

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

OYSTER OPTICS, LLC,

Plaintiff,

v.

INFINERA CORPORATION,

Defendant.

Civil Action No. \_\_\_\_

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

This is an action for patent infringement arising under the Patent Laws of the United States of America, 35 U.S.C. § 1 *et seq.* in which Plaintiff Oyster Optics, LLC (“Oyster” or “Plaintiff”) makes the following allegations against Defendant Infinera Corporation (“Infinera” or “Defendant”).

**PARTIES**

1. Oyster Optics, LLC is a Texas company, and has a place of business at 11921 Freedom Drive, Suite 550, Reston, VA 20190.
2. On information and belief, Infinera Corporation is a Delaware corporation with its principal place of business at 140 Caspian Court, Sunnyvale, CA 94089-1000. Infinera also has an office located at 4100 Midway Road, Suite 1120, Carrollton, TX 75007. Infinera can be served through its registered agent, Corporation Service Company DBA CSC-Lawyers INCO,

211 E. 7th Street, Suite 620, Austin, TX 78701. On information and belief, Infinera product(s) power CyrusOne's Texas Internet Exchange (IX), the first statewide IX in the United States.<sup>1</sup>

### **JURISDICTION AND VENUE**

3. This action arises under the patent laws of the United States, Title 35 of the United States Code. Accordingly, this Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

4. This Court has personal jurisdiction over Defendant in this action because, among other reasons, Defendant has committed acts within the Eastern District of Texas giving rise to this action and has established minimum contacts with the forum state of Texas. Defendant directly and/or through subsidiaries or intermediaries (including distributors, retailers, and others), has committed and continues to commit acts of infringement in this District by, among other things, making, using, importing, offering for sale, and/or selling products and/or services that infringe the patents-in-suit. Defendant has, in prior cases, acknowledged the propriety of jurisdiction of this Court, such as in Civil Action No. 2:16-cv-1295 (E.D. Tex. November 23, 2016). Thus, Defendant purposefully availed itself of the benefits of doing business in the State of Texas and the exercise of jurisdiction over Defendant would not offend traditional notions of fair play and substantial justice. Defendant is registered to do business in the State of Texas, and has appointed Corporation Service Company DBA CSC-Lawyers INCO, 211 E. 7th Street, Suite 620, Austin, TX 78701 as its agent for service of process.

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<sup>1</sup> See., e.g., *Global Data Center Solutions Provider CyrusOne Partners with Infinera to Deploy High-Speed Cloud-Based Services in Texas* (March 13, 2013), <https://www.infinera.com/global-data-center-solutions-provider-cyrusone-partners-with-infinera-to-deploy-high-speed-cloud-based-services-in-texas/>.

5. Venue is proper in this District under 28 U.S.C. §§ 1391 (b)-(c) and 1400(b) because Defendant is subject to personal jurisdiction in this District, has transacted business in this District and has committed acts of patent infringement in this District. Furthermore, in prior cases brought in this District, Infinera has not challenged the propriety of venue in this District. *See, e.g.*, Civil Action No. 2:16-cv-1295 (E.D. Tex. November 23, 2016). Infinera also maintains a place of business in this district 4100 Midway Road, Suite 1120, Carrollton, TX 75007.

### **BACKGROUND**

6. In the early 2000s, Oyster Optics, Inc., a research, development, and engineering company, was focused upon innovation in government, commercial, security, and broad-band applications of leading edge fiber optics technology. Mr. Peter (“Rocky”) Snawerdt was at Oyster Optics, Inc. when he invented the subject matter of U.S. Patent Nos. 7,620,327, 8,913,898, and 9,749,040. (collectively, “Asserted Patents” or “patents-in-suit”).

7. Oyster is the owner by assignment of United States Patent No. 7,620,327 (“the ’327 Patent”) entitled “Fiber Optic Telecommunications Card with Energy Level Monitoring.” The ’327 Patent was duly and legally issued by the United States Patent and Trademark Office on November 17, 2009. A true and correct copy of the ’327 Patent is included as Exhibit A.

