

**UNITED STATES DISTRICT COURT
FOR THE CENTRAL DISTRICT OF CALIFORNIA**

ENTROPIC COMMUNICATIONS,
LLC,

Plaintiff,

v.

DISH NETWORK CORPORATION,
DISH NETWORK LLC,
DISH NETWORK SERVICE, LLC,
and
DISH NETWORK CALIFORNIA
SERVICE CORPORATION.

Defendants.

ENTROPIC COMMUNICATIONS,
LLC,

Plaintiff,

v.

COX COMMUNICATIONS, INC.,
COXCOM, LLC, and
COX COMMUNICATIONS
CALIFORNIA, LLC,

Defendants.

Case No. 2:23-cv-01043-JWH-KES
[Lead Case]

**ORDER GRANTING IN PART
AND DENYING IN PART
DIRECTV'S MOTION TO
DISMISS UNDER 35 U.S.C. § 101
[ECF No. 160]**

Case No. 2:23-cv-01047-JWH-KES
[Consolidated]

ENTROPIC COMMUNICATIONS,
LLC,

Plaintiff,

v.

COMCAST CORPORATION,
COMCAST CABLE
COMMUNICATIONS, LLC, and
COMCAST CABLE
COMMUNICATIONS
MANAGEMENTS, LLC,

Defendants.

Case No. 2:23-cv-01048-JWH-KES
[Consolidated]

ENTROPIC COMMUNICATIONS,
LLC,

Plaintiff,

v.

DIRECTV, LLC, and
AT&T SERVICES, INC.,

Defendants.

Case No. 2:23-cv-05253-JWH-KES
[Consolidated]

I. SUMMARY OF DECISION

Defendants DirecTV, LLC and AT&T Services, Inc. (jointly, “DirecTV”) move to dismiss¹ several patent infringement Counts of the operative complaint² of Plaintiff Entropic Communications, LLC. DirecTV asserts that those Counts of the Amended Complaint fail to state a claim for relief under Rule 12(b)(6) of the Federal Rules of Civil Procedure. Specifically, DirecTV contends that those patents are directed to ineligible subject matter and are thus invalid under 35 U.S.C. § 101. The Court **GRANTS** DirecTV’s Motion **in part** and **DENIES** it **in part**.

The asserted claims of U.S. Patent No. 8,363,681 (the “’681 Patent”)³ are directed to the abstract idea of synchronizing clocks based upon the difference between actual and anticipated timing—in other words, ranging-based synchronization—under so-called *Alice* Step One. *See Alice Corp. Pty. v. CLS Bank Int’l*, 573 U.S. 208 (2014). Under *Alice* Step Two, the ’681 Patent claims do not include sufficient inventive features to transform the claims into something more than this abstract idea. Accordingly, the Court concludes that the asserted claims of the ’681 Patent are ineligible under 35 U.S.C. § 101.

The asserted claims of U.S. Patent No. 7,889,759 (the “’759 Patent”)⁴ are potentially directed to an improvement in the broadcast cable network (“BCN”) area, pending the resolution of relevant claim construction and fact issues. Accordingly, the Court does not conclude that the asserted claims of the ’759 Patent are directed to ineligible subject matter at this time.

The asserted claim of U.S. Patent No. 7,295,518 (the “’518 Patent”)⁵ is directed to specific techniques that provide improvements in the BCN area. For that reason, the Court does not conclude that the asserted claim of the ’518 Patent is directed to ineligible subject matter.

The asserted claims of U.S. Patent No. 8,621,539 (the “’539 Patent”)⁶ are directed to measuring delay and optimizing parameters based upon that measurement. The meaning of “optimizing” and the scope of “parameters” are not clear at this stage.

¹ DirecTV’s Mot. to Dismiss (the “Motion”) [ECF No. 160].

² *See* First Amended Complaint (the “Amended Complaint”) [ECF No. 168].

³ *See id.*, Ex. W (the ’681 Patent) [ECF No. 168-23].

⁴ *See id.*, Ex. E (the ’759 Patent) [ECF No. 168-5].

⁵ *See id.*, Ex. A (the ’518 Patent) [ECF No. 168-1].

⁶ *See id.*, Ex. M (the ’539 Patent) [ECF No. 168-13].

Accordingly, the Court defers the consideration of whether the asserted claims of the '539 Patent are ineligible pending claim construction.

The asserted claim of U.S. Patent No. 8,085,802 (the "'802 Patent")⁷ is directed to the abstract idea of formatting data packets to include certain information, receiving the formatted data packets, appending information to the packets, and upconverting the packets with transmission information under *Alice* Step One. Under *Alice* Step Two, the '802 Patent does not include sufficient inventive features to transform the asserted claim into something more than that abstract idea. Accordingly, the Court concludes that the asserted claim of the '802 Patent is ineligible under 35 U.S.C. § 101.

II. BACKGROUND

In July 2023, Entropic filed its Complaint, thereby commencing this action.⁸ Entropic asserts 12 patents against DirecTV.⁹ Entropic alleges that the asserted patents teach solutions related to repurposing existing coaxial cables in buildings to support high-speed data networks.¹⁰ Entropic further alleges that those solutions lead to the formation of a new industry standard called Multimedia over Coax Alliance ("MoCA").¹¹

Relevant to DirecTV's instant Motion to dismiss, Entropic contends that DirecTV's use of instrumentalities within a MoCA-complaint coaxial cable network infringes the following:

- Claims 1-3 and 6-10 of the '681 Patent, entitled "Method and Apparatus for Using Ranging Measurements in a Multimedia Home Network";
- Claims 1-3 of the '759 Patent, entitled "Broadband Cable Networking Utilizing Common Bit-Loading";
- Claim 1 of the '518 Patent, entitled "Broadband Network for Coaxial Cable Using Multi-Carrier Modulation";

⁷ See *id.*, Ex. G (the '802 Patent) [ECF No. 168-7].

⁸ See generally Compl. (the "Complaint") [ECF No. 1 in Case No. 2:23-cv-05253 (the "5253 Case")]. The 5253 Case is now administratively closed and consolidated with Case No. 2:23-cv-01043 (the "1043 Case"). See Order Granting Joint Stip. to Consolidate Cases [ECF No. 129 in the 1043 Case]. All subsequent electronic court filing citations herein refer to the 1043 Case.

⁹ See generally Amended Complaint.

¹⁰ See *id.* at ¶¶ 1 & 2.

¹¹ See *id.* at ¶¶ 3 & 4.

- Claims 1-7 of the '539 Patent, entitled "Physical Layer Transmitter for Use in Broadband Local Area Network"; and
- Claim 3 of the '802 Patent, entitled "Multimedia over Coaxial Cable Access Protocol."¹²

Through its instant Motion, DirecTV seeks the dismissal of the following Counts of the Amended Complaint:

- Count I (infringement of the '518 Patent);
- Count III (infringement of the '759 Patent);
- Count IV (infringement of the '802 Patent);
- Count VI (infringement of U.S. Patent No. 10,257,566¹³);
- Count VII (infringement of the '539 Patent);
- Count VIII (infringement of U.S. Patent No. 8,938,213¹⁴);
- Count IX (infringement of U.S. Patent No. 10,432,422¹⁵);
- Count X (infringement of U.S. Patent No. 8,228,910¹⁶); and
- Count XII (infringement of the '681 Patent).

