Entropic.

24 379. The '422 Patent issued while or before Cox was a member of MoCA.

25 380. Because of Cox's knowledge of Entropic Inc.'s work and contributions
26 related to MoCA technology, Cox had knowledge of the '422 Patent before August 9,
27 2022 or was willfully blind to its existence.

28

1 381. The claims of the '422 Patent are essential to practicing at least MoCA
2 standards versions 1.1, and/or 2.0.

3 382. Cox knew, or was willfully blind to the fact that the technology of the '422
4 Patent directly relates to networking over coaxial cable, including MoCA, at least as
5 early as Cox became aware of the existence of the '422 Patent. Because of its familiarity
6 with, and access to, the MoCA standards, Cox knew, or was willfully blind to the fact,
7 that use (by Cox or its customers) of instrumentalities compliant with MoCA 1.1, and/or
8 2.0 to deliver Cox services would necessarily infringe one or more claims of the '422
9 Patent.

10 383. Since learning of the '422 Patent and its infringing activities, Cox has failed
11 to cease its infringing activities.

12 384. Cox's customers and subscribers directly infringe at least claim 1 of the
13 '422 Patent by using the Accused MoCA Instrumentalities in connection with the
14 Accused Services provided by Cox.

15 385. Cox actively induces its customers' and subscribers' direct infringement by
16 providing the Accused Services and associated support.

17 386. For example, Cox actively induces infringement of at least claim 1 of the
18 '422 Patent by providing the Accused MoCA Instrumentalities to Cox customers with
19 specific instructions and/or assistance (including installation and maintenance)
20 regarding the instantiation of a MoCA network and the use of the Accused MoCA
21 Instrumentalities to infringe the '422 Patent.

22 387. Cox aids, instructs, supports, and otherwise acts with the intent to cause an
23 end user to make and/or use the MoCA network and/or use the Accused MoCA
24 Instrumentalities to infringe every element of at least claim 1 of the '422 Patent.

25 388. Additionally, Cox contributes to the customers' and subscribers' direct
26 infringement. Cox provides at least the Accused MoCA Instrumentalities that create and
27 are at least substantially all of a MoCA network to be used to infringe at least claim 1 of
28 the '422 Patent.

1 packets that are directed to a common destination node. This reduces the transmitted
2 packet overhead of the network by eliminating interframe gaps, preamble information,
3 and extra headers. '910 Patent, col. 1, line 66 – col. 2, line 3. The '910 Patent has three
4 claims, all of which are independent. At least these claims of the '910 Patent are directed
5 to a variety of techniques for aggregating packet data units in the MoCA network. A true
6 and accurate copy of the '910 Patent is attached hereto as Exhibit S.

7 398. The '910 Patent is directed to patent-eligible subject matter pursuant to 35
8 U.S.C. § 101.

9 399. The '910 Patent is valid and enforceable, and presumed as such, pursuant
10 to 35 U.S.C. § 282.

11 400. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
12 XG1v3, XG1v2, Arris DCX3200, Arris MR150CNM, Pace PX032ANI, Pace
13 PXD01ANI, and similarly operating devices) in connection with operating and
14 providing the Accused Services.

15 401. The Accused MoCA Instrumentalities deployed by Cox to customer
16 premises remain the property of Cox while deployed.

17 402. The Accused MoCA Instrumentalities operate while deployed in a manner
18 controlled and intended by Cox.

19 403. As set forth in the attached non-limiting claim chart (Exhibit T), any
20 product or system operating in a MoCA network compliant with the charted provisions
21 of MoCA 1.1, and/or 2.0 necessarily infringes at least claim 3 of the '910 Patent.

22 404. Each aspect of the functioning of the Accused MoCA Instrumentalities
23 described in the claim chart operates while deployed to customer premises in a manner
24 controlled and intended by Cox.

25 405. Cox provides no software, support or other facility to customers to modify
26 any aspect of the functioning described in the claim chart of the Accused MoCA
27 Instrumentalities while deployed to customer premises.

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1 406. The Accused MoCA Instrumentalities are compliant with MoCA 1.1.,
2 and/or MoCA 2.0, as described in the '910 Patent claim chart, Exhibit T.

3 407. Cox therefore directly infringes at least claim 3 of the '910 Patent by using
4 the Accused MoCA Instrumentalities to provide Accused Services to customers.

