

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

INTELLECTUAL VENTURES I LLC and
INTELLECTUAL VENTURES II LLC,

Plaintiffs,

v.

TOSHIBA CORPORATION, TOSHIBA
AMERICA, INC., TOSHIBA AMERICA
ELECTRONIC COMPONENTS, INC., and
TOSHIBA AMERICA INFORMATION
SYSTEMS, INC.,

Defendants.

Civil Action No. 13-cv-453-SLR-SRF

JURY TRIAL DEMANDED

AMENDED COMPLAINT

Plaintiffs Intellectual Ventures I LLC (“Intellectual Ventures I”) and Intellectual Ventures II LLC (“Intellectual Ventures II”) (collectively “Intellectual Ventures”), for their Complaint against Defendants Toshiba Corporation, Toshiba America, Inc., Toshiba America Electronic Components, Inc., and Toshiba America Information Systems, Inc., hereby allege as follows:

The Parties

1. Plaintiff Intellectual Ventures I is a Delaware limited liability company with its principal place of business in Bellevue, Washington.
2. Plaintiff Intellectual Ventures II is a Delaware limited liability company with its principal place of business in Bellevue, Washington.
3. Defendant Toshiba Corporation (“Toshiba Corp.”) is a Japanese corporation with its principal place of business at 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan.

4. Defendant Toshiba America, Inc. (“TAI”) is a Delaware corporation with its principal place of business at 1251 Avenue of the Americas, Suite 4110, New York, New York 10020. Upon information and belief, TAI is a holding company for Toshiba Corp. and is controlled by and/or acts as an agent of Toshiba Corp.

5. Defendant Toshiba America Electronic Components, Inc. (“TAEC”) is a California corporation with its principal place of business at 19900 MacArthur Boulevard, Suite 400, Irvine, California 92612. Upon information and belief, TAEC is a subsidiary of TAI and is controlled by and/or acts as an agent of Toshiba Corp. and TAI.

6. Defendant Toshiba America Information Systems, Inc. (“TAIS”) is a California corporation with its principal place of business at 9740 Irvine Boulevard, Irvine, California 92618. Upon information and belief, TAIS is a subsidiary of TAI and is controlled by and/or acts as an agent of Toshiba Corp. and TAI.

7. Upon information and belief, Toshiba Corp. operates in the United States through its holding company TAI and various operating companies such as TAEC and TAIS, with a combined total of approximately 8,000 employees in the United States. For example, TAEC markets and sells flash memory-based storage solutions, solid state drives (SSDs), hard disk drives (HDDs), optical disk drives (ODDs), a broad range of discrete devices, displays, medical tubes, ASICs/custom SOCs, microprocessors, microcontrollers and wireless components for the computing, wireless, networking, automotive, and digital consumer markets. TAIS markets and sells consumer electronics products and solutions, including laptops and netbooks, LCD and LED televisions, blu-ray and DVD players, camcorders, imaging products for the security, medical, and manufacturing markets, storage products for automotive, computer, and consumer electronics applications, and telephony equipment and associated applications.

8. Toshiba Corp., TAI, TAEC, and TAIS acted jointly and collectively to make, use, sell, offer for sale, and/or import products that infringe patents owned by Intellectual Ventures I and Intellectual Ventures II, including without limitation, flash memory products, USB host controller products, microcontroller products, and/or hard drive products, either directly or indirectly through their subsidiaries or affiliates, to customers throughout the United States, including in this district. Toshiba Corp., TAI, TAEC, and TAIS are referred to collectively herein as “Toshiba.”

Nature Of The Action

9. This is a civil action for infringement of ten United States patents, arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

Jurisdiction And Venue

10. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

11. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391 and 1400(b), because the defendants reside in this district, are subject to personal jurisdiction in this district, and have committed acts of infringement in this district.

12. Joinder of the defendants in this case is proper under 35 U.S.C. § 299 because the defendants acted jointly and collectively to make, use, distribute, market, sell, offer for sale, import, and/or induce the use of infringing flash memory products, USB host controller products, microcontroller products, and/or hard drive products, and/or material parts thereof. At least some of Intellectual Ventures I’s and Intellectual Ventures II’s right to relief is joint, several, and/or in the alternative against the defendants and is with respect to or arises from the same transaction, occurrence, or series of transactions or occurrences relating to the same accused products or

processes. Intellectual Ventures I's and Intellectual Ventures II's claims against the defendants share an aggregate of operative facts and common questions of fact will arise in this action, including the design and operation of the accused products and methods, the validity of the asserted patents, and the defendants' collective actions in making, using, distributing, marketing, selling, offering for sale, importing, and/or inducing the use of the accused products and processes.