DirecTV asserts that those Counts fail to state a claim for relief because those patents are directed to ineligible subject matter and are thus invalid under 35 U.S.C. § 101.¹⁷

A. The '681 Patent

The '681 Patent generally relates to using ranging to synchronize clock times between nodes in a communication network.¹⁸ MoCA networks include multiple client nodes, one of which is a network coordinator ("NC") that schedules traffic on the network.¹⁹ To coordinate scheduling, the NC and client nodes maintain local channel time clock ("CTC") counters.²⁰ Each node on the network synchronizes its count to the

¹² See generally Motion.

¹³ The Order regarding DISH Defendants' Motion to Dismiss (the "DISH Order") [ECF No. 103] addresses the eligibility of this patent.

¹⁴ The Order Granting Cox's Rule 12(c) Motion for Invalidity Under 35 U.S.C. § 101 (the "Cox Order") [ECF No. 574] addresses the eligibility of this patent.

¹⁵ The Cox Order addresses the eligibility of this patent.

¹⁶ The DISH Order addresses the eligibility of this patent.

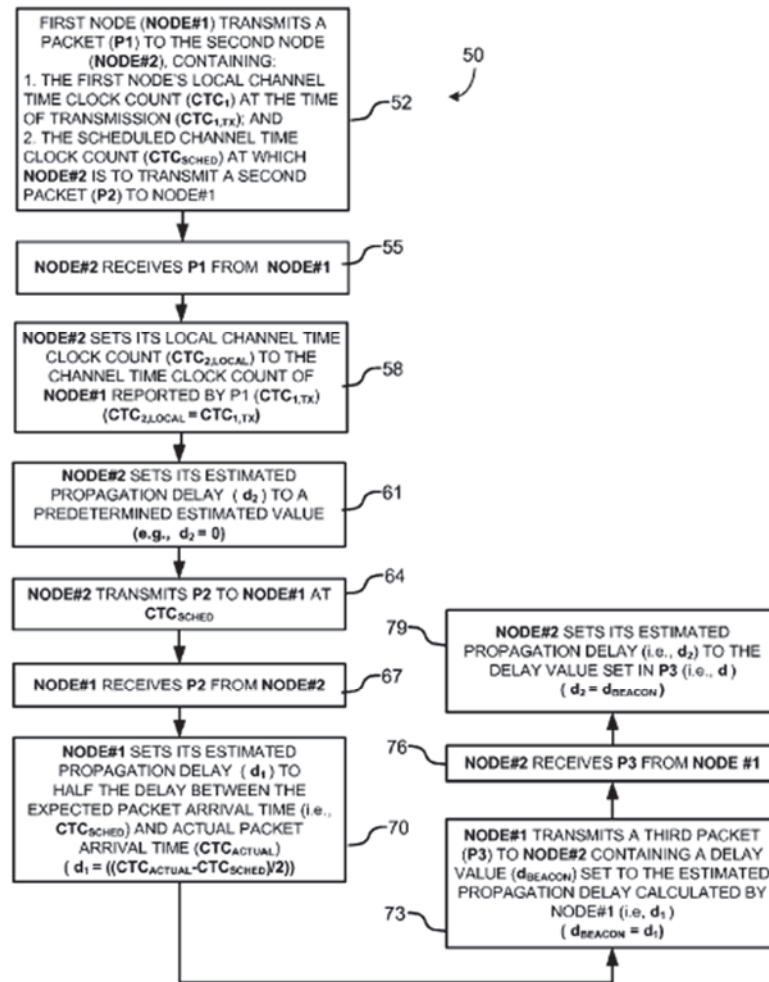
¹⁷ See Motion.

¹⁸ '681 Patent, Abstract.

¹⁹ *Id.* at 2:27-36.

²⁰ *Id.* at 2:44-47.

NC.²¹ To reduce inaccurate counts, the '681 Patent teaches using “ranging to improve local clock time synchronization.”²² “Ranging is a method by which nodes measure and/or estimate the propagation delays to and from other nodes in the network.”²³ Those teachings may be implemented in a variety of architectures and configurations.²⁴ Figure 5 of the '681 Patent is a flowchart showing an example of a ranging-based synchronization method:²⁵



²¹ *Id.*
²² *Id.* at 3:56-58.
²³ *Id.* at 3:58-60.
²⁴ *Id.* at 11:23-30.
²⁵ *Id.* at 5:49-51; *id.*, Fig. 5.

Claim 1 discloses a synchronization method as follows:

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

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

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

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

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

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

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

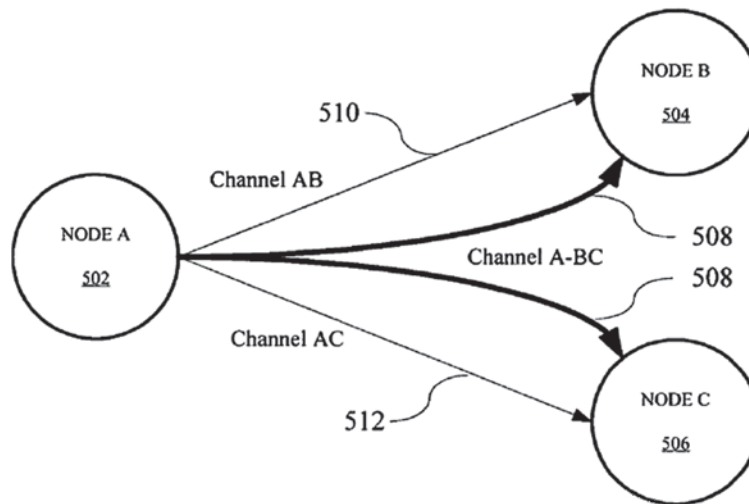
transmitting a third packet from the first node to the second node, wherein the third packet comprises the estimated propagation delay; and

adjusting the local clock time of either the first or second node based on the estimated propagation delay, thereby resulting in a synchronized local clock time between the first and second node.²⁶

²⁶ *Id.*, Claim 1.

B. The '759 Patent

The '759 Patent relates to determining a common bit-loading modulation scheme to facilitate communication among nodes in a broadband cable network ("BCN").²⁷ The BCN includes a transmitting node configured to send probe signals to the other nodes in the BCN.²⁸ The BCN also includes a receiving node configured to transmit a response to the probe signal.²⁹ The response includes a bit-loading modulation scheme.³⁰ Once the transmitting node receives the response, it can determine a common bit-loading modulation scheme.³¹ The common-scheme informs nodes about the amount of data that the system can accommodate at any given time, but in a way that different receiving nodes can both understand.³² Thus, determining and using a common-scheme saves time and resources by allowing for the simultaneous transmission of relevant information to two different nodes.³³ Figure 5 of the '759 Patent is a diagram that shows those different communication paths (using channel A-BC to communicate with both nodes B and C at the same time instead of the separate A-B and A-C channels):³⁴



²⁷ '759 Patent, Abstract.

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

³² *See id.* at 6:55-7:18.

³³ *Id.*; *see also id.* at 10:56-57.