8. Oyster is the owner by assignment of United States Patent No. 8,913,898 (“the ’898 Patent”) entitled “Fiber Optic Telecommunications Card with Energy Level Monitoring.” The ’898 Patent was duly and legally issued by the United States Patent and Trademark Office on December 16, 2014. A true and correct copy of the ’898 Patent is included as Exhibit B.

9. Oyster is the owner by assignment of United States Patent No. 9,749,040 (“the ’040 Patent”) entitled “Fiber Optic Telecommunications Card with Energy Level Monitoring.”

The '040 Patent was duly and legally issued by the United States Patent and Trademark Office on August 29, 2017. A true and correct copy of the '040 Patent is included as Exhibit C.

**COUNT I**

**INFRINGEMENT OF THE '327 PATENT**

10. Oyster incorporates by reference the foregoing paragraphs of this Complaint.

11. On information and belief, Defendant makes, uses, offers for sale and/or sells in the United States the products and services that infringe various claims of the '327 Patent, and continues to do so. These products include, without limitation, products utilizing Infinera's "Infinite Capacity Engine" ("ICE"). ICE is a "family of optical engines [that deliver] cloud scale capacity for Infinera Intelligent Transport Networks,"<sup>2</sup> ICE Version 4 ("ICE 4") was first introduced in 2016, and ICE version 5 ("ICE 5") was announced this year.<sup>3</sup> ICE 4 "powers a broad range of Infinera products from the compact, disaggregated Cloud Xpress 2 and XT-Series Meshponders to the DTN-X XTC family, serving a wide variety of metro, long haul, and subsea applications." On information and belief, the ICE 4 and ICE 5 drive Infinera's DTN, DTN-X, DTN-X-XTC, FlexILS, and Cloud Xpress platforms. The exemplary products utilizing ICE 4 and ICE 5 named in this paragraph shall be referred to collectively hereinafter as the "Accused Instrumentalities."

12. On information and belief, the Accused Instrumentalities are transceiver cards for a telecommunications box for transmitting data over a first optical fiber and receiving data over a second optical fiber. The various ICE 4 and ICE 5-based modules for transmitting and receiving signals practice this claim element. For example, ICE 4 supports per-channel data rates

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<sup>2</sup> See, e.g., [https://www.infinera.com/wp-content/uploads/2016/03/Infinera-BR\\_Infinite-Capacity-Engine.pdf](https://www.infinera.com/wp-content/uploads/2016/03/Infinera-BR_Infinite-Capacity-Engine.pdf) at 1.

<sup>3</sup> *Id.*

of up to 200GB/s, while ICE 5 supports per-channel data rates of up to 600GB/s.<sup>4</sup> The cards utilizing ICE 4 and ICE 5 are capable, on information and belief, of being installed in a telecommunications box or shelf such as those in the DTN and DTN-X line.

13. On information and belief, the Accused Instrumentalities comprise a transmitter for transmitting data over the first optical fiber, the transmitter having a laser, a modulator and a controller receiving input data and controlling the modulator as a function of the input data, the transmitter transmitting optical signals for telecommunication as a function of the input data. For example, the ICE 4 and ICE 5 support a variety of modulation formats.<sup>5</sup> ICE 4 supports modulation formats “BPSK thru 16QAM,”<sup>6</sup> while ICE 5 supports modulation formats “QPSK thru 64QAM.” Each of at least BPSK and QPSK are modulation formats requiring a phase modulator for phase modulating laser light. In order to generate such signals, the modules using the ICE 4 and ICE 5 must also utilize a laser, a modulator, and controller that receives input data from the client side and modulates the laser light as a function of that input data so that it can be transmitted as an optical signal in either QPSK or BPSK modulation formats.

14. On information and belief, the Accused Instrumentalities comprise a fiber output optically connected to the laser for connecting the first optical fiber to the card.

15. On information and belief, the Accused Instrumentalities comprise a fiber input for connecting the second optical fiber to the card.

16. On information and belief, the Accused Instrumentalities comprise a receiver optically connected to the fiber input for receiving data from the second optical fiber.