The Patents-In-Suit

13. United States Patent No. 5,500,819 (“the ’819 patent”), entitled “Circuits, Systems And Methods For Improving Page Accesses And Block Transfers In A Memory System,” was duly and legally issued by the United States Patent and Trademark Office on March 19, 1996. A copy of the ’819 patent is attached hereto as Exhibit A.

14. United States Patent No. 5,568,431 (“the ’431 patent”), entitled “Memory Architecture And Devices, Systems And Methods Utilizing The Same,” was duly and legally issued by the United States Patent and Trademark Office on October 22, 1996. A copy of the ’431 patent is attached hereto as Exhibit B.

15. United States Patent No. 5,600,606 (“the ’606 patent”), entitled “Low Pin Count - Wide Memory Devices Using Non-Multiplexed Addressing And Systems And Methods Using The Same,” was duly and legally issued by the United States Patent and Trademark Office on February 4, 1997. A copy of the ’606 patent is attached hereto as Exhibit C.

16. United States Patent No. 5,687,132 (“the ’132 patent”), entitled “Multiple-Bank Memory Architecture And Systems And Methods Using The Same,” was duly and legally issued by the United States Patent and Trademark Office on November 11, 1997. A copy of the ’132 patent is attached hereto as Exhibit D.

17. United States Patent No. 5,701,270 (“the ’270 patent”), entitled “Single Chip Controller-Memory Device With Interbank Cell Replacement Capability And A Memory Architecture And Methods Suit[a]ble For Implementing The Same,” was duly and legally issued by the United States Patent and Trademark Office on December 23, 1997. A copy of the ’270 patent is attached hereto as Exhibit E.

18. United States Patent No. 5,829,016 (“the ’016 patent”), entitled “Memory System With Multiplexed Input-Output Port And Systems And Methods Using The Same,” was duly and legally issued by the United States Patent and Trademark Office on October 27, 1998. A copy of the ’016 patent is attached hereto as Exhibit F.

19. United States Patent No. 6,058,045 (“the ’045 patent”), entitled “Serial Flash Memory,” was duly and legally issued by the United States Patent and Trademark Office on May 2, 2000. A copy of the ’045 patent is attached hereto as Exhibit G.

20. United States Patent No. 5,938,742 (“the ’742 patent”), entitled “Method For Configuring An Intelligent Low Power Serial Bus,” was duly and legally issued by the United States Patent and Trademark Office on August 17, 1999. A copy of the ’742 patent is attached hereto as Exhibit H.

21. United States Patent No. 7,836,371 (“the ’371 patent”), entitled “On-Chip Service Processor,” was duly and legally issued by the United States Patent and Trademark Office on November 16, 2010. A copy of the ’371 patent is attached hereto as Exhibit I.

22. United States Patent No. 6,618,788 (“the ’788 patent”), entitled “ATA Device Control Via A Packet-Based Interface,” was duly and legally issued by the United States Patent and Trademark Office on September 9, 2003. A copy of the ’788 patent is attached hereto as Exhibit J.

23. The '819 patent, '431 patent, '606 patent, '132 patent, '270 patent, '016 patent, '045 patent, '742 patent, '371 patent, and '788 patent are collectively referred to herein as the "patents-in-suit."

24. Plaintiff Intellectual Ventures I is the exclusive owner of all rights, title, and interest in the '045 patent, the '742 patent, and the '371 patent, and has the right to bring this suit to recover damages for any current or past infringement of these patents.

25. Plaintiff Intellectual Ventures II is the exclusive owner of all rights, title, and interest in the '819 patent, the '431 patent, the '606 patent, the '132 patent, the '270 patent, the '016 patent, and the '788 patent, and has the right to bring this suit to recover damages for any current or past infringement of these patents.

COUNT I

Infringement Of The '819 Patent

26. Paragraphs 1 through 25 are incorporated by reference as if fully stated herein.

27. The '819 patent is valid and enforceable.

28. Toshiba has infringed, and continues to infringe, one or more claims of the '819 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products and/or methods encompassed by those claims, including for example, by making, using, selling, offering for sale, and/or importing flash memory products, such as, for example, NAND flash memory and products incorporating NAND flash memory.