³⁴ *Id.* at 5:1-3.

Claim 2 discloses a method to determine the common scheme, as follows:

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

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

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

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

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

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

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

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

wherein determining a common bit-loading modulation scheme includes:

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

determining the common bit-loading modulation scheme in response to comparing the plurality of bit-loaded modulation schemes.³⁵

C. The '518 Patent

The '518 Patent relates to “[a] broadband local area network [that] uses coaxial cable wiring for interconnection of terminal devices.”³⁶ Specifically, it teaches using “[o]rthogonal frequency division multiplexing (OFDM) with bit loading” to overcome problems in the prior art that prevented devices in the network from communicating with each other, as opposed to only with service providers.³⁷ The '518 Patent discloses that “[b]it loading . . . can be used individually . . . to implement a network that overcomes the problem of multipath and high attenuation in building cable wiring that would restrict the ability of terminal devices to communication with each other.”³⁸ It defines bit loading as “a method of allocating a higher order signal constellation to carriers that have higher signal to noise ratio and a lower order constellation to carriers that have lower signal to noise ratio.”³⁹ It also explains that prior art patents disclose techniques for bit loading.⁴⁰

Claim 1 discloses a communication network as follows:

1. A data communication network comprising:

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

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

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

³⁵ *Id.*, Claim 2.

³⁶ '518 Patent, Abstract.

³⁷ *Id.*

³⁸ *Id.* at 4:42-47.

³⁹ *Id.* at 8:9-12.

⁴⁰ *Id.* at 8:19-26.

wherein network devices transmit probe messages through the cable wiring and analyze received probe message signals to determine channel characteristics and bit loading is selected based on the determined channel characteristics.⁴¹

D. The '539 Patent

The '539 Patent generally relates to a physical layer transmitter for facilitating communication in a BCN.⁴² Specifically, the transmitter transmits and receives packets including specific information.⁴³ The use of the physical layer, as well as the type of information transmitted and received, enables communication between devices on the network, instead of merely communication between devices and their service providers.⁴⁴ In an embodiment of the '539 Patent, the physical layer may send an echo profile probe to measure node delay spread on the network.⁴⁵ Packet parameters may then be optimized based upon the measured delay.⁴⁶

Claim 1 discloses a modem consistent with this embodiment as follows:

1. A modem for communication to at least one node across at least one channel of a coaxial network, the modem comprising:
 - a transmitter; and
 - a MAC layer in signal communication with the transmitter, the MAC layer using at least one probe packet as an echo profile probe to measure node delay spread on the network and the MAC layer optimizing the preamble and cyclic prefix requirements or other parameters in response to the measured node delay spread on the network;

⁴¹ *Id.*, Claim 1.

⁴² '539 Patent, Abstract.

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Id.* at 10:62-64.

⁴⁶ *Id.*

wherein the transmitter communicates the at least one probe⁴⁷ packet.⁴⁸

E. The '802 Patent

The '802 Patent generally relates to “[a] BCN network with BCN modems that communicate using predefined messages to establish, optimize and facilitate data communication.”⁴⁹ The specification explains that “there is a need for coordinating network resources, access to the network, and to optimize the communication between [customer premises equipment] CPES.”⁵⁰ In one embodiment of the '802 Patent, the specification discusses a particular type of message format called a “beacon packet.” It explains that a “beacon packet” is “a packet that is 216 bits in length with an additional 32 bits of CRC data. When a BCN modem is activated, it attempts to locate the network timing by receiving a beacon packet [] which identifies network timing and essential network control information including network admission area, and other information”⁵¹ The specification explains that “[b]eacon messages are very robust and can be received even in a very poor channel environment.”⁵²

Claim 3 discloses a BCN transmission method as follows:

3. A method for transmitting packets from a Broadband Cable Network (BCN) modem to a plurality of nodes in a broadband cable network, the method comprising:

formatting the packets in a MAC subsystem that transmits the packets within the broadband cable network, including formatting a data and control packet for transmission within the broadband cable network, the data and control packet having a header and a variable length payload, the header having at least five fields selected from the group consisting of a transmit clock field, packet type field, packet subtype field, version field, source node ID field, destination node ID field, and header check sequence field;

⁴⁷ The applicant corrected the patent to disclose “probe” instead of “transmit” here. *See id.*, Certificate of Correction.

⁴⁸ *Id.*, Claim 1.

⁴⁹ '802 Patent, Abstract.

⁵⁰ *Id.* at 4:1-3.

⁵¹ *Id.* at 25:13-21.

⁵² *Id.* at 13:15-17.

receiving the packets from the MAC subsystem at a Modem subsystem that is in signal communication with the MAC subsystem and that appends information to the packets; and

upconverting the packets with the information for transmission via the broadband cable network at a RF subsystem that is in signal communication with the Modem subsystem;

wherein at least one of the packets is a beacon packet that has a channel number field, change field, sequence number field, network coordinator ID field, next beacon index field, admission frame length field, admission window, asynchronous MAP length field and a beacon Cyclic Redundancy Checking (CRC) field.⁵³

III. LEGAL STANDARD

A motion to dismiss under Rule 12(b)(6) tests the legal sufficiency of the claims asserted in a complaint. *See Navarro v. Block*, 250 F.3d 729, 732 (9th Cir. 2001). In ruling on a Rule 12(b)(6) motion, “[a]ll allegations of material fact are taken as true and construed in the light most favorable to the nonmoving party.” *Am. Family Ass’n v. City & County of San Francisco*, 277 F.3d 1114, 1120 (9th Cir. 2002). Although a complaint attacked through a Rule 12(b)(6) motion “does not need detailed factual allegations,” a plaintiff must provide “more than labels and conclusions.” *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 555 (2007).

To state a plausible claim for relief, the complaint “must contain sufficient allegations of underlying facts” to support its legal conclusions. *Starr v. Baca*, 652 F.3d 1202, 1216 (9th Cir. 2011). “Factual allegations must be enough to raise a right to relief above the speculative level . . . on the assumption that all the allegations in the complaint are true (even if doubtful in fact)” *Twombly*, 550 U.S. at 555-56 (citations and footnote omitted). Accordingly, to survive a motion to dismiss, a complaint “must contain sufficient factual matter, accepted as true, to state a claim to relief that is plausible on its face,” which means that a plaintiff must plead sufficient factual content to “allow[] the court to draw the reasonable inference that the defendant is liable for the misconduct alleged.” *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009) (internal quotation marks omitted). A complaint must contain “well-pleaded facts” from which the Court can “infer more than the mere possibility of misconduct.” *Id.* at 679.

⁵³ *Id.*, Claim 3.

Section 101 of Title 35 defines patent eligible subject matter with reference to four independent categories of eligible inventions: processes, machines, manufactures, and compositions of matter. *See Bilski v. Kappos*, 561 U.S. 593, 601 (2010); 35 U.S.C. § 101. The Supreme Court recognizes three exceptions to the application of § 101: “laws of nature, physical phenomena, and abstract ideas.” *Diamond v. Chakrabarty*, 447 U.S. 303, 308-09 (1980). Claims directed to those exceptions are not eligible because of pre-emption concerns. *See Alice*, 573 U.S. at 216; *see also Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948).