5 408. Cox directly infringes at least claim 3 of the '910 Patent when it, for
6 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
7 provide Accused Services.

8 409. Cox directly infringes at least claim 3 of the '910 Patent by making,
9 importing, selling, and/or offering for sale the Accused MoCA Instrumentalities, which
10 meet every limitation of at least claim 3 of the '910 Patent, in connection with providing
11 the Accused Services over an on-premises coaxial cable network.

12 410. Cox had knowledge of the '910 Patent no later than its receipt of Entropic's
13 communications sent to Cox on August 9, 2022.

14 411. Cox has been aware that it infringes the '910 Patent no later than its receipt
15 of Entropic's communication sent to Cox on August 9, 2022.

16 412. Cox has known of or has been willfully blind to the '910 Patent since before
17 the August 9, 2022 communications from Entropic.

18 413. The '910 Patent issued while or before Cox was a member of MoCA.

19 414. Because of Cox's knowledge of Entropic Inc.'s work and contributions
20 related to MoCA technology, Cox had knowledge of the '910 Patent before August 9,
21 2022 or was willfully blind to its existence.

22 415. The claims of the '910 Patent are essential to practicing at least MoCA
23 standards versions 1.1, and/or 2.0.

24 416. Cox knew, or was willfully blind to the fact that the technology of the '910
25 Patent directly relates to networking over coaxial cable, including MoCA, at least as
26 early as Cox became aware of the existence of the '910 Patent. Because of its familiarity
27 with, and access to, the MoCA standards, Cox knew, or was willfully blind to the fact,
28 that use (by Cox or its customers) of instrumentalities compliant with MoCA 1.1, and/or

1 2.0 to deliver Cox services would necessarily infringe one or more claims of the '910
2 Patent.

3 417. Since learning of the '910 Patent and its infringing activities, Cox has failed
4 to cease its infringing activities.

5 418. Cox's customers and subscribers directly infringe at least claim 3 of the
6 '910 Patent by using the Accused MoCA Instrumentalities in connection with the
7 Accused Services provided by Cox.

8 419. Cox actively induces its customers' and subscribers' direct infringement by
9 providing the Accused Services through the Accused MoCA Instrumentalities, and
10 associated support.

11 420. For example, Cox actively induces infringement of at least claim 3 of the
12 '910 Patent by providing the Accused MoCA Instrumentalities to Cox customers with
13 specific instructions and/or assistance (including installation and maintenance)
14 regarding the instantiation of a MoCA network and the use of the Accused MoCA
15 Instrumentalities to infringe the '910 Patent.

16 421. Cox aids, instructs, supports, and otherwise acts with the intent to cause an
17 end user to make and/or use the MoCA network and/or use the Accused MoCA
18 Instrumentalities to infringe every element of at least claim 3 of the '910 Patent.

19 422. Additionally, Cox contributes to the customers' and subscribers' direct
20 infringement. Cox provides, *inter alia*, the Accused MoCA Instrumentalities designed
21 and configured to create a MoCA network and operate as nodes in the network, the use
22 of which infringes at least claim 3 of the '910 Patent.

23 423. The Accused MoCA Instrumentalities have no substantial noninfringing
24 uses. When an end user uses the Accused MoCA Instrumentalities in connection with
25 the Accused Services provided by Cox, the end user directly infringes at least claim 3 of
26 the '910 Patent. The Accused MoCA Instrumentalities are therefore especially made or
27 especially adapted for use in an infringing manner.

28

1 432. The '0,566 Patent is directed to patent-eligible subject matter pursuant to
2 35 U.S.C. § 101.

3 433. The '0,566 Patent is valid and enforceable, and presumed as such, pursuant
4 to 35 U.S.C. § 282.

5 434. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
6 XG1v3, XG1v2, Arris DCX3200, Arris MR150CNM, Pace PX032ANI, Pace
7 PXD01ANI, and similarly operating devices) in connection with operating and
8 providing the Accused Services.

9 435. The Accused MoCA Instrumentalities deployed by Cox to customer
10 premises remain the property of Cox while deployed.

11 436. The Accused MoCA Instrumentalities operate while deployed in a manner
12 controlled and intended by Cox.

13 437. As set forth in the attached non-limiting claim chart (Exhibit V), any
14 product or system operating in a MoCA network compliant with the charted provisions
15 of MoCA 2.0 necessarily infringes at least claim 1 of the '0,566 Patent.