29. Third parties, including Toshiba's customers, have infringed, and continue to infringe, one or more claims of the '819 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United

States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory supplied by Toshiba.

30. Toshiba has had knowledge of and notice of the '819 patent and its infringement since at least September 7, 2010. For example, Intellectual Ventures informed Toshiba of the '819 patent on or about September 7, 2010. On June 9, 2011, Intellectual Ventures provided Toshiba with a claim chart comparing claims of the '819 patent to Toshiba's NAND Flash products as an attachment to an email sent to Ikuko Shimogawara from Ken Dyer. Intellectual Ventures presented this claim chart to Toshiba at a meeting in Tokyo on June 30, 2011. On March 19, 2013, Intellectual Ventures sent Toshiba an infringement notice letter. On March 20, 2013, Intellectual Ventures served Toshiba with a Complaint alleging infringement of the '819 patent. On November 14, 2014, Intellectual Ventures served on Toshiba its first set of interrogatories. Interrogatory No. 5 asks, in part, for Toshiba to identify all factual and legal bases for its contention that its manufacture, sale, offer for sale, and/or importation of the accused products do not infringe the '819 patent. On April 2, 2015, Intellectual Ventures served on Toshiba its infringement contentions. To date, Toshiba has not identified any bases for its assertions of noninfringement in its response to Intellectual Ventures' Interrogatory No. 5.

31. Toshiba has induced infringement, and continues to induce infringement, of one or more claims of the '819 patent under 35 U.S.C. § 271(b). Toshiba actively, knowingly, and intentionally induced, and continues to actively, knowingly, and intentionally induce, infringement of the '819 patent by selling or otherwise supplying NAND flash memory and products incorporating NAND flash memory; with the knowledge and intent that third parties will use, sell, and/or offer for sale in the United States, and/or import into the United States, the NAND flash memory and products incorporating NAND flash memory supplied by Toshiba for

their intended purpose to infringe the '819 patent; and with the knowledge and intent to encourage and facilitate the infringement through the dissemination of the NAND flash memory and products incorporating NAND flash memory and/or the creation and dissemination of documentation and technical information related to the NAND flash memory and products incorporating NAND flash memory.

32. Toshiba has contributed to the infringement by third parties, including Toshiba's customers, and continues to contribute to infringement by third parties, of one or more claims of the '819 patent under 35 U.S.C. § 271(c), by selling and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory, knowing that those products constitute a material part of the inventions of the '819 patent, knowing that those products are especially made or adapted to infringe the '819 patent, and knowing that those products are not staple articles of commerce suitable for substantial noninfringing use.

33. Intellectual Ventures II has been and continues to be damaged by Toshiba's infringement of the '819 patent.

34. Toshiba had notice regarding the '819 patent for at least the reasons set forth above in Paragraph 30. Toshiba's infringement of the '819 patent was, and continues to be, willful.

35. Toshiba's conduct in infringing the '819 patent renders this case exceptional within the meaning of 35 U.S.C. § 285.

COUNT II

Infringement Of The '431 Patent

36. Paragraphs 1 through 35 are incorporated by reference as if fully stated herein.

37. The '431 patent is valid and enforceable.

38. Toshiba has infringed, and continues to infringe, one or more claims of the '431 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products and/or methods encompassed by those claims, including for example, by making, using, selling, offering for sale, and/or importing flash memory products, such as, for example, NAND flash memory and products incorporating NAND flash memory.

39. Third parties, including Toshiba's customers, have infringed, and continue to infringe, one or more claims of the '431 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory supplied by Toshiba.

40. Upon information and belief, Toshiba has had knowledge of and notice of the '431 patent and its infringement through, for example, discussions with Intellectual Ventures on or about September 7, 2010, and a letter sent by Intellectual Ventures to Toshiba on March 19, 2013.

