

1 Christina Goodrich (SBN 261722)  
2 christina.goodrich@klgates.com  
3 Connor J. Meggs (SBN 336159)  
4 connor.meggs@klgates.com  
5 K&L GATES LLP  
6 10100 Santa Monica Boulevard  
7 Eighth Floor  
8 Los Angeles, CA 90067  
9 Telephone: +1 310 552 5000  
10 Facsimile: +1 310 552 5001

11 *Attorneys for Plaintiff*  
12 *Entropic Communications, LLC*

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)<sup>1</sup>.

### 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.

26 \_\_\_\_\_  
27 <sup>1</sup> Each version of the MoCA standards is referred to herein as "MoCA 1.0," "MoCA  
28 1.1," and "MoCA 2.0."

1           9.     Upon information and belief, CoxCom is a subsidiary of Cox  
2     Communications, Inc., and incorporated in Delaware, with a principal place of business  
3     at 6205 Peachtree Dunwoody Road, Atlanta, Georgia 30328.

4           10.    Cox Communications has, as its registered agent in Delaware, Corporation  
5     Service Company 251 Little Falls Drive, Wilmington, Delaware 19808.

6           11.    Upon information and belief, CoxCom is a subsidiary of Cox  
7     Communications, and incorporated in Delaware, with a principal place of business at  
8     6205 Peachtree Dunwoody Road, Atlanta, Georgia 30328.

9           12.    CoxCom has, as its registered agent in California, Corporation Service  
10    Company d/b/a CSC - Lawyers Incorporating Service Company, located at 2710  
11    Gateway Oaks Dr., Suite 150N, Sacramento, California 95833.

12          13.    Upon information and belief, Cox California is a Delaware limited liability  
13    company, with a regular and established place of business at 6205 Peachtree Dunwoody  
14    Road, Atlanta, Georgia 30328.

15          14.    Cox California has, as its registered agent in California, Corporation  
16    Service Company d/b/a CSC - Lawyers Incorporating Service Company, located at 2710  
17    Gateway Oaks Dr., Suite 150N, Sacramento, California 95833.

18          15.    Cox Communications holds itself out as “the largest private telecom  
19    company in America, serving six million homes and business.”<sup>2</sup>

20          16.    Upon information and belief, CoxCom and Cox California are agents of  
21    Cox Communications.

22          17.    The website of Cox Communications’ parent company, Cox Enterprises,  
23    Inc., identifies Cox Communications as a “division” of Cox Communications, and upon  
24    information and belief, includes job listings for employment with all Cox entities,  
25    including Cox Communications, CoxCom, and Cox California.

26 \_\_\_\_\_  
27 <sup>2</sup> [https://jobs.coxenterprises.com/en/jobs/job/r202314876-manager-marketing-](https://jobs.coxenterprises.com/en/jobs/job/r202314876-manager-marketing-analytics-b2b/)  
28 [analytics-b2b/](https://jobs.coxenterprises.com/en/jobs/job/r202314876-manager-marketing-analytics-b2b/)

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.<sup>3</sup>

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.<sup>4</sup>

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.”<sup>5</sup> 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

22 \_\_\_\_\_

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

24 <sup>4</sup> [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 <sup>5</sup> <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  
28



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.

28

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

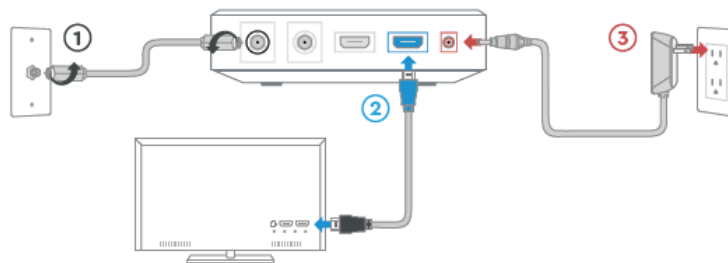
3           49. Cox utilizes various instrumentalities, deployable as nodes in a MoCA-  
4 compliant coaxial cable network.

