

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

TQ DELTA, LLC,)	
)	
Plaintiff,)	C.A. No. 13-cv-1835-RGA
)	
v.)	
)	JURY TRIAL DEMANDED
PACE AMERICAS, LLC,)	
PACE PLC, and 2WIRE, INC.)	
)	
Defendants.)	

SECOND AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff, TQ Delta, LLC, for its Second Amended Complaint against Defendants, Pace Americas, LLC, Pace plc, and 2Wire, Inc., alleges as follows:

THE PARTIES

1. TQ Delta, LLC (“TQ Delta” or “Plaintiff”) is a limited liability company organized and existing under the laws of the State of Delaware and having a principal place of business at 805 Las Cimas Parkway, Suite 240, Austin, Texas 78746.

2. Upon information and belief, Pace Americas, LLC (“Pace Americas” or “Defendants” when referring to the defendants collectively), formerly known as Pace Americas, Inc., is a limited liability company organized and existing under the laws of the State of Delaware and having a principal place of business at 3701 FAU Boulevard, Suite 200, Boca Raton, Florida 33431.

3. Upon information and belief, Pace plc (“Pace plc” or “Defendants” when referring to the defendants collectively) is a corporation organized and existing under the laws of the United Kingdom and having a principal place of business at Victoria Road, Saltaire, West Yorkshire, BD18 3LF, England.

TQ Delta Exhibit 2001
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4. Upon information and belief, 2Wire, Inc. (“2Wire” or “Defendants” when referring to the defendants collectively) is a corporation organized and existing under the laws of the State of Delaware and having a principal place of business at 1764 Automation Parkway, San Jose, California 95131. Pace plc owns and controls Pace Americas and 2Wire.

JURISDICTION AND VENUE

5. This action is for patent infringement under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

6. This Court has subject matter jurisdiction over this dispute pursuant to 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over Defendants at least because Pace Americas and 2Wire are incorporated in Delaware and Defendants make, use, sell, offer for sale, and/or import infringing products into this jurisdiction and/or otherwise benefit from such acts of infringement in this jurisdiction.

8. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391 and 1400(b) at least because Defendant Pace Americas and 2Wire are incorporated in Delaware and because Defendants regularly conduct business in this venue at least through Pace Americas and 2Wire.

BACKGROUND

9. TQ Delta is the owner by assignment of a portfolio of patents relating to digital subscriber line (“DSL”) technology, including for example asymmetric digital subscriber line (“ADSL”) technology and very-high-bit-rate digital subscriber line (“VDSL”) technology.

10. DSL technology is used to provide broadband access to data networks, such as the Internet, via copper wires of a local telephone network. More recently, DSL has been used by telephone carriers to deliver video services to subscribers.

11. Inventors of the patents at issue in this case have been substantial contributors of valuable technology to various DSL-related standards on behalf of TQ Delta and, previously, Aware, Inc., a world-leading innovator and provider of DSL technologies.

12. Defendants make, use, sell, offer for sale, and/or import customer premise equipment (“CPE”) products, including without limitation gateways, that operate in accordance with various DSL-related standards (“DSL CPE Products”).

13. TQ Delta attempted to negotiate a license with Defendants under TQ Delta’s DSL patent portfolio. On July 15, 2013, TQ Delta sent a first letter to Defendants, including an overview of TQ Delta’s DSL patent portfolio and an invitation to open licensing discussions. TQ Delta requested Defendants’ response by July 31, 2013.

14. Having received no response by July 31, 2013, TQ Delta sent a follow-up letter to Defendants on August 6, 2013, which requested Defendants’ response by August 23, 2013.

15. Having received no response, on August 23, 2013, TQ Delta sent a follow-up email to Defendants and again invited Defendants to engage in licensing discussions. This email further explained that “the use of one or more patent claims in [TQ Delta’s DSL patent] portfolio may be required to practice or otherwise comply with certain DSL-related Recommendations, Deliverables, and/or standards” and that “TQ Delta is willing to negotiate a license with Pace on a non-discriminatory basis on reasonable terms and conditions with respect to any such standard-essential patent claims.”