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<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

17. On information and belief, the Accused Instrumentalities comprise an energy level detector optically connected between the receiver and the fiber input to measure an energy level of the optical signals, the energy level detector including a threshold indicating a drop in amplitude of a phase-modulated signal. On information and belief, the Accused Products offer a wide range of performance monitoring functions and alarms, including alarms for “loss of signal.” On information and belief, such an alarm requires an energy level detector optically connected between the receiver and the fiber input to measure an energy level of an optical signal. Because amplitude of the signal is directly related to the signal’s energy level, a loss of optical power corresponds to a drop in signal amplitude, which a loss of signal alarm may, on information and belief, indicate.

18. On information and belief, Defendant has directly infringed and continues to directly infringe the ’327 Patent by, among other things, making, using, offering for sale, and/or selling the Accused Instrumentalities. On information and belief, such products and/or services are covered by one or more claims of the ’327 Patent’s including at least claim 14.

19. By making, using, offering for sale, and/or selling the Accused Instrumentalities infringing the ’327 Patent, Defendant has injured Oyster and is liable to Oyster for infringement of the ’327 Patent pursuant to 35 U.S.C. § 271(a) directly and/or under the doctrine of equivalents.

20. In addition, Defendant actively induces others, including without limitation customers and end users of the Accused Instrumentalities, to directly infringe each and every claim limitation, including without limitation claim 14 of the ’327 Patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, Defendant’s customers and/or end users have directly infringed and are directly infringing each and every claim limitation, including without

limitation claim 14 of the '327 Patent. Defendant has actual knowledge of the '327 Patent since at least November 23, 2016, when it was served with a complaint alleging infringement in an earlier action. Defendant is knowingly inducing its customers and/or end users to directly infringe the '327 Patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. Defendant's inducement includes, for example, providing technical guides, product data sheets, demonstrations, software and hardware specifications, installation guides, and other forms of support that induce its customers and/or end users to directly infringe the '327 Patent.

21. To the extent facts learned in discovery show that Defendant's infringement of the '327 Patent is or has been willful, Oyster reserves the right to request such a finding at time of trial.

22. As a result of Defendant's infringement of the '327 Patent, Oyster has suffered monetary damages in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendant, together with interest and costs as fixed by the Court, and Oyster will continue to suffer damages in the future unless Defendant's infringing activities are enjoined by this Court.

23. Unless a permanent injunction is issued enjoining Defendant and its agents, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '327 Patent, Oyster will be greatly and irreparably harmed.

## **COUNT II**

### **INFRINGEMENT OF THE '898 PATENT**

24. Oyster incorporates by reference the foregoing paragraphs of this Complaint.

25. On information and belief, Defendant makes, uses, offers for sale and/or sells in the United States the Accused Instrumentalities.

26. On information and belief, the Accused Instrumentalities comprise a transceiver card for a telecommunications box for transmitting data over a first optical fiber and receiving data over a second optical fiber. The various ICE 4 and ICE 5-based modules for transmitting and receiving signals practice this claim element. For example, ICE 4 supports per-channel data rates of up to 200GB/s, while ICE 5 supports per-channel data rates of up to 600GB/s.<sup>7</sup> The cards utilizing ICE 4 and ICE 5 are capable, on information and belief, of being installed in a telecommunications box or shelf such as those in the DTN and DTN-X line.

27. On information and belief, the Accused Instrumentalities comprise a transmitter having a laser, a modulator, and a controller configured to receive input data and control the modulator to generate a first optical signal as a function of the input data. For example, the ICE 4 and ICE 5 support a variety of modulation formats.<sup>8</sup> ICE 4 supports modulation formats “BPSK thru 16QAM,”<sup>9</sup> while ICE 5 supports modulation formats “QPSK thru 64QAM.” Each of at least BPSK and QPSK are modulation formats requiring a phase modulator for phase modulating laser light. In order to generate such signals, the modules using the ICE 4 and ICE 5 must also utilize a laser, a modulator, and controller that receives input data from the client side and modulates the laser light as a function of that input data so that it can be transmitted as an optical signal in either QPSK or BPSK modulation formats.