Alice is the most recent statement by the Supreme Court on the application of those principles. That case expanded the two-step approach for resolving § 101 issues adopted in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 77 (2012). In the first step, a court must “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Alice*, 573 U.S. at 217 (citing *Mayo*, 566 U.S. at 77). If that standard is satisfied, then in the second step the court must ask “[w]hat else is there in the claims.” *Id.* That analysis requires a consideration of “the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (citing *Mayo*, 566 U.S. at 78–79). In performing that second step of the analysis, the court must “search for an ‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* at 217-18 (citing *Mayo*, 566 U.S. at 72–73).

The Federal Circuit has “repeatedly recognized that in many cases it is possible and proper to determine patent eligibility under 35 U.S.C. § 101 on a Rule 12(b)(6) motion.” *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1373-74 (Fed. Cir. 2016).

IV. ANALYSIS

A. The ’681 Patent

DirecTV contends that the asserted claims of the ’681 Patent are directed to the abstract idea of “synchronizing local clock times.”⁵⁴ DirecTV further asserts that the claims refer only to generic computer components and that they do not teach any

⁵⁴ Motion 15:2-7.

inventive concepts.⁵⁵ Entropic responds that the asserted claims are directed to a specific improvement in clock synchronization in coaxial networks.⁵⁶

1. Representativeness

As a threshold matter, the Court finds Claim 1 representative, and it performs the § 101 analysis on Claim 1. *See Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass’n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014) (“The district court, however, correctly determined that addressing each claim of the asserted patents was unnecessary” when a particular claim was “representative” because “all the claims are substantially similar and linked to the same abstract idea.”) (quotations omitted). Here, the asserted claims of the ’681 Patent relate to a ranging-based synchronization method in a communication network.⁵⁷ Claim 1 is the only asserted independent claim.⁵⁸

Entropic does not expressly challenge the representativeness of Claim 1. Still, Entropic argues that dependent Claims 6, 9, and 10 narrow the scope to a particular type of communication network by further disclosing the use of a “network coordinator,” a “mesh network,” and a “MoCA” network,” respectively.⁵⁹ Although those claims add specificity, they do not alter or expand the focus of the claims as directed to a ranging-based synchronization method in a communication network. In view of that common focus, applying the *Alice* framework to Claim 1 of the ’681 Patent provides a representative analysis applicable to all of the asserted claims.

2. *Alice* Step One

a. What Does Claim 1 Teach?

“The first stage of the *Alice* inquiry looks at the focus of the claims [and] their character as a whole[.]” *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (quotations omitted). The Court must determine whether Claim 1 is “directed to an improvement” in the relevant technical field or “directed to an abstract idea.” *In re TLI Commc’ns*, 823 F.3d at 612 (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016)). Claimed processes that can be “performed in the human mind, or

⁵⁵ *Id.* at 35:23-36:2.

⁵⁶ Entropic’s Opp’n to the Motion (the “Opposition”) [ECF No. 215] 11:14-15.

⁵⁷ *See* ’681 Patent, Claims 1-3 & 6-10.

⁵⁸ *Id.*

⁵⁹ *Id.*, Claims 6, 9, & 10.

by a human using a pen and paper” are directed to abstract ideas. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372 (Fed. Cir. 2011).

At a high level, Claim 1 is directed to a ranging-based synchronization method in a communication network. The claim discloses exchanging data between nodes to synchronize clock times.⁶⁰ The Court agrees with DirecTV that patents that are directed to data synchronization are generally ineligible. *See Implicit, LLC v. Ziff Davis, Inc.*, 2023 WL 4366351, at *3 (C.D. Cal. July 3, 2023) (finding ineligible a patent directed to “synchronizing data between computer directories”). Sending and receiving data, even in the context of a communication network, is abstract. *See Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1261 (Fed. Cir. 2016) (explaining that patents directed to “the conveyance and manipulation of information using wireless communication and computer technology” do not disclose eligible subject matter).

Claim 1 also teaches “performing a ranging method . . . result[ing] in an estimated propagation delay.”⁶¹ The ranging method involves sending and receiving data at specific times, calculating an estimated delay based upon the difference between a scheduled arrival time and an actual arrival time, transmitting the calculation, and adjusting the time based upon that calculation.⁶² Claim 1 refers to “nodes” in a “communication network,” but it does not otherwise narrow the scope to a specific architecture or context.⁶³

As indicated above, claims directed to sending and receiving data are abstract. *See Affinity Labs*, 838 F.3d at 1261. Moreover, calculating a delay based upon the difference between an estimated and actual time can be performed by a human being using a pen and paper. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (confirming that “analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes” does not constitute eligible subject matter); *see also Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355, 1362 (Fed. Cir. 2023) (finding ineligible a claim including a limitation involving comparing information to generate a “likelihood of match”). Accordingly, “calculating an estimated propagation delay,” without more, does not take the claim out of the abstract realm. *See McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299,

⁶⁰ *Id.*, Claim 1 (“transmitting a first packet from the first node to the second node, wherein the first packet includes a first packet clock time set to the local clock time of the first node at transmission time, and includes a scheduled arrival clock time” and “setting the local clock time of the second node to the first packet clock time”).

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.*

1316 (Fed. Cir. 2016) (finding claims eligible that disclosed “specific features of [] rules” as “a specific implementation” of a method previously performed by humans).

Accordingly, the only question left is whether the context of the claim—concerning “nodes” in a “communication network”—affects the analysis. Here, the claims broadly describe the ranging-based synchronization method, without reference to any particular technology, and the specification explains that the teachings may be implemented in a variety of architectures and configurations.⁶⁴ That broad claiming strategy is insufficient to render the claimed subject matter patent-eligible. *See Affinity Labs*, 838 F.3d at 1258 (finding a claimed broadcast system ineligible when “[i]t is not tied to any particular technology and can be implemented in myriad ways ranging from the low-tech, such as by mailing copies of a local newspaper to an out-of-state subscriber, to the high-tech, such as by using satellites to disseminate broadcasts of sporting events”). Even dependent Claim 10, which requires compliance with the MoCA standard, does not alter that result because it merely limits the idea of ranging-based synchronization to a specific field. *See id.* at 1258-59.

b. What Problem Does Claim 1 Purport to Solve and *How* Does It Purport to Solve That Problem?

Entropic argues that Claim 1 is not abstract because it “recites an improvement in clock synchronization that accounts for the actual delay experienced by transmissions between nodes in the network.”⁶⁵ In support of its position, Entropic cites a case in which the Federal Circuit found claims eligible that were directed to an “improvement to computer functionality, namely the reduction of latency experienced by parked secondary station in communication systems.” *Uniloc USA, Inc. v. LG Elecs. USA, Inc.*, 957 F.3d 1303, 1305 (Fed. Cir. 2020). Entropic argues that here, like in *Uniloc*, the ’681 Patent’s use of “specific data types,” including “a first packet clock time set to the local clock time of the first node at transmission time” and a “scheduled arrival clock time,” represents a technological improvement.⁶⁶

Unlike the circumstance in *Uniloc*, the ’681 Patent claims do not identify a specific type of data or parameter that solves a problem unique to a particular architecture. There, the Federal Circuit concluded that the patent was directed to eligible subject matter because it claimed the addition of a specific type of data field—not present in the prior art—that allowed two necessary steps to be completed at the same time instead of in an alternating manner. *See id.* at 1307-1308. Here, Claim 1 is a method claim that

⁶⁴ *Id.* at 11:23-30.