41. Toshiba has induced infringement, and continues to induce infringement, of one or more claims of the '431 patent under 35 U.S.C. § 271(b). Toshiba actively, knowingly, and intentionally induced, and continues to actively, knowingly, and intentionally induce, infringement of the '431 patent by selling or otherwise supplying NAND flash memory and products incorporating NAND flash memory; with the knowledge and intent that third parties will use, sell, and/or offer for sale in the United States, and/or import into the United States, the NAND flash memory and products incorporating NAND flash memory supplied by Toshiba for

their intended purpose to infringe the '431 patent; and with the knowledge and intent to encourage and facilitate the infringement through the dissemination of the NAND flash memory and products incorporating NAND flash memory and/or the creation and dissemination of documentation and technical information related to the NAND flash memory and products incorporating NAND flash memory.

42. Toshiba has contributed to the infringement by third parties, including Toshiba's customers, and continues to contribute to infringement by third parties, of one or more claims of the '431 patent under 35 U.S.C. § 271(c), by selling and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory, knowing that those products constitute a material part of the inventions of the '431 patent, knowing that those products are especially made or adapted to infringe the '431 patent, and knowing that those products are not staple articles of commerce suitable for substantial noninfringing use.

43. Intellectual Ventures II has been and continues to be damaged by Toshiba's infringement of the '431 patent.

44. Toshiba's infringement of the '431 patent was, and continues to be, willful.

45. Toshiba's conduct in infringing the '431 patent renders this case exceptional within the meaning of 35 U.S.C. § 285.

COUNT III

Infringement Of The '606 Patent

46. Paragraphs 1 through 45 are incorporated by reference as if fully stated herein.

47. The '606 patent is valid and enforceable.

48. Toshiba has infringed, and continues to infringe, one or more claims of the '606 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products and/or methods encompassed by those claims, including for example, by making, using, selling, offering for sale, and/or importing flash memory products, such as, for example, NAND flash memory and products incorporating NAND flash memory.

49. Third parties, including Toshiba's customers, have infringed, and continue to infringe, one or more claims of the '606 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory supplied by Toshiba.

50. Toshiba has had knowledge of and notice of the '606 patent and its infringement since at least September 7, 2010. For example, Intellectual Ventures informed Toshiba of the '606 patent on or about September 7, 2010. On June 9, 2011, Intellectual Ventures provided Toshiba with a claim chart comparing claims of the '606 patent to Toshiba's NAND Flash products as an attachment to an email sent to Ikuko Shimogawara from Ken Dyer. Intellectual Ventures presented this claim chart to Toshiba at a meeting in Tokyo on June 30, 2011. On March 19, 2013, Intellectual Ventures sent Toshiba an infringement notice letter. On March 20, 2013, Intellectual Ventures served Toshiba with a Complaint alleging infringement of the '606 patent. On November 14, 2014, Intellectual Ventures served on Toshiba its first set of interrogatories. Interrogatory No. 5 asks, in part, for Toshiba to identify all factual and legal bases for its contention that its manufacture, sale, offer for sale, and/or importation of the accused products do not infringe the '606 patent. On April 2, 2015, Intellectual Ventures served

on Toshiba its infringement contentions. To date, Toshiba has not identified any bases for its assertions of noninfringement in its response to Intellectual Ventures' Interrogatory No. 5.

51. Toshiba has induced infringement, and continues to induce infringement, of one or more claims of the '606 patent under 35 U.S.C. § 271(b). Toshiba actively, knowingly, and intentionally induced, and continues to actively, knowingly, and intentionally induce, infringement of the '606 patent by selling or otherwise supplying NAND flash memory and products incorporating NAND flash memory; with the knowledge and intent that third parties will use, sell, and/or offer for sale in the United States, and/or import into the United States, the NAND flash memory and products incorporating NAND flash memory supplied by Toshiba for their intended purpose to infringe the '606 patent; and with the knowledge and intent to encourage and facilitate the infringement through the dissemination of the NAND flash memory and products incorporating NAND flash memory and/or the creation and dissemination of documentation and technical information related to the NAND flash memory and products incorporating NAND flash memory.

52. Toshiba has contributed to the infringement by third parties, including Toshiba's customers, and continues to contribute to infringement by third parties, of one or more claims of the '606 patent under 35 U.S.C. § 271(c), by selling and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory, knowing that those products constitute a material part of the inventions of the '606 patent, knowing that those products are especially made or adapted to infringe the '606 patent, and knowing that those products are not staple articles of commerce suitable for substantial noninfringing use.

53. Intellectual Ventures II has been and continues to be damaged by Toshiba's infringement of the '606 patent.

54. Toshiba had notice regarding the '606 patent for at least the reasons set forth above in Paragraph 50. Toshiba's infringement of the '606 patent was, and continues to be, willful.