16. TQ Delta made a good-faith effort to negotiate a license with Defendants under TQ Delta’s DSL patent portfolio but those efforts were frustrated by Defendants’ delay and refusal to enter into an agreement with reasonable terms that would have allowed the parties to attempt to resolve their dispute outside the context of litigation.

17. Defendants have never applied for a license under TQ Delta's DSL patent portfolio.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 8,090,008

18. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

19. On January 3, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,090,008 (“the ‘008 patent”), entitled “System and Method for Scrambling the Phase of the Carriers in a Multicarrier Communications System.” TQ Delta is the owner and assignee of the ‘008 patent. A copy of the ‘008 patent is attached as Exhibit 1.

20. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘008 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

21. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘008 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘008 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to Internet Service Providers (“ISPs”) and/or their customers with the intent to encourage those customers to infringe the ‘008 patent.

22. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘008 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the ‘008 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in

practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '008 patent.

23. As a result of Defendants' infringement of the '008 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 8,073,041

24. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

25. On December 6, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,073,041 ("the '041 patent"), entitled "System and Method for Descrambling the Phase of the Carriers in a Multicarrier Communications System." TQ Delta is the owner and assignee of the '041 patent. A copy of the '041 patent is attached as Exhibit 2.

26. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '041 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

27. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '041 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more

claims of the '041 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '041 patent.

28. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '041 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '041 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '041 patent.

29. As a result of Defendants' infringement of the '041 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 7,292,627

30. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

31. On November 6, 2007, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,292,627 ("the '627 patent"), entitled "System and Method for Scrambling the Phase of the Carriers in a Multicarrier Communications System." TQ Delta is the owner and assignee of the '627 patent. A copy of the '627 patent is attached as Exhibit 3.

32. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '627 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

33. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '627 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '627 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '627 patent.

34. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '627 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '627 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '627 patent.

35. As a result of Defendants' infringement of the '627 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event

less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 7,471,721

36. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

37. On December 30, 2008, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,471,721 (“the ‘721 patent”), entitled “System and Method for Scrambling the Phase of the Carriers in a Multicarrier Communications System.” TQ Delta is the owner and assignee of the ‘721 patent. A copy of the ‘721 patent is attached as Exhibit 4.

38. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘721 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

39. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘721 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘721 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘721 patent.

40. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘721 patent (at least as of the filing of the

Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the ‘721 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘721 patent.

41. As a result of Defendants’ infringement of the ‘721 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT V – INFRINGEMENT OF U.S. PATENT NO. 8,218,610

42. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

43. On July 10, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,218,610 (“the ‘610 patent”), entitled “System and Method for Descrambling the Phase of Carriers in a Multicarrier Communications System.” TQ Delta is the owner and assignee of the ‘610 patent. A copy of the ‘610 patent is attached as Exhibit 5.

44. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘610 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

45. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '610 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '610 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '610 patent.

46. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '610 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '610 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '610 patent.

47. As a result of Defendants' infringement of the '610 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT VI – INFRINGEMENT OF U.S. PATENT NO. 8,355,427

48. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

49. On January 15, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,355,427 (“the ‘427 patent”), entitled “System and Method for Descrambling the Phase of Carriers in a Multicarrier Communications System.” TQ Delta is the owner and assignee of the ‘427 patent. A copy of the ‘427 patent is attached as Exhibit 6.

50. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘427 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

51. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘427 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘427 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘427 patent.

52. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘427 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the ‘427 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial

non-infringing use, and are especially made or especially adapted for use in an infringement of the '427 patent.

53. As a result of Defendants' infringement of the '427 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT VII – INFRINGEMENT OF U.S. PATENT NO. 7,453,881

54. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

55. On November 18, 2008, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,453,881 ("the '881 patent"), entitled "Systems and Methods for Multipair ATM Over DSL." TQ Delta is the owner and assignee of the '881 patent. A copy of the '881 patent is attached as Exhibit 7.

56. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '881 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T G.bond standard (e.g., G.998.1, G.998.2).

57. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '881 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '881 patent by selling, providing support for, and/or providing instructions for use

of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '881 patent.

58. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '881 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '881 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '881 patent.

59. As a result of Defendants' infringement of the '881 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT VIII – INFRINGEMENT OF U.S. PATENT NO. 7,978,706

60. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

61. On July 12, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,978,706 ("the '706 patent"), entitled "Combining Multiple DSL Transceivers for a High Data Rate Connection." TQ Delta is the owner and assignee of the '706 patent. A copy of the '706 patent is attached as Exhibit 8.

62. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the '706 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products that operate in accordance with the ITU-T G.bond standard (e.g., G.998.1, G.998.2).

63. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '706 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '706 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '706 patent.

64. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '706 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '706 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '706 patent.

65. As a result of Defendants' infringement of the '706 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event

less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT IX – INFRINGEMENT OF U.S. PATENT NO. 8,422,511

66. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

67. On April 16, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,422,511 (“the ‘511 patent”), entitled “Systems and Methods for Multi-pair ATM Over DSL.” TQ Delta is the owner and assignee of the ‘511 patent. A copy of the ‘511 patent is attached as Exhibit 9.

68. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘511 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products that operate in accordance with the ITU-T G.bond standard (e.g., G.998.1, G.998.2).

69. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘511 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘511 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘511 patent.

70. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘511 patent (at least as of the filing of the

Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the ‘511 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘511 patent.

71. As a result of Defendants’ infringement of the ‘511 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT X – INFRINGEMENT OF U.S. PATENT NO. 7,889,784

72. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

73. On February 15, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,889,784 (“the ‘784 patent”), entitled “Multicarrier Modulation Messaging for SNR Per Subchannel During Showtime Information.” TQ Delta is the owner and assignee of the ‘784 patent. A copy of the ‘784 patent is attached as Exhibit 10.

74. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘784 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

75. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '784 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '784 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '784 patent.

76. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '784 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '784 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '784 patent.

77. As a result of Defendants' infringement of the '784 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XI – INFRINGEMENT OF U.S. PATENT NO. 7,835,430

78. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

79. On November 16, 2010, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,835,430 (“the ‘430 patent”), entitled “Multicarrier Modulation Messaging for Frequency Domain Received Idle Channel Noise Information.” TQ Delta is the owner and assignee of the ‘430 patent. A copy of the ‘430 patent is attached as Exhibit 11.

80. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘430 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

81. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘430 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘430 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘430 patent.

82. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘430 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the ‘430 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial

non-infringing use, and are especially made or especially adapted for use in an infringement of the '430 patent.

83. As a result of Defendants' infringement of the '430 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XII – INFRINGEMENT OF U.S. PATENT NO. 7,570,686

84. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

85. On August 4, 2009, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,570,686 ("the '686 patent"), entitled "Systems and Methods For Establishing a Diagnostic Transmission Mode and Communicating Over the Same." TQ Delta is the owner and assignee of the '686 patent. A copy of the '686 patent is attached as Exhibit 12.

86. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '686 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

87. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '686 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '686 patent by selling, providing support for, and/or providing instructions for use

of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '686 patent.

88. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '686 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '686 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '686 patent.

89. As a result of Defendants' infringement of the '686 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XIII – INFRINGEMENT OF U.S. PATENT NO. 8,238,412

90. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

91. On August 7, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,238,412 ("the '412 patent"), entitled "Multicarrier Modulation Messaging for Power Level Per Subchannel Information." TQ Delta is the owner and assignee of the '412 patent. A copy of the '412 patent is attached as Exhibit 13.

92. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '412 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

93. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '412 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '412 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '412 patent.

94. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '412 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '412 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '412 patent.

95. As a result of Defendants' infringement of the '412 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event

less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XIV – INFRINGEMENT OF U.S. PATENT NO. 8,432,956

96. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

97. On April 30, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,432,956 (“the ‘2,956 patent”), entitled “Multicarrier Modulation Messaging for Power Level Per Subchannel Information.” TQ Delta is the owner and assignee of the ‘2,956 patent. A copy of the ‘2,956 patent is attached as Exhibit 14.

98. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘2,956 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

99. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘2,956 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘2,956 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘2,956 patent.

100. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘2,956 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in

violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the ‘2,956 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘2,956 patent.

101. As a result of Defendants’ infringement of the ‘2,956 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XV – INFRINGEMENT OF U.S. PATENT NO. 7,451,379

102. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

103. On November 11, 2008, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,451,379 (“the ‘379 patent”), entitled “CRC Counter Normalization.” TQ Delta is the owner and assignee of the ‘379 patent. A copy of the ‘379 patent is attached as Exhibit 15.

104. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘379 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

105. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘379 patent (at least as of the filing of the

Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘379 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘379 patent.

106. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘379 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the ‘379 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘379 patent.

107. As a result of Defendants’ infringement of the ‘379 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XVI – INFRINGEMENT OF U.S. PATENT NO. 8,516,337

108. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

109. On August 20, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,516,337 (“the ‘337 patent”), entitled “CRC Counter

Normalization.” TQ Delta is the owner and assignee of the ‘337 patent. A copy of the ‘337 patent is attached as Exhibit 16.

110. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘337 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

111. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘337 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘337 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘337 patent.

112. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘337 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the ‘337 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘337 patent.

113. As a result of Defendants' infringement of the '337 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XVII – INFRINGEMENT OF U.S. PATENT NO. 7,979,778

114. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

115. On July 12, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,979,778 ("the '778 patent"), entitled "CRC Counter Normalization." TQ Delta is the owner and assignee of the '778 patent. A copy of the '778 patent is attached as Exhibit 17.

116. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the '778 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

117. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '778 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '778 patent by selling, providing support for, and/or providing instructions for use

of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘778 patent.

118. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘778 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the ‘778 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘778 patent.

119. As a result of Defendants’ infringement of the ‘778 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XVIII – INFRINGEMENT OF U.S. PATENT NO. 7,925,958

120. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

121. On April 12, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,925,958 (“the ‘958 patent”), entitled “CRC Counter Normalization.” TQ Delta is the owner and assignee of the ‘958 patent. A copy of the ‘958 patent is attached as Exhibit 18.

122. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘958 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

123. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘958 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘958 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘958 patent.

124. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘958 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the ‘958 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘958 patent.

125. As a result of Defendants' infringement of the '958 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XIX – INFRINGEMENT OF U.S. PATENT NO. 8,462,835

126. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

127. On June 11, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,462,835 ("the '835 patent"), entitled "Impulse Noise Management." TQ Delta is the owner and assignee of the '835 patent. A copy of the '835 patent is attached as Exhibit 19.

128. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '835 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

129. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '835 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '835 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '835 patent.

130. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '835 patent (at least as of the filing of the Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '835 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '835 patent.

131. As a result of Defendants' infringement of the '835 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XX – INFRINGEMENT OF U.S. PATENT NO. 7,836,381

132. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

133. On November 16, 2010, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,836,381 ("the '381 patent"), entitled "Computer Readable Medium with Instructions for Resource Sharing in a Telecommunications Environment." TQ Delta is the owner and assignee of the '381 patent. A copy of the '381 patent is attached as Exhibit 20.

134. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are

directly infringing the '381 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

135. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '381 patent (at least as of the filing of the First Amended Complaint and/or previously at least by willful blindness or otherwise), Defendant, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '381 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '381 patent.

136. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '381 patent (at least as of the filing of the First Amended Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '381 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '381 patent.

137. As a result of Defendants' infringement of the '381 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XXI – INFRINGEMENT OF U.S. PATENT NO. 7,844,882

138. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

139. On November 30, 2010, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,844,882 (“the ‘882 patent”), entitled “Resource Sharing in a Telecommunications Environment.” TQ Delta is the owner and assignee of the ‘882 patent. A copy of the ‘882 patent is attached as Exhibit 21.

140. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘882 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

141. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘882 patent (at least as of the filing of the First Amended Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘882 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘882 patent.

142. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘882 patent (at least as of the filing of the First Amended Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are

contributorily infringing, the '882 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '882 patent.