⁶⁵ Opposition 36:21-37:7 (citing Amended Complaint ¶¶ 191 & 185; ’681 Patent 3:54-63).

⁶⁶ *Id.* at 37:24-38:6.

discloses the use of a straightforward mathematical calculation to synchronize clocks. The specification discusses timing inaccuracies due to, for example, propagation delay.⁶⁷ Although it states that those problems occur in MoCA, the claims, as drafted, do not address a problem unique to MoCA. In fact, as DirecTV points out, problems related to differences between estimated and actual timing affect many fields, including “low-tech” areas such as railroad transportation and postal delivery. *See Affinity Labs*, 838 F.3d at 1258; *see also ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 769 (Fed. Cir. 2019) (“Even a specification full of technical details about a physical invention may nonetheless conclude with claims that claim nothing more than the broad law or abstract idea underlying the claims.”).

For the same reasons, *Koninklijke KPN N.V. v. Gemalto M2M GmbH*, 942 F.3d 1143 (Fed. Cir. 2019), does not compel a different outcome. There, the Federal Circuit found a claim directed to “a new way of generating check data” valid because it enabled the detection of errors that prior art systems were not equipped to detect. *See id.* at 1151. Even though the new method used an existing tool, it improved the function of the process. *See id.* Further, it recited a specific solution for accomplishing the goal instead of “the mere desired result.” *Id.* Here, the claim at issue discloses a generic calculation method in an allegedly new context. That disclosure is not sufficient.

For the foregoing reasons, Claim 1 is directed to the abstract idea of synchronizing clocks based upon the difference between actual and anticipated timing; in other words, ranging-based synchronization.

3. *Alice* Step Two

The Step Two inquiry considers whether the claim includes “an inventive concept sufficient to transform the claimed abstract idea into a patent-eligible invention.” *Yu v. Apple Inc.*, 1 F.4th 1040, 1045 (Fed. Cir. 2021), *cert. denied*, 142 S. Ct. 1113 (2022). “Where a claim is directed to an abstract idea, the claim must include additional features to ensure that the claim is more than a drafting effort designed to monopolize the abstract idea.” *ChargePoint*, 920 F.3d at 773 (internal citations omitted). In evaluating Step Two, the Court considers whether the claim limitations, either individually or as an ordered combination, teach implementing the abstract idea using something more than well-understood, routine, or conventional techniques. *See Coop. Ent., Inc. v. Kollektive Tech., Inc.*, 50 F.4th 127, 130 (Fed. Cir. 2022).

DirecTV argues that the claims refer to only generic computer components (*e.g.*, nodes, communication network, and functional, logical, or physical partitioning) and that

⁶⁷ *See* ’681 Patent 3:1-14.

they do not include any inventive concepts.⁶⁸ DirecTV further asserts that the “communication network” context does not supply an inventive concept.⁶⁹ Entropic seeks to avoid an invalidity finding by arguing that the ’681 Patent discloses “unconventional clock synchronization steps.”⁷⁰

First, the specification and Entropic’s pleading do not demonstrate that ranging-based synchronization is unconventional. The portions of the specification that Entropic cites disclose only that “the NC and each node in the network maintains a local channel time clock (CTC) counter and all nodes are responsible for synchronizing their CTC counts to that of the NC” and that “[r]anging is a method by which nodes measure and/or estimate the propagation delays to and from other nodes in the network.”⁷¹ The claims disclose ranging as a simple mathematical calculation based upon the difference between estimated and actual arrival times of data packets sent by nodes in the network. Together, those disclosures do not demonstrate any unconventionality. Moreover, the claims do not include any material explaining how the specific elements improve efficiency in a MoCA network, as compared to any other communication system, including, for instance, a paper mail delivery system. The Amended Complaint provides more context, explaining why the claimed method could be useful if applied in the MoCA context, but, again, the claims are not so limited.⁷² Two paragraphs later, the Amended Complaint merely repeats the claim language, verbatim, and concludes that those elements are unconventional.⁷³ See *Trinity Info Media, LLC, v. Covalent, Inc.*, 72 F.4th 1355, 1366 (Fed. Cir. 2023) (“[C]onclusory allegations that the prior art lacked elements of the asserted claims are insufficient to demonstrate an inventive concept.”).

Second, the Amended Complaint and the specification do not demonstrate that “adjusting the local clock times of the one or both of the nodes based on estimated propagation delay” is unconventional.⁷⁴ The portion of the specification that Entropic cites explains how the delay propagation problem occurs in MoCA and recites the benefit of correcting for that delay.⁷⁵ However, the claim scope far exceeds the narrow problem and solution described in that portion of the specification. See *ChargePoint*, 920 F.3d at 769. Again, the Amended Complaint merely repeats the claim language, verbatim, and

⁶⁸ Motion 18:3-11.

⁶⁹ *Id.* at 18:12-16.

⁷⁰ Opposition 40:17.

⁷¹ ’681 Patent 2:44-47 & 3:58-60.

⁷² Amended Complaint ¶ 191.

⁷³ *Id.* at ¶ 193.

⁷⁴ ’681 Patent 2:60-4:49.

⁷⁵ *Id.*

concludes that those elements are unconventional.⁷⁶ That unsupported conclusion is not sufficient to show an inventive concept. *See Trinity*, 72 F.4th at 1366.

Finally, the Amended Complaint does not establish that the combination of exchanging clock times, ranging, and performing an adjustment are unconventional. The specification explains the benefit of a specific type of ranging, used to reduce the inter-frame gap in the MoCA context, but, again, that specificity is not carried into the claims.⁷⁷ The Amended Complaint broadly concludes that the inventions of the '681 Patent improve efficiency over conventional coaxial networks, but it does not tie the purported improvements to any specific claim elements.⁷⁸

For the foregoing reasons, the Court concludes that the asserted claims of the '681 Patent are directed to ineligible subject matter under 35 U.S.C. § 101. The Court **GRANTS** DirecTV's Motion with respect to this patent.

B. The '759 Patent

DirecTV argues that the '759 Patent claims are directed to the abstract idea of “analyzing and comparing data and determining a common bit-loading modulation scheme.”⁷⁹ Entropic responds that the '759 Patent discloses an improvement in the BCN area.⁸⁰

1. Representativeness

As a threshold matter, Entropic does not dispute the representativeness of Claim 2. Accordingly, the Court finds Claim 2 representative. *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018).

2. Alice Step One

Entropic argues that Claim 2 solves a specific problem in the BCN area because determining a common scheme allows a node to send important information about system capacity to two other nodes at the same time, thus saving time and resources.⁸¹ The Court appreciates the benefit of determining and then using a common bit-loading

⁷⁶ Amended Complaint ¶ 194.

⁷⁷ '681 Patent 3:54-65.

⁷⁸ Amended Complaint ¶ 195.

⁷⁹ Motion 21:22-25.

⁸⁰ Opposition 19:3-5.