55. Toshiba's conduct in infringing the '606 patent renders this case exceptional within the meaning of 35 U.S.C. § 285.

COUNT IV

Infringement Of The '132 Patent

56. Paragraphs 1 through 55 are incorporated by reference as if fully stated herein.

57. The '132 patent is valid and enforceable.

58. Toshiba has infringed, and continues to infringe, one or more claims of the '132 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products and/or methods encompassed by those claims, including for example, by making, using, selling, offering for sale, and/or importing flash memory products, such as, for example, NAND flash memory and products incorporating NAND flash memory.

59. Third parties, including Toshiba's customers, have infringed, and continue to infringe, one or more claims of the '132 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory supplied by Toshiba.

60. Toshiba has had knowledge of and notice of the '132 patent and its infringement since at least September 7, 2010. For example, Intellectual Ventures informed Toshiba of the '132 patent on or about September 7, 2010. On December 21, 2010, Intellectual Ventures provided Toshiba with a presentation discussing claims of the '132 patent as they relate to Toshiba's NAND Flash products as an attachment to an email sent to Ikuko Shimogawara and Mitch Hatsumi from Ken Dyer. Intellectual Ventures also presented the presentation to Toshiba at a meeting in Tokyo on December 21, 2010. On March 19, 2013, Intellectual Ventures sent Toshiba an infringement notice letter. On March 20, 2013, Intellectual Ventures served Toshiba with a Complaint alleging infringement of the '132 patent. On November 14, 2014, Intellectual Ventures served on Toshiba its first set of interrogatories. Interrogatory No. 5 asks, in part, for Toshiba to identify all factual and legal bases for its contention that its manufacture, sale, offer for sale, and/or importation of the accused products do not infringe the '132 patent. On April 2, 2015, Intellectual Ventures served on Toshiba its infringement contentions. To date, Toshiba has not identified any bases for its assertions of noninfringement in its response to Intellectual Ventures' Interrogatory No. 5.

61. Toshiba has induced infringement, and continues to induce infringement, of one or more claims of the '132 patent under 35 U.S.C. § 271(b). Toshiba actively, knowingly, and intentionally induced, and continues to actively, knowingly, and intentionally induce, infringement of the '132 patent by selling or otherwise supplying NAND flash memory and products incorporating NAND flash memory; with the knowledge and intent that third parties will use, sell, and/or offer for sale in the United States, and/or import into the United States, the NAND flash memory and products incorporating NAND flash memory supplied by Toshiba for their intended purpose to infringe the '132 patent; and with the knowledge and intent to

encourage and facilitate the infringement through the dissemination of the NAND flash memory and products incorporating NAND flash memory and/or the creation and dissemination of documentation and technical information related to the NAND flash memory and products incorporating NAND flash memory.

62. Toshiba has contributed to the infringement by third parties, including Toshiba's customers, and continues to contribute to infringement by third parties, of one or more claims of the '132 patent under 35 U.S.C. § 271(c), by selling and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory, knowing that those products constitute a material part of the inventions of the '132 patent, knowing that those products are especially made or adapted to infringe the '132 patent, and knowing that those products are not staple articles of commerce suitable for substantial noninfringing use.

63. Intellectual Ventures II has been and continues to be damaged by Toshiba's infringement of the '132 patent.

64. Toshiba had notice regarding the '132 patent for at least the reasons set forth above in Paragraph 60. Toshiba's infringement of the '132 patent was, and continues to be, willful.

65. Toshiba's conduct in infringing the '132 patent renders this case exceptional within the meaning of 35 U.S.C. § 285.

COUNT V

Infringement Of The '270 Patent

66. Paragraphs 1 through 65 are incorporated by reference as if fully stated herein.

67. The '270 patent is valid and enforceable.

68. Toshiba has infringed, and continues to infringe, one or more claims of the '270 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products and/or methods encompassed by those claims, including for example, by making, using, selling, offering for sale, and/or importing flash memory products, such as, for example, NAND flash memory and products incorporating NAND flash memory.

69. Third parties, including Toshiba's customers, have infringed, and continue to infringe, one or more claims of the '270 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory supplied by Toshiba.