143. As a result of Defendants' infringement of the '882 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XXII – INFRINGEMENT OF U.S. PATENT NO. 8,276,048

144. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

145. On September 25, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,276,048 ("the '048 patent"), entitled "Resource Sharing in a Telecommunications Environment." TQ Delta is the owner and assignee of the '048 patent. A copy of the '048 patent is attached as Exhibit 22.

146. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '048 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

147. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '048 patent (at least as of the filing of the

First Amended Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '048 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '048 patent.

148. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '048 patent (at least as of the filing of the First Amended Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '048 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '048 patent.

149. As a result of Defendants' infringement of the '048 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XXIII – INFRINGEMENT OF U.S. PATENT NO. 8,495,473

150. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this Second Amended Complaint.

151. On July 23, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,495,473 ("the '473 patent"), entitled "Resource Sharing in a

Telecommunications Environment.” TQ Delta is the owner and assignee of the ‘473 patent. A copy of the ‘473 patent is attached as Exhibit 23.

152. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘473 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

153. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘473 patent (at least as of the filing of the First Amended Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘473 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘473 patent.

154. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘473 patent (at least as of the filing of the First Amended Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the ‘473 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘473 patent.

155. As a result of Defendants' infringement of the '473 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

COUNT XXIV – INFRINGEMENT OF U.S. PATENT NO. 7,831,890

156. TQ Delta hereby incorporates by reference Paragraphs 1 through 17 of this second Amended Complaint.

157. On November 9, 2010, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,831,890 ("the '890 patent"), entitled "Resource Sharing in a Telecommunications Environment." TQ Delta is the owner and assignee of the '890 patent. A copy of the '890 patent is attached as Exhibit 24.

158. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the '890 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

159. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '890 patent (at least as of the filing of the First Amended Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '890 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '890 patent.

160. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '890 patent (at least as of the filing of the First Amended Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271 (c), have contributorily infringed, and are contributorily infringing, the '890 patent, by selling DSL CPE Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '890 patent.

161. As a result of Defendants' infringement of the '890 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

PRAYER FOR RELIEF

WHEREFORE, TQ Delta, respectfully requests that the following relief:

A. That the Court enter judgment in favor of TQ Delta that Defendants have infringed TQ Delta's '008 patent, '041 patent, '627 patent, '721 patent, '610 patent, '427 patent, '881 patent, '706 patent, '511 patent, '784 patent, '430 patent, '686 patent, '412 patent, '2,956 patent, '379 patent, '337 patent, '778 patent, '958 patent, '835 patent; '381 patent, '882 patent, '048 patent, '473 patent, and '890 patent;

B. That the Court enter an order declaring that Plaintiff has complied with any RAND obligations and further enter a permanent injunction under 35 U.S.C. § 283 enjoining Defendants and its officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert or participation with it, from infringement of TQ Delta's '008 patent, '041 patent, '627 patent, '721 patent, '610 patent, '427 patent, '881 patent, '706 patent, '511 patent, '784 patent, '430 patent, '686 patent, '412 patent, '2,956 patent, '379 patent, '337 patent, '778 patent, '958 patent, '835 patent, '381 patent, '882 patent, '048 patent, '473 patent, and '890 patent;

C. That the Court enter a judgment and order under 35 U.S.C. § 284 requiring Defendants to pay TQ Delta its damages, costs, expenses, and pre-judgment and post-judgment interest for Defendant's infringement of TQ Delta's '008 patent, '041 patent, '627 patent, '721 patent, '610 patent, '427 patent, '881 patent, '706 patent, '511 patent, '784 patent, '430 patent, '686 patent, '412 patent, '2,956 patent, '379 patent, '337 patent, '778 patent, '958 patent, '835 patent, '381 patent, '882 patent, '048 patent, '473 patent, and '890 patent;

D. That the Court find this case exceptional under 35 U.S.C. § 285, and award TQ Delta its costs and fees in this action, including reasonable attorneys' fees and pre-judgment interest thereon; and

E. That the Court grant TQ Delta such other and further relief as it deems just and proper.

DEMAND FOR JURY TRIAL

TQ Delta, pursuant to Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable.

DATED: January 30, 2014

Respectfully submitted,

FARNAN LLP

/s/ Brian E. Farnan

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