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.<sup>6</sup>

18  
19  
20  
21  
22  
23  
24  
25  
26  
27           <sup>6</sup> 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.

## 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”<sup>7</sup>

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.

24  
25 \_\_\_\_\_  
26 <sup>7</sup> [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.”<sup>8</sup>

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  
26

27 \_\_\_\_\_

28 <sup>8</sup> 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.

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**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.

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**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           285. Cox aids, instructs, supports, and otherwise acts with the intent to cause an  
2 end user to make and/or use the MoCA network and/or use the Accused MoCA  
3 Instrumentalities to infringe every element of at least claim 11 of the '7,566 Patent.

4           286. Additionally, Cox contributes to the customers' and subscribers' direct  
5 infringement. Cox provides, *inter alia*, the Accused MoCA Instrumentalities designed  
6 and configured to create a MoCA network and operate as nodes in the network, the use  
7 of which infringes at least claim 11 of the '7,566 Patent.

8           287. The Accused MoCA Instrumentalities have no substantial noninfringing  
9 uses. When an end user uses the Accused MoCA Instrumentalities in connection with  
10 the Accused Services provided by Cox, the end user directly infringes at least claim 11  
11 of the '7,566 Patent. The Accused MoCA Instrumentalities are therefore especially made  
12 or especially adapted for use in an infringing manner.

13           288. Cox's inducement of, and contribution to, the direct infringement of at least  
14 claim 11 of the '7,566 Patent has been, and is, continuous and ongoing through the acts  
15 described above in connection with Cox's provision of the Accused Services.

16           289. Cox's infringement of the '7,566 Patent is, has been, and continues to be  
17 willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under  
18 the patent.

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

23           291. Entropic is aware of no obligation to mark any instrumentality with the  
24 '7,566 Patent in accordance with 35 U.S.C. § 287.

25                                   COUNT VII

26                                   **(Infringement of the '539 Patent)**

27           292. Entropic incorporates by reference each allegation of Paragraphs 1 through  
28 291.

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.

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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.

1 320. Additionally, Cox contributes to the customers' and subscribers' direct  
2 infringement. Cox provides, *inter alia*, the Accused MoCA Instrumentalities designed  
3 and configured to create a MoCA network and operate as nodes in the network, the use  
4 of which infringes at least claim 1 of the '539 Patent.

5 321. 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 '539 Patent. The Accused MoCA Instrumentalities are therefore especially made or  
9 especially adapted for use in an infringing manner.

10 322. Cox's inducement of, and contribution to, the direct infringement of at least  
11 claim 1 of the '539 Patent has been, and is, continuous and ongoing through the acts  
12 described above in connection with Cox's provision of the Accused Services.

13 323. Cox's infringement of the '539 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.

16 324. 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.

20 325. Entropic is aware of no obligation to mark any instrumentality with the '539  
21 Patent in accordance with 35 U.S.C. § 287.

22 **COUNT VIII**

23 **(Infringement of the '213 Patent)**

24 326. Entropic incorporates by reference each allegation of Paragraphs 1 through  
25 325.

26 327. The '213 Patent duly issued on December 5, 2017 from an application filed  
27 February 6, 2008, and, *inter alia*, a provisional application filed on February 6 2007.

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.

1 389. The Accused MoCA Instrumentalities have no substantial noninfringing  
2 uses. When an end user uses the Accused MoCA Instrumentalities in connection with  
3 the Accused Services provided by Cox, the end user directly infringes at least claim 1 of  
4 the '422 Patent. The Accused MoCA Instrumentalities are therefore especially made or  
5 especially adapted for use in an infringing manner.

6 390. Cox's inducement of, and contribution to, the direct infringement of at least  
7 claim 1 of the '422 Patent has been, and is, continuous and ongoing through the acts  
8 described above in connection with Cox's provision of the Accused Services.

9 391. Cox's infringement of the '422 Patent is, has been, and continues to be  
10 willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under  
11 the patent.

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

16 393. Upon information and belief, there is no duty to mark any instrumentality  
17 with the '422 Patent in accordance with 35 U.S.C. § 287.