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<sup>7</sup> See, e.g., [https://www.infinera.com/wp-content/uploads/2016/03/Infinera-BR\\_Infinite-Capacity-Engine.pdf](https://www.infinera.com/wp-content/uploads/2016/03/Infinera-BR_Infinite-Capacity-Engine.pdf) at 1.

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*



28. On information and belief, the Accused Instrumentalities comprise a fiber output optically connected to the transmitter and configured to optically connect the first optical fiber to the transceiver card.

29. On information and belief, the Accused Instrumentalities comprise a receiver configured to receive a second optical signal from the second optical fiber and to convert the second optical signal to output data.

30. On information and belief, the Accused Instrumentalities comprise a fiber input optically connected to the receiver and configured to optically connect the second optical fiber to the transceiver card.

31. On information and belief, the Accused Instrumentalities comprise an energy level detector optically connected between the receiver and the fiber input to measure an energy level of the second optical signal, wherein the energy level detector includes a plurality of thresholds. the Accused Products offer a wide range of performance monitoring functions and alarms, including alarms for “loss of signal.” On information and belief, such an alarm requires an energy level detector optically connected between the receiver and the fiber input to measure an energy level of an optical signal. Furthermore, on information and belief such an alarm is triggered by failure of the incoming optical signal to meet a certain thresholds.

32. On information and belief, Defendant has directly infringed and continues to directly infringe the '898 Patent by, among other things, making, using, offering for sale, and/or selling the Accused Instrumentalities. On information and belief, such products and/or services are covered by one or more claims of the '898 Patent's including at least claim 1.

33. By making, using, offering for sale, and/or selling the Accused Instrumentalities infringing the '898 Patent, Defendant has injured Oyster and is liable to Oyster for infringement

of the '898 Patent pursuant to 35 U.S.C. § 271(a) directly and/or under the doctrine of equivalents.

34. In addition, Defendant actively induces others, including without limitation customers and end users of the Accused Instrumentalities, to directly infringe each and every claim limitation, including without limitation claim 1 of the '898 Patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, Defendant's customers and/or end users have directly infringed and are directly infringing each and every claim limitation, including without limitation claim 1 of the '898 Patent. Defendant has actual knowledge of the '898 Patent since at least November 23, 2016, when it was served with a complaint alleging infringement in an earlier action. Defendant is knowingly inducing its customers and/or end users to directly infringe the '898 Patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. Defendant's inducement includes, for example, providing technical guides, product data sheets, demonstrations, software and hardware specifications, installation guides, and other forms of support that induce its customers and/or end users to directly infringe the '898 Patent.

35. To the extent facts learned in discovery show that Defendant's infringement of the '898 Patent is or has been willful, Oyster reserves the right to request such a finding at time of trial.

36. As a result of Defendant's infringement of the '898 Patent, Oyster has suffered monetary damages in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendant, together with interest and costs as fixed by the Court, and Oyster will continue to suffer damages in the future unless Defendant's infringing activities are enjoined by this Court.

37. Unless a permanent injunction is issued enjoining Defendant and its agents, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '898 Patent, Oyster will be greatly and irreparably harmed.