16 438. Each aspect of the functioning of the Accused MoCA Instrumentalities
17 described in the claim chart operates while deployed to customer premises in a manner
18 controlled and intended by Cox.

19 439. Cox provides no software, support or other facility to customers to modify
20 any aspect of the functioning described in the claim chart of the Accused MoCA
21 Instrumentalities while deployed to customer premises.

22 440. The Accused MoCA Instrumentalities are compliant with MoCA 2.0, as
23 described in the '0,566 Patent claim chart, Exhibit V.

24 441. Cox therefore directly infringes at least claim 1 of the '0,566 Patent by
25 using the Accused MoCA Instrumentalities to provide Accused Services to customers.

26 442. Cox sells the Accused Services to its customers and subscribers for a fee.
27 Pursuant to the sale of these services, Cox uses the method recited in at least claim 1 of
28 the '0,566 Patent to provide the Accused Services to Cox's customers and subscribers

1 through the Accused MoCA Instrumentalities. Cox is therefore engaging in the
2 infringing use of at least claim 1 of the '0,566 Patent in order to generate revenue from
3 its customers and subscribers.

4 443. Cox directly infringes at least claim 1 of the '0,566 Patent when it, for
5 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
6 provide Accused Services.

7 444. Cox had knowledge of the '0,566 Patent no later than its receipt of
8 Entropic's communications sent to Cox on August 9, 2022.

9 445. Cox has been aware that it infringes the '0,566 Patent no later than its
10 receipt of Entropic's communication sent to Cox on August 9, 2022.

11 446. Cox has known of or has been willfully blind to the '0,566 Patent since
12 before the August 9, 2022 communications from Entropic.

13 447. The '0,566 Patent issued while or before Cox was a member of MoCA.

14 448. Because of Cox's knowledge of Entropic Inc.'s work and contributions
15 related to MoCA technology, Cox had knowledge of the '0,566 Patent before August 9,
16 2022 or was willfully blind to its existence.

17 449. The claims of the '0,566 Patent are essential to practicing at least MoCA
18 standards versions 1.1, and/or 2.0.

19 450. Cox knew, or was willfully blind to the fact that the technology of
20 the '0,566 Patent directly relates to networking over coaxial cable, including MoCA, at
21 least as early as Cox became aware of the existence of the '0,566 Patent. Because of its
22 familiarity with, and access to, the MoCA standards, Cox knew, or was willfully blind
23 to the fact, that use (by Cox or its customers) of instrumentalities compliant with MoCA
24 1.1, and/or 2.0 to deliver Cox services would necessarily infringe one or more claims of
25 the '0,566 Patent.

26 451. Since learning of the '0,566 Patent and its infringing activities, Cox has
27 failed to cease its infringing activities.

28

1 452. Cox's customers and subscribers directly infringe at least claim 1 of the
2 '0,566 Patent by using the Accused MoCA Instrumentalities in connection with the
3 Accused Services provided by Cox.

4 453. Cox actively induces its customers' and subscribers' direct infringement by
5 providing the Accused Services and associated support.

6 454. For example, Cox actively induces infringement of at least claim 1 of the
7 '0,566 Patent by providing the Accused MoCA Instrumentalities to Cox customers with
8 specific instructions and/or assistance (including installation and maintenance)
9 regarding the instantiation of a MoCA network and the use of the Accused MoCA
10 Instrumentalities to infringe the '0,566 Patent.

11 455. Cox aids, instructs, supports, and otherwise acts with the intent to cause an
12 end user to make and/or use the MoCA network and/or use the Accused MoCA
13 Instrumentalities to infringe every element of at least claim 1 of the '0,566 Patent.

14 456. Additionally, Cox contributes to the customers' and subscribers' direct
15 infringement. Cox provides at least the Accused MoCA Instrumentalities that create and
16 are at least substantially all of a MoCA network to be used to infringe at least claim 1 of
17 the '0,566 Patent.

18 457. The Accused MoCA Instrumentalities have no substantial noninfringing
19 uses. When an end user uses the Accused MoCA Instrumentalities in connection with
20 the Accused Services provided by Cox, the end user directly infringes at least claim 1 of
21 the '0,566 Patent. The Accused MoCA Instrumentalities are therefore especially made
22 or especially adapted for use in an infringing manner.