70. Toshiba has had knowledge of and notice of the '270 patent and its infringement since at least September 7, 2010. For example, Intellectual Ventures informed Toshiba of the '270 patent on or about September 7, 2010. On December 21, 2010, Intellectual Ventures provided Toshiba with a presentation discussing claims of the '270 patent as they relate to Toshiba's NAND Flash products as an attachment to an email sent to Ikuko Shimogawara and Mitch Hatsumi from Ken Dyer. Intellectual Ventures also presented the presentation to Toshiba at a meeting in Tokyo on December 21, 2010. On March 19, 2013, Intellectual Ventures sent Toshiba an infringement notice letter. On March 20, 2013, Intellectual Ventures served Toshiba with a Complaint alleging infringement of the '270 patent. On November 14, 2014, Intellectual Ventures served on Toshiba its first set of interrogatories. Interrogatory No. 5 asks, in part, for Toshiba to identify all factual and legal bases for its contention that its manufacture, sale, offer for sale, and/or importation of the accused products do not infringe the '270 patent. On April 2,

2015, Intellectual Ventures served on Toshiba its infringement contentions. To date, Toshiba has not identified any bases for its assertions of noninfringement in its response to Intellectual Ventures' Interrogatory No. 5.

71. Toshiba has induced infringement, and continues to induce infringement, of one or more claims of the '270 patent under 35 U.S.C. § 271(b). Toshiba actively, knowingly, and intentionally induced, and continues to actively, knowingly, and intentionally induce, infringement of the '270 patent by selling or otherwise supplying NAND flash memory and products incorporating NAND flash memory; with the knowledge and intent that third parties will use, sell, and/or offer for sale in the United States, and/or import into the United States, the NAND flash memory and products incorporating NAND flash memory supplied by Toshiba for their intended purpose to infringe the '270 patent; and with the knowledge and intent to encourage and facilitate the infringement through the dissemination of the NAND flash memory and products incorporating NAND flash memory and/or the creation and dissemination of documentation and technical information related to the NAND flash memory and products incorporating NAND flash memory.

72. Toshiba has contributed to the infringement by third parties, including Toshiba's customers, and continues to contribute to infringement by third parties, of one or more claims of the '270 patent under 35 U.S.C. § 271(c), by selling and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory, knowing that those products constitute a material part of the inventions of the '270 patent, knowing that those products are especially made or adapted to infringe the '270 patent, and knowing that those products are not staple articles of commerce suitable for substantial noninfringing use.

73. Intellectual Ventures II has been and continues to be damaged by Toshiba's infringement of the '270 patent.

74. Toshiba had notice regarding the '270 patent for at least the reasons set forth above in Paragraph 70. Toshiba's infringement of the '270 patent was, and continues to be, willful.

75. Toshiba's conduct in infringing the '270 patent renders this case exceptional within the meaning of 35 U.S.C. § 285.

COUNT VI

Infringement Of The '016 Patent

76. Paragraphs 1 through 75 are incorporated by reference as if fully stated herein.

77. The '016 patent is valid and enforceable.

78. Toshiba has infringed, and continues to infringe, one or more claims of the '016 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products and/or methods encompassed by those claims, including for example, by making, using, selling, offering for sale, and/or importing flash memory products, such as, for example, NAND flash memory and products incorporating NAND flash memory.

79. Third parties, including Toshiba's customers, have infringed, and continue to infringe, one or more claims of the '016 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory supplied by Toshiba.

80. Upon information and belief, Toshiba has had knowledge of and notice of the '016 patent and its infringement through, for example, discussions with Intellectual Ventures on or about September 7, 2010, and a letter sent by Intellectual Ventures to Toshiba on March 19, 2013.

81. Toshiba has induced infringement, and continues to induce infringement, of one or more claims of the '016 patent under 35 U.S.C. § 271(b). Toshiba actively, knowingly, and intentionally induced, and continues to actively, knowingly, and intentionally induce, infringement of the '016 patent by selling or otherwise supplying NAND flash memory and products incorporating NAND flash memory; with the knowledge and intent that third parties will use, sell, and/or offer for sale in the United States, and/or import into the United States, the NAND flash memory and products incorporating NAND flash memory supplied by Toshiba for their intended purpose to infringe the '016 patent; and with the knowledge and intent to encourage and facilitate the infringement through the dissemination of the NAND flash memory and products incorporating NAND flash memory and/or the creation and dissemination of documentation and technical information related to the NAND flash memory and products incorporating NAND flash memory.

82. Toshiba has contributed to the infringement by third parties, including Toshiba's customers, and continues to contribute to infringement by third parties, of one or more claims of the '016 patent under 35 U.S.C. § 271(c), by selling and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory, knowing that those products constitute a material part of the inventions of the '016 patent, knowing that those products are especially made or adapted to infringe the '016

patent, and knowing that those products are not staple articles of commerce suitable for substantial noninfringing use.

83. Intellectual Ventures II has been and continues to be damaged by Toshiba's infringement of the '016 patent.

84. Toshiba's infringement of the '016 patent was, and continues to be, willful.

85. Toshiba's conduct in infringing the '016 patent renders this case exceptional within the meaning of 35 U.S.C. § 285.

COUNT VII

Infringement Of The '045 Patent

86. Paragraphs 1 through 85 are incorporated by reference as if fully stated herein.

87. The '045 patent is valid and enforceable.

88. Toshiba has infringed, and continues to infringe, one or more claims of the '045 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products and/or methods encompassed by those claims, including for example, by making, using, selling, offering for sale, and/or importing flash memory products, such as, for example, NAND flash memory and products incorporating NAND flash memory.

89. Third parties, including Toshiba's customers, have infringed, and continue to infringe, one or more claims of the '045 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory supplied by Toshiba.

90. Upon information and belief, Toshiba has had knowledge of and notice of the '045 patent and its infringement through, for example, discussions with Intellectual Ventures on or about September 7, 2010, and a letter sent by Intellectual Ventures to Toshiba on March 19, 2013.

91. Toshiba has induced infringement, and continues to induce infringement, of one or more claims of the '045 patent under 35 U.S.C. § 271(b). Toshiba actively, knowingly, and intentionally induced, and continues to actively, knowingly, and intentionally induce, infringement of the '045 patent by selling or otherwise supplying NAND flash memory and products incorporating NAND flash memory; with the knowledge and intent that third parties will use, sell, and/or offer for sale in the United States, and/or import into the United States, the NAND flash memory and products incorporating NAND flash memory supplied by Toshiba for their intended purpose to infringe the '045 patent; and with the knowledge and intent to encourage and facilitate the infringement through the dissemination of the NAND flash memory and products incorporating NAND flash memory and/or the creation and dissemination of documentation and technical information related to the NAND flash memory and products incorporating NAND flash memory.

92. Toshiba has contributed to the infringement by third parties, including Toshiba's customers, and continues to contribute to infringement by third parties, of one or more claims of the '045 patent under 35 U.S.C. § 271(c), by selling and/or offering for sale in the United States, and/or importing into the United States, NAND flash memory and products incorporating NAND flash memory, knowing that those products constitute a material part of the inventions of the '045 patent, knowing that those products are especially made or adapted to infringe the '045

patent, and knowing that those products are not staple articles of commerce suitable for substantial noninfringing use.

93. Intellectual Ventures I has been and continues to be damaged by Toshiba's infringement of the '045 patent.

94. Toshiba's infringement of the '045 patent was, and continues to be, willful.

95. Toshiba's conduct in infringing the '045 patent renders this case exceptional within the meaning of 35 U.S.C. § 285.

COUNT VIII

Infringement Of The '742 Patent

96. Paragraphs 1 through 95 are incorporated by reference as if fully stated herein.

97. The '742 patent is valid and enforceable.

98. Toshiba has infringed, and continues to infringe, one or more claims of the '742 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by using in the United States methods encompassed by those claims, including for example, by using products with USB host controllers.

99. Third parties, including Toshiba's customers, have infringed, and continue to infringe, one or more claims of the '742 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by using in the United States products with USB host controllers supplied by Toshiba.

100. Upon information and belief, Toshiba has had knowledge of and notice of the '742 patent and its infringement through, for example, a letter sent by Intellectual Ventures to Toshiba on March 19, 2013.

101. Toshiba has induced infringement, and continues to induce infringement, of one or more claims of the '742 patent under 35 U.S.C. § 271(b). Toshiba actively, knowingly, and intentionally induced, and continues to actively, knowingly, and intentionally induce, infringement of the '742 patent by selling or otherwise supplying products with USB host controllers; with the knowledge and intent that third parties will use in the United States the products with USB host controllers supplied by Toshiba for