### **COUNT III**

#### **INFRINGEMENT OF THE '040 PATENT**

38. Oyster incorporates by reference the foregoing paragraphs of this Complaint.

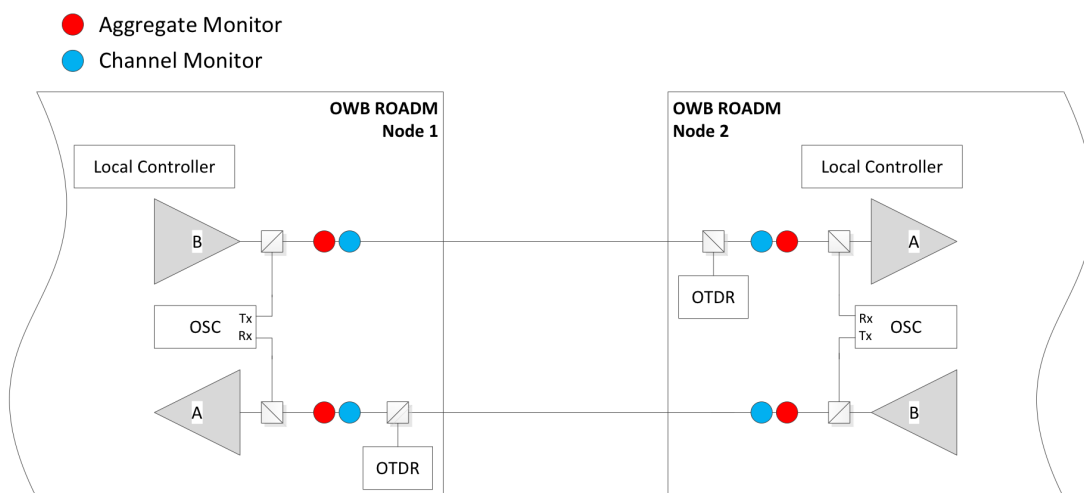
39. On information and belief, Defendant makes, uses, offers for sale and/or sells in the United States products infringe various claims of the '040 Patent, and continues to do so. These products include without limitation Infinera's DTN Family, DTN-X Family, Cloud Xpress Family, and Transmode's TM-4000 platforms,<sup>10</sup> as well as the 100G OTN Muxponder, Infinera 100G OTN Transponder, Infinera 100G OTN Transponder/II, Infinera EMXP IIe packet-optical transport switch Family, and the Infinera PT-Fabric packet-optical transport switch products and the compatible chassis in which they are installed, including without limitation the TM-300, TM-3000/II, TM-301, and TM-301/II. The exemplary infringing products named in this paragraph shall be referred to hereinafter as the "'040 Accused Instrumentalities."

40. On information and belief, the '040 Accused Instrumentalities practice a telecommunications monitoring method of sending an outgoing optical signal from a downstream termination point of an optical fiber, the downstream termination point located within an optical multiplexor box. The '040 Accused Instrumentalities, on information and

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<sup>10</sup> See, e.g., *Products Overview*, INFINERA CORPORATION, <https://www.infinera.com/products/overview/> (last visited Oct. 26, 2016); *The Infinera Intelligent Transport Network Portfolio*, INFINERA CORPORATION, <https://www.infinera.com/wp-content/uploads/2015/07/infinera-br-product-overview-transport-networks.pdf> (last visited Oct. 26, 2016); *DTN*, INFINERA CORPORATION, <https://www.infinera.com/products/infinera-dtn/> (last visited Oct. 26, 2016).

belief, are designed in accordance with the Open Reconfigurable Optical Add-Drop Multiplexer (“ROADM”) Multi-Source Agreement (“Open ROADM MSA”). Infinera is a member of the Open ROADM group.<sup>11</sup> On information and belief, ROADM describes systems wherein components for sending and terminating optical signals are located within an optical multiplexor box. The figure below depicts a product designed in accordance with the Open ROADM MSA, which shows receipt of optical signals at downstream termination points located within an optical multiplexor box (OWB ROADM Nodes 1 and 2).<sup>12</sup>



41. On information and belief, the ‘040 Accused Instrumentalities practice the step receiving an incoming signal, comprising a reflection of the outgoing optical signal, at the downstream termination point. On information and belief, and for the reasons stated above, the ‘040 Accused Instrumentalities operate in compliance with the Open ROADM MSA. As depicted above in the figure from the Open ROADM MSA, the incoming optical signal arrives at the downstream termination point, and the boxes labelled “OTDR” in Nodes 1 and 2. These boxes receive, on information and belief, a reflection of the outgoing optical signal.

<sup>11</sup> <http://www.openroadm.org/home.html>.

<sup>12</sup> See, e.g., 20171121a-Open-ROADM-MSA-specification-ver-2-00.xlsx, available at <http://www.openroadm.org/download.html>.

42. On information and belief, the '040 Accused Instrumentalities practice the step of splitting, within the optical multiplexor box, the incoming optical signal into a data optical signal and a test optical signal. On information and belief, and for the reasons stated above, the '040 Accused Instrumentalities operate in compliance with the Open ROADM MSA. As depicted above in the figure from the Open ROADM MSA, the incoming optical signal is split at the boxes labelled "OTDR" in both Node 1 and Node 2. On information and belief, one of those split signals is a test optical signal, and the other is a data optical signal.