23 458. Cox's inducement of, and contribution to, the direct infringement of at least
24 claim 1 of the '0,566 Patent has been, and is, continuous and ongoing through the acts
25 described above in connection with Cox's provision of the Accused Services.

26 459. Cox's infringement of the '0,566 Patent is, has been, and continues to be
27 willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under
28 the patent.

1 460. Entropic has been damaged as a result of the infringing conduct alleged
2 above. Cox is liable to Entropic in an amount that compensates Entropic for Cox's
3 infringement, which by law cannot be less than a reasonable royalty, together with
4 interest and costs as fixed by this Court under 35 U.S.C. § 284.

5 461. Upon information and belief, there is no duty to mark any instrumentality
6 with the '0,566 Patent in accordance with 35 U.S.C. § 287(a).

7 **COUNT XII**

8 **(Infringement of the '681 Patent)**

9 462. Entropic incorporates by reference each allegation of Paragraphs 1 through
10 461.

11 463. The '681 Patent duly issued on January 29, 2013 from an application filed
12 October 15, 2009 and, *inter alia*, a provisional application filed October 16, 2008.

13 464. Entropic owns all substantial rights, interest, and title in and to the '681
14 Patent, including the sole and exclusive right to prosecute this action and enforce the
15 '681 Patent against infringers, and to collect damages for all relevant times.

16 465. The '681 Patent is the Clock Sync Patent, and is generally directed to, *inter*
17 *alia*, improving local clock time synchronization between a plurality of nodes in a
18 communication network. '681 Patent, Abstract. The '681 Patent has 40 claims, of which
19 claims 1, 11, 21, and 31 are independent. At least these claims of the '681 Patent are
20 directed to a variety of techniques for clock synchronization for nodes in the MoCA
21 network. A true and accurate copy of the '681 Patent is attached hereto as Exhibit W.

22 466. The '681 Patent is directed to patent-eligible subject matter pursuant to 35
23 U.S.C. § 101.

24 467. The '681 Patent is valid and enforceable, and presumed as such, pursuant
25 to 35 U.S.C. § 282.

26 468. Cox deploys one or more of the Accused MoCA Instrumentalities (e.g.,
27 XG1v3, XG1v2, Arris DCX3200, Arris MR150CNM, Pace PX032ANI, Pace
28

1 PXD01ANI, and similarly operating devices) in connection with operating and
2 providing the Accused Services.

3 469. The Accused MoCA Instrumentalities deployed by Cox to customer
4 premises remain the property of Cox while deployed.

5 470. The Accused MoCA Instrumentalities operate while deployed in a manner
6 controlled and intended by Cox.

7 471. As set forth in the attached non-limiting claim chart (Exhibit X), any
8 product or system operating in a MoCA network compliant with the charted provisions
9 of MoCA 2.0 necessarily infringes at least claim 1 of the '681 Patent.

10 472. Each aspect of the functioning of the Accused MoCA Instrumentalities
11 described in the claim chart operates while deployed to customer premises in a manner
12 controlled and intended by Cox.

13 473. Cox provides no software, support or other facility to customers to modify
14 any aspect of the functioning described in the claim chart of the Accused MoCA
15 Instrumentalities while deployed to customer premises.

16 474. The Accused MoCA Instrumentalities are compliant with MoCA 2.0
17 described in the '681 Patent claim chart, Exhibit X.

18 475. Cox therefore directly infringes at least claim 1 of the '681 Patent by using
19 the Accused MoCA Instrumentalities to provide Accused Services to customers.

20 476. Cox sells the Accused Services to its customers and subscribers for a fee.
21 Pursuant to the sale of these services, Cox uses the method recited in at least claim 1 of
22 the '681 Patent to provide the Accused Services to Cox's customers and subscribers
23 through the Accused MoCA Instrumentalities. Cox is therefore engaging in the
24 infringing use of at least claim 1 of the '681 Patent in order to generate revenue from its
25 customers and subscribers.

26 477. Cox directly infringes at least claim 1 of the '681 Patent when it, for
27 example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise
28 provide Accused Services.

1 478. Cox had knowledge of the '681 Patent no later than its receipt of Entropic's
2 communications sent to Cox on August 9, 2022.

3 479. Cox has been aware that it infringes the '681 Patent no later than its receipt
4 of Entropic's communication sent to Cox on August 9, 2022.