⁸¹ *See id.* at 19:24-20:4.

scheme in the BCN area. However, Claim 2 does not explain how to determine the common scheme.

Claim 2 discloses transmitting and receiving probe signals, where a response signal includes a bit-loading modulation scheme determined by a receiving node, and determining a common scheme based upon a comparison of the bit-loaded modulation schemes from a plurality of response signals.⁸² Other than the “comparison” portion, the claim does not explain how to determine the common scheme. The claim does not explain how to compare a plurality of schemes.

The specification provides more information:

In FIG. 10C, a plot 1016 of the common carrier frequency signals of various bit-loading constellations 1018 versus carrier number 1020 for the A-BC channel path between node A and nodes B and C is shown. In this example, plot 1016 shows that within the A-BC channel, carrier number signals 1, 2 and 8 may transmit at a constellation size of 128 QAM, carrier number signals 4 and 6 may transmit at a constellation size of 64 QAM, and carrier number signals 3, 5 and 7 are OFF. These carrier number signal values are the result of comparing the carrier number signals from the AB channel in FIG. 10A and the corresponding carrier number signals from the AC channel in FIG. 10B and choosing the lowest corresponding modulation value for each carrier number. The resulting common carrier frequency signals in FIG. 10C graphically represent signals utilizing the common bit-loaded modulation scheme. These signals would be able to transmit information from node A to node B and node C simultaneously.⁸³

That disclosure raises several questions—does “determining a common bit-loading modulation scheme” by “comparing a plurality of bit-loading modulation schemes from the corresponding received plurality of response signals” and “determining the common bit-loading modulation scheme in response to comparing the plurality of bit-loaded modulation schemes” refer to a specific method, like the one disclosed in the specification? If so, was the method unconventional at the time that the application for the ’759 Patent was filed?⁸⁴ Depending upon the answers to those

⁸² See ’759 Patent, Claim 2. The claim also discloses transmitting characteristics of a channel path by measuring BER characteristics of a received signal, however Entropic does not address this claim element. *See id.*

⁸³ ’681 Patent 10:41-57; *see also id.*, Fig. 10C.

⁸⁴ The Court notes that Entropic’s pleading appears to focus more generally on the purported unconventionality of broadcasting data between end devices in a BCN, as opposed to this specific method or any other specific method. *See, e.g.*, Amended Complaint ¶¶ 93, 97, & 98.

questions, Claim 2 may disclose eligible subject matter similar to the claims found eligible in recent Federal Circuit rulings. *See Mentone Sols. LLC v. Digi Int'l Inc.*, 2021 WL 5291802, at *5 (Fed. Cir. Nov. 15, 2021) (finding claims eligible where “the specification informs our understanding of the claimed invention, the technological solution, and how the elements of the claim work together to provide that solution”); *Packet Intel. LLC v. NetScout Sys., Inc.*, 965 F.3d 1299, 1309 (Fed. Cir. 2020) (finding claims eligible that detailed how to solve a problem unique to computer networks in several steps).

However, answering those questions potentially turns on the resolution of both claim construction issues and fact issues concerning conventionality. Accordingly, the Court **DENIES** DirecTV’s Motion with respect to the ’759 Patent at this stage. The Court makes this ruling without prejudice to the renewal of the Motion upon a more developed record answering the questions posed above.

3. *Alice* Step Two

Because the Court defers the resolution of whether Claim 2 is directed to an improvement in the relevant technology pending a more developed record, the Court declines to analyze *Alice* Step Two in the context of the instant Motion.

C. The ’518 Patent

DirecTV argues that the ’518 Patent claims are directed to the abstract ideas of “transmitting and analyzing information” and “determining a bit loading scheme.”⁸⁵ Entropic responds that the ’759 Patent discloses a technological improvement because it facilitates device-to-device communication—something that was not possible in conventional coaxial networks.⁸⁶

1. Representativeness

Claim 1 is the only asserted claim. Accordingly, the Court analyzes only Claim 1 at this stage.

Still, the ’759 Patent describes the problems in the prior art in detail and discloses that specific solution, which may, potentially, show unconventionality if corroborated with other factual evidence.

⁸⁵ Motion 26:16-18.

⁸⁶ Opposition 12:4-13.

2. *Alice* Step One

a. What Does Claim 1 Teach?

As discussed above, Step One considers the character of the claims as a whole.⁸⁷ Claim 1 of the '518 Patent is directed to a data communication network that includes at least two multi-carrier modulator devices, an up converter, a down converter, a multi-carrier demodulator, and cable wiring having specific physical components.⁸⁸ The claim further specifies that the devices communicate using the cable wiring and multi-carrier signaling and that they communicate to determine channel characteristics and select bit loading based upon the channel characteristics.⁸⁹ In sum, the claim is directed to a network having specific components equipped with specific functionalities.

Entropic acknowledges that the hardware-based limitations are conventional.⁹⁰ In fact, Entropic argues that the claim discloses a technological upgrade because it improves cable network operation “without requiring any new hardware or re-wiring.”⁹¹ Here, the fact that the claim discloses known hardware and wiring does not end the patent-eligibility inquiry. Claims reciting physical components are still invalid if they “merely provide a generic environment in which to carry out the abstract idea.” *In re TLI Commc’ns LLC Pat. Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) (finding a claim reciting “a telephone unit” invalid because the telephone unit merely provided a generic environment for “classifying and storing digital images in an organized manner”). Accordingly, here, the Court considers whether the functionality, as disclosed in the last two limitations, is an abstract idea or a technological improvement.

b. What Problem Does Claim 1 Purport to Solve and *How* Does It Purport to Solve That Problem?

Entropic argues that Claim 1 solves a specific problem in the coaxial network area because it facilitates device-to-device communication—something that was not previously possible—without requiring any new hardware or wiring.⁹² Entropic argues that the combination of sending “probe messages” using “multi-carrier signaling” via

⁸⁷ See *supra* Part IV.A.2.a.

⁸⁸ '518 Patent, Claim 1.

⁸⁹ *Id.*

⁹⁰ Opposition 17:18-23.

⁹¹ *Id.*

⁹² See *id.* at 12:4-13.

“cable wiring” to measure “channel characteristics” and the use of “bit loading” solves the problem.⁹³

Here, the specification of the ’518 Patent confirms Entropic’s account of the problems in the prior art.⁹⁴ The specification also discloses that “[b]it loading . . . can be used individually . . . to implement a network that overcomes the problem of multipath and high attenuation in building cable wiring that would restrict the ability of terminal devices to communication with each other.”⁹⁵ It defines “bit loading” as “a method of allocating a higher order signal constellation to carriers that have higher signal to noise ratio and a lower order constellation to carriers that have lower signal to noise ratio.”⁹⁶ The specification explains that prior art patents disclose a technique for bit loading.⁹⁷ It also discloses that “bit loading is applied to increase the modulation order at carriers with high signal to noise ratio and lower the modulation order at carriers with low signal to noise ratio.”⁹⁸

The primary issue with Claim 2 appears to be novelty as opposed to eligibility. Claim 2 discloses, “bit loading is selected based on the determined channel characteristics.” Based upon the disclosures summarized above, applying (or selecting) bit loading—which Claim 1 expressly recites—appears to solve a problem in the prior art. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016). Moreover, bit loading is not merely a result without any explanation of how to achieve the result. *See Realtime Data LLC v. Array Networks Inc.*, 2023 WL 4924814, at *8 (Fed. Cir. Aug. 2, 2023), *cert. denied sub nom. Realtime Data LLC v. Fortinet, Inc.*, 144 S. Ct. 567 (2024).