18 **COUNT X**

19 **(Infringement of the '910 Patent)**

20 394. Entropic incorporates by reference each allegation of Paragraphs 1 through  
21 393.

22 395. The '910 Patent duly issued on July 24, 2012 from an application filed May  
23 9, 2008, and a provisional application filed May 9, 2007.

24 396. Entropic owns all substantial rights, interest, and title in and to the '910  
25 Patent, including the sole and exclusive right to prosecute this action and enforce the  
26 '910 Patent against infringers, and to collect damages for all relevant times.

27 397. The '910 Patent is the Packet Aggregation Patent, and is generally directed  
28 to, *inter alia*, transmitting data over a network, where the transmitting device aggregates

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.

28

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

1 424. Cox's inducement of, and contribution to, the direct infringement of at least  
2 claim 3 of the '910 Patent has been, and is, continuous and ongoing through the acts  
3 described above in connection with Cox's provision of the Accused Services.

4 425. Cox's infringement of the '910 Patent is, has been, and continues to be  
5 willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under  
6 the patent.

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

11 427. Entropic is aware of no obligation to mark any instrumentality with the '910  
12 Patent in accordance with 35 U.S.C. § 287.

13 **COUNT XI**

14 **(Infringement of the '0,566 Patent)**

15 428. Entropic incorporates by reference each allegation of Paragraphs 1 through  
16 427.

17 429. The '0,566 Patent duly issued on November 27, 2012 from an application  
18 filed October 15, 2009, and, *inter alia*, a provisional application filed October 16, 2008.

19 430. Entropic owns all substantial rights, interest, and title in and to the '0,566  
20 Patent, including the sole and exclusive right to prosecute this action and enforce the  
21 '0,566 Patent against infringers, and to collect damages for all relevant times.

22 431. The '0,566 Patent is the OFDMA Patent, and is generally directed to, *inter*  
23 *alia*, "allow[ing] multiple transmitting network devices to transmit under an orthogonal  
24 frequency divisional multiple access (OFDMA) mode to a receiving network device."  
25 '0,566 Patent, Abstract. The '0,566 Patent has 18 claims, of which claims 1, 7, 13, and  
26 16 are independent. At least these claims of the '0,566 Patent are directed to a variety of  
27 techniques for assigning communication resources to one or more nodes in the MoCA  
28 network. A true and accurate copy of the '0,566 Patent is attached hereto as Exhibit U.



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



1 **JURY DEMAND**

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

3 **PRAYER FOR RELIEF**

4 WHEREFORE, Entropic requests that:

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

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

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

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

14 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,

2 By: /s/ *Christina Goodrich*

3 Christina Goodrich (SBN 261722)  
christina.goodrich@klgates.com  
4 Connor J. Meggs (SBN 336159)  
connor.meggs@klgates.com  
5 K&L GATES LLP  
10100 Santa Monica Boulevard  
6 Eighth Floor  
Los Angeles, CA 90067  
7 Telephone: +1 310 552 5000  
Facsimile: +1 310 552 5001

8 James A. Shimota (*pro hac vice forthcoming*)

9 jim.shimota@klgates.com

10 George C. Summerfield (*pro hac vice  
forthcoming*)

11 george.summerfield@klgates.com

12 K&L GATES LLP

Suite 3300

13 70 W. Madison Street

Chicago, IL 60602

14 Tel.: (312) 372-1121

Facsimile: (312) 827-8000

15 Peter E. Soskin (SBN 280347)

16 peter.soskin@klgates.com

17 K&L GATES LLP

Four Embarcadero Center, Suite 1200

18 San Francisco, CA 94111

Telephone: (415) 882-8200

19 Facsimile: (415) 882-8220

20 Darlene F. Ghavimi (*pro hac vice forthcoming*)

21 darlene.ghavimi@klgates.com

22 K&L GATES LLP

2801 Via Fortuna, Suite #650

23 Austin, TX 78746

Telephone: (512) 482-6919

24 Facsimile: (512) 482-6800

25 *Attorneys for Plaintiff*

*Entropic Communications, LLC*