5 480. Cox has known of or has been willfully blind to the '681 Patent since before
6 the August 9, 2022 communications from Entropic.

7 481. The '681 Patent issued while or before Cox was a member of MoCA.

8 482. Because of Cox's knowledge of Entropic Inc.'s work and contributions
9 related to MoCA technology, Cox had knowledge of the '681 Patent before August 9,
10 2022 or was willfully blind to its existence.

11 483. The claims of the '681 Patent are essential to practicing at least MoCA
12 standards versions 1.1, and/or 2.0.

13 484. Cox knew, or was willfully blind to the fact that the technology of the '681
14 Patent directly relates to networking over coaxial cable, including MoCA, at least as
15 early as Cox became aware of the existence of the '681 Patent. Because of its familiarity
16 with, and access to, the MoCA standards, Cox knew, or was willfully blind to the fact,
17 that use (by Cox or its customers) of instrumentalities compliant with MoCA 1.1, and/or
18 2.0 to deliver Cox services would necessarily infringe one or more claims of the '681
19 Patent.

20 485. Since learning of the '681 Patent and its infringing activities, Cox has failed
21 to cease its infringing activities.

22 486. Cox's customers and subscribers directly infringe at least claim 1 of the
23 '681 Patent by using the Accused MoCA Instrumentalities in connection with the
24 Accused Services provided by Cox.

25 487. Cox actively induces its customers' and subscribers' direct infringement by
26 providing the Accused Services and associated support.

27 488. For example, Cox actively induces infringement of at least claim 1 of the
28 '681 Patent by providing the Accused MoCA Instrumentalities to Cox customers with

1 specific instructions and/or assistance (including installation and maintenance)
2 regarding the instantiation of a MoCA network and the use of the Accused MoCA
3 Instrumentalities to infringe the '681 Patent.

4 489. Cox aids, instructs, supports, and otherwise acts with the intent to cause an
5 end user to make and/or use the MoCA network and/or use the Accused MoCA
6 Instrumentalities to infringe every element of at least claim 1 of the '681 Patent.

7 490. Additionally, Cox contributes to the customers' and subscribers' direct
8 infringement. Cox provides at least the Accused MoCA Instrumentalities that create and
9 are at least substantially all of a MoCA network to be used to infringe at least claim 1 of
10 the '681 Patent.

11 491. The Accused MoCA Instrumentalities have no substantial noninfringing
12 uses. When an end user uses the Accused MoCA Instrumentalities in connection with
13 the Accused Services provided by Cox, the end user directly infringes at least claim 1 of
14 the '681 Patent. The Accused MoCA Instrumentalities are therefore especially made or
15 especially adapted for use in an infringing manner.

16 492. Cox's inducement of, and contribution to, the direct infringement of at least
17 claim 1 of the '681 Patent has been, and is, continuous and ongoing through the acts
18 described above in connection with Cox's provision of the Accused Services.

19 493. Cox's infringement of the '681 Patent is, has been, and continues to be
20 willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under
21 the patent.

22 494. Entropic has been damaged as a result of the infringing conduct alleged
23 above. Cox is liable to Entropic in an amount that compensates Entropic for Cox's
24 infringement, which by law cannot be less than a reasonable royalty, together with
25 interest and costs as fixed by this Court under 35 U.S.C. § 284.

26 495. Upon information and belief, there is no duty to mark any instrumentality
27 with the '681 Patent in accordance with 35 U.S.C. § 287(a).

28

JURY DEMAND

Entropic hereby requests a trial by jury on all issues so triable by right.

PRAYER FOR RELIEF

WHEREFORE, Entropic requests that:

A. The Court find that Cox has directly infringed the Patents-in-Suit and hold Cox liable for such infringement;

B. The Court award damages pursuant to 35 U.S.C. § 284 adequate to compensate Entropic for Cox’s past and future infringement of the Patents-in-Suit, including both pre- and post-judgment interest and costs as fixed by the Court;

C. The Court increase any award to Entropic by a judicially appropriate amount;

D. The Court declare that this is an exceptional case entitling Entropic to its reasonable attorneys’ fees under 35 U.S.C. § 285; and

E. The Court award such other relief as the Court may deem just and proper.

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1 Dated: February 10, 2023

Respectfully submitted,

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