As disclosed, bit loading appears to refer to specific techniques known in the art, which provide an improvement in the coaxial network context. For those reasons, the Court determines that Claim 1 is directed to an improvement instead of an abstract idea. Based upon the disclosures, it potentially appears that the applicant did not invent that

⁹³ *Id.* at 12:24-13:2.

⁹⁴ *See* ’518 Patent 4:25-33 (“The signal rejections and tap port isolation of splitters existing in a typical cable TV wiring configuration presents a problem to shared usage of the cable for a LAN system. The prior art references address communicating between a cable head end and in-home units but do not address the impairments present in the home wiring that restricts high bandwidth communication between devices within the home.”).

⁹⁵ *Id.* at 4:42-47. The specification also mentions “power loading,” “adaptive power control,” and “frequency coordination,” however the claim does not expressly disclose these techniques. *Id.*

⁹⁶ *Id.* at 8:9-12.

⁹⁷ *Id.* at 8:18-26.

⁹⁸ *Id.* at 4:60-62.

improvement. Still, novelty and inventorship are both fact intensive inquiries more appropriately resolved on a developed record.

The Court also declines to find bit loading conventional at this stage. First, Entropic pleads that bit loading in this context was not conventional.⁹⁹ Despite the conclusory nature of the Amended Complaint, at this point the Court does not have the information that it needs to assess conventionality. For instance, the prior art reference in the specification suggests that bit loading techniques were known, but it does not conclusively establish that they were “well known, routine, or conventional” within the context of Claim 1. *See Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1128 (Fed. Cir. 2018).

For the foregoing reasons, the Court **DENIES** DirecTV’s Motion with respect to the ’518 Patent.

3. *Alice* Step Two

Because the Court concludes that Claim 1 is directed to an improvement in the relevant technology instead of an abstract idea, the Court declines to analyze Alice Step Two in the context of the instant Motion.

D. The ’539 Patent

DirecTV argues that the ’539 Patent claims are directed to the abstract ideas of “transmitting information and measuring and adjusting parameters.”¹⁰⁰ Entropic responds that the ’539 Patent discloses an improvement in modem functionality within the context of a coaxial network.¹⁰¹

1. Representativeness

As a threshold matter, Entropic does not dispute the representativeness of Claim 1. Accordingly, the Court finds Claim 1 representative. *See Berkheimer*, 881 F.3d at 1365.

2. *Alice* Step One

Entropic argues that Claim 1 is not abstract because it “recites a solution to the problem of variable and unknown distances in a coaxial network by probing those

⁹⁹ See Amended Complaint ¶¶ 75.

¹⁰⁰ Motion 33:1-4.

¹⁰¹ Opposition 25:5-6

distances and optimizing the construction of data packets in response.”¹⁰² In support of its position, Entropic cites a case in which the Federal Circuit found claims eligible that were directed to a “specific means” for a “new way of generating check data.” *KPN*, 942 F.3d at 1150-51. Entropic argues that here, like in *KPN*, the ’539 Patent’s limitation “sending a specific probe to optimize specific parameters to overcome a specific problem on specific networks” represents a technological improvement.¹⁰³

Unlike the claim at issue in *KPN*, Claim 1 of the ’539 Patent does not identify a specific probe or specific parameters. Claim 1 discloses “using at least one probe packet as an echo profile probe to measure node delay spread on the network.”¹⁰⁴ However, as the specification explains, “Echo Profile (‘EP’) Probes [are merely probes] whose purpose is to measure node delay spread on the network in order to optimize the preamble and Cyclic Prefix (‘CP’) requirements or other parameters.”¹⁰⁵ That explanation is redundant with the claimed functionality. Thus, disclosing the probe as an Echo Profile Probe does not introduce the requisite specificity.

Claim 1 also discloses “optimizing the preamble and cyclic prefix requirements or other parameters in response to the measured node delay spread on the network.”¹⁰⁶ At this stage, it is not clear what “optimizing” these parameters means or what the “other parameters” would include. Given the lack of clarity as to the claim scope, the Court determines that it would be better to evaluate the validity of this claim under § 101 after construing the claims. The Court also acknowledges that the parties dispute whether this claim language presents an issue under 35 U.S.C. § 101, 35 U.S.C. § 112, or both. Accordingly, the Court defers the resolution of the eligibility issue pending a determination of the claim scope and an analysis of any indefiniteness issues.

For the foregoing reasons, the Court **DEFERS** the consideration of whether the ’539 Patent is directed to ineligible subject matter under § 101 pending claim construction. DirecTV’s Motion is **DENIED** as to this claim without prejudice to renewal following claim construction.

¹⁰² *Id.* at 26:8-10.

¹⁰³ *Id.* at 27:21-24.

¹⁰⁴ ’539 Patent, Claim 1.

¹⁰⁵ *Id.* at 9:62-65.

¹⁰⁶ *Id.*, Claim 1.

E. The '802 Patent

DirecTV argues that the '802 Patent claims are directed to the abstract idea of “transmitting messages containing the claimed fields of information.”¹⁰⁷ Entropic responds that the '802 Patent discloses an improvement in modem functionality within the context of a coaxial network.¹⁰⁸

1. Representativeness

Claim 3 is the only asserted claim. Accordingly, the Court analyzes only Claim 3 at this stage.

2. Alice Step One

a. What Does Claim 3 Teach?

As discussed above, Step One considers the character of the claims as a whole.¹⁰⁹ Here, Claim 3 of the '802 Patent is directed to formatting data packets to include selected fields, receiving the formatted data packets, appending information to the packets, and upconverting the packets with transmission information.¹¹⁰ As discussed above, claims directed to sending and receiving data are abstract in nature. *See, e.g., Affinity Labs*, 838 F.3d at 1261 (explaining that patents directed to “the conveyance and manipulation of information using wireless communication and computer technology” do not disclose eligible subject matter). Claims directed to formatting data are also abstract. *See Dropbox, Inc. v. Synchronoss Techs., Inc.*, 815 F. App'x 529, 537 (Fed. Cir. 2020) (finding claims ineligible that were directed, in part, to “formatting data”). Accordingly, the Court concludes that the character of Claim 3 is abstract.

b. What Problem Does Claim 3 Purport to Solve and *How* Does It Purport to Solve That Problem?

Entropic argues that Claim 3 improves data packet construction in a coaxial cable network.¹¹¹ Entropic further asserts that the use of a “beacon packet,” as required by Claim 3, solves network coordination problems because packets are “robust” and can be

¹⁰⁷ Motion 39:10-11.

¹⁰⁸ Opposition 25:5-6.

¹⁰⁹ *See supra* Part IV.A.2.a.

¹¹⁰ '802 Patent, Claim 3.