43. On information and belief, the '040 Accused Instrumentalities perform the step of receiving the test optical signal by an optical time domain reflectometer ("OTDR") module within the optical multiplexor box. On information and belief, and for the reasons stated above, the '040 Accused Instrumentalities operate in compliance with the Open ROADM MSA. As depicted above in the figure from the Open ROADM MSA, the incoming optical signal is received at an optical time domain reflectometer ("OTDR"). For example, OTDRs are depicted in both node 1 and node 2.

44. On information and belief, the '040 Accused Instrumentalities perform the step of processing the test optical signal, by the OTDR module, to test for a breach in the optical fiber associated with the outgoing optical signal. On information and belief, and for the reasons stated above, the '040 Accused Instrumentalities operate in compliance with the Open ROADM MSA. As depicted above in the figure from the Open ROADM MSA, the OTDR splits the incoming optical signal at the OTDR boxes, and on information and belief processes the split signal to test for, among other things, a breach in the optical fiber.

45. On information and belief, Defendant has directly infringed and continues to directly infringe the '040 Patent by, among other things, making, using, offering for sale, and/or

selling the Accused Instrumentalities. On information and belief, such products and/or services are covered by one or more claims of the '040 Patent, including at least claim 1. On information and belief, Defendant also sold and offered for sale other products that also infringe in a substantially similar manner.

46. By making, using, offering for sale, and/or selling the '040 Accused Instrumentalities infringing the '040 Patent, Defendant has injured Oyster and is liable to Oyster for infringement of the '040 Patent pursuant to 35 U.S.C. § 271(a) directly and/or under the doctrine of equivalents.

47. In addition, Defendant is actively inducing others, such as its customers and end users of Accused Instrumentalities, services based thereupon, and related products and/or processes, to directly infringe each and every claim limitation, including without limitation claim 1 of the '040 Patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, Defendant's customers and/or end users have directly infringed and are directly infringing each and every claim limitation, including without limitation claim 1 of the '040 Patent. Defendant has actual knowledge of the '040 Patent at least as of service of this Complaint. Defendant is knowingly inducing its customers and/or end users to directly infringe the '040 Patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. Defendant's inducement includes, for example, providing technical guides, product data sheets, demonstrations, software and hardware specifications, installation guides, and other forms of support that induce its customers and/or end users to directly infringe the '040 Patent.

48. To the extent facts learned in discovery show that Defendant's infringement of the '040 Patent is or has been willful, Oyster reserves the right to request such a finding at time of trial.

49. As a result of Defendant's infringement of the '040 Patent, Oyster has suffered monetary damages in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendant, together with interest and costs as fixed by the Court, and Oyster will continue to suffer damages in the future unless Defendant's infringing activities are enjoined by this Court.

50. Unless a permanent injunction is issued enjoining Defendant and its agents, employees, representatives, affiliates, and all others acting or in active concert therewith from infringing the '040 Patent, Oyster will be greatly and irreparably harmed.

#### **PRAYER FOR RELIEF**

Plaintiff respectfully requests the following relief from this Court:

A. A judgment that Defendant has infringed one or more claims of any of the Asserted Patents;

B. A permanent injunction enjoining Defendant and its officers, directors, agents, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert or participation with Defendant, from infringing any of the Asserted Patents;

C. A judgment and order requiring Defendant to pay Oyster its damages, costs, expenses, and prejudgment and post-judgment interest for Defendant's acts of infringement in accordance with 35 U.S.C. § 284;

D. A judgment and order requiring Defendant to provide accountings and to pay supplemental damages to Oyster, including, without limitation, prejudgment and post-judgment

interest;

E. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Oyster its reasonable attorneys' fees against Defendant; and

F. Any and all other relief to which Oyster may show itself to be entitled.

**JURY TRIAL DEMANDED**

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Oyster requests a trial by jury of any issues so triable by right.

Dated: May 15, 2018

Respectfully submitted,

/s/ Marc A. Fenster

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