¹¹¹ *See* Opposition 30:17-18.

used even in poor channel environments.¹¹² Entropic concludes that Claim 3 discloses an improvement, instead of an abstract idea, because it is directed to “transmitting specific information” “in a specific packet type” “in a specific environment” to overcome problems in the field.¹¹³ Entropic again analogizes the claim to the claim at issue in *Uniloc*.¹¹⁴

Here, Claim 3 differs from the claim at issue in *Uniloc* because it does not require any one specific data field. For instance, Claim 3 allows the user to select “at least five fields from the group consisting of a transmit clock field, packet type field, packet subtype field, version field, source node ID field, destination node ID field, and header check sequence field.”¹¹⁵ It is not clear how selecting any particular set of five fields from that group would bring about the solution to the problem that Entropic identifies. It appears that simply selecting an increasing number (“at least five”) of fields is what causes the improvement, as opposed to the specific field type. Selecting a larger amount of data parameters to improve efficiency does not take this claim out of the abstract realm.

Claim 3 also discloses that a least one packet is “a beacon packet” that includes nine data fields. The Court further considers whether “a beacon packet” renders the claim eligible under Step Two. For the purpose of Step One, a “beacon packet” is still merely a particular organization of data that does not alter the character of the claim. Additionally, although the beacon packet “identifies network timing and essential network control information,” the specification does not disclose that including those fields in a beacon packet, as opposed to in some other configuration, solves a problem in the art.¹¹⁶ Thus, the claim is different from the claim at issue in *Uniloc*, which included an additional field to solve a problem in the art. Entropic alleges only that the formatting of the beacon packet was not known, not that it solves a problem.¹¹⁷

For the foregoing reasons, the Court concludes that Claim 3 is directed to the abstract idea of formatting data packets to include certain information, receiving the formatted data packets, appending information to the packets, and upconverting the packets with transmission information.

¹¹² *Id.* at 30:19-31:9.

¹¹³ *Id.* at 32:5-9.

¹¹⁴ *See supra* Part IV.A.2.b. for a discussion of *Uniloc*.

¹¹⁵ ’802 Patent, Claim 3.

¹¹⁶ *See id.* at 25:13-24.

¹¹⁷ *See* Amended Complaint ¶ 112.

3. *Alice Step Two*

As discussed above, Step Two considers whether the claims include inventive concepts.¹¹⁸ Entropic contends that “formatting a beacon packet with [] specific data fields” was unconventional.¹¹⁹ The specification explains that “there is a need for coordinating network resources, access to the network, and to optimize the communication between [customer premises equipment] CPEs.”¹²⁰ It further remarks that a “beacon packet” is “a packet that is 216 bits in length with an additional 32 bits of CRC data. When a BCN modem is activated, it attempts to locate the network timing by receiving a beacon packet [] which identifies network timing and essential network control information including network admission area, and other information”¹²¹ The specification asserts that “[b]eacon messages are very robust and can be received even in a very poor channel environment.”¹²² However, the portions of the specification that Entropic cites do not explain how specific fields—the ones that the claim lists the beacon packet as including—contribute to the purported solution.

In view of the descriptions in the specification, it appears that a beacon packet includes a certain amount of information but does not necessarily include certain fields. If the beacon packet required certain fields, then Claim 3’s listing of the fields would be redundant. Accordingly, in the absence of allegations in the Amended Complaint, or disclosures in the specification, tying the specific claimed fields to the purported solution, the “beacon packet” requirement, alone, is not unconventional. It simply requires a particular packet size. Entropic’s allegations concerning the beacon packet conclude that the use of the beacon packet with its claimed fields is unconventional, but Entropic does not provide additional explanation or support.¹²³ As discussed above, the ineligible concept—formatting data packets to include certain information—cannot provide the inventive concept. Also, unlike the bit loading technique at issue in the ’518 Patent, the beacon packet is a data structure. Typically, data structures are abstract in nature, and they cannot supply an inventive concept. *See, e.g., Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1350 (Fed. Cir. 2014) (“Data in its ethereal, non-physical form is simply information that does not fall under any of the categories of eligible subject matter under section 101.”). *Adasa Inc. v. Avery Dennison Corp.*, 55 F.4th 900 (Fed. Cir. 2022), does not compel a different outcome. In that case, a claim directed to a

¹¹⁸ *See supra* Part IV.A.3.

¹¹⁹ Opposition 34:12-22.

¹²⁰ ’802 Patent 4:1-3.

¹²¹ *Id.* at 25:13-21.

¹²² *Id.* at 13:15-17.

¹²³ *See* Amended Complaint ¶ 112.

“hardware-based RFID serial number data structure” was valid because it disclosed a unique “one-to-one correspondence” having “important technological consequences.” *Id.* at 908-09. Here, the fact that the beacon packet includes certain fields does not mean the structure is inventive in the same way as the *Adasa* structure.

For the foregoing reasons, the Court concludes that the ’802 Patent is directed to ineligible subject matter under 35 U.S.C. § 101.

F. Leave to Amend

Entropic does not present any basis on which the Complaint could be amended to address the issues raised in the Motion and discussed in this Order. Entropic has already had the opportunity to amend its pleading following DirecTV’s initial filing of this motion.¹²⁴ Accordingly, to the extent that DirecTV’s instant Motion is **GRANTED**, it is granted **without leave to amend**.

G. Joinder Request

Entropic consents to DirecTV’s joinder with respect to the Order regarding Dish’s Motion to Dismiss, but Entropic challenges DirecTV’s joinder with respect to the Order regarding Cox’s Motion to Dismiss. For the reasons discussed in the Cox Order, the Court **DENIES as moot** DirecTV’s joinder request.¹²⁵

V. DISPOSITION

For the foregoing reasons, the Court hereby **ORDERS** as follows:

1. DirecTV’s Motion to Dismiss [ECF No. 160] is **GRANTED** with respect to the ’681 Patent and the ’802 Patent.
2. Counts XII (infringement of the ’681 Patent) and IV (infringement of the ’802 Patent) of the Amended Complaint are **DISMISSED without leave to amend**.

¹²⁴ See DirecTV’s Initial Motion to Dismiss [ECF No. 132] (filed on October 18, 2023); First Amended Complaint [ECF No. 135] (filed on October 18, 2023); Amended Complaint (filed on November 7, 2023). The First Amended Complaint did not include a redline of the amendments, as required by this Court’s Standing Order. Accordingly, Entropic refiled its Amended Complaint.

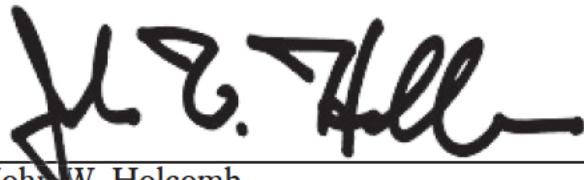
¹²⁵ Cox Order 19-21.

3. DirecTV's instant Motion is **DENIED without prejudice** with respect to the '759 Patent, the '518 Patent, and the '539 Patent.

4. DirecTV's Joinder Request is **DENIED as moot** with respect to Cox's Motion to Dismiss.

IT IS SO ORDERED.

Dated: February 24, 2025



John W. Holcomb
UNITED STATES DISTRICT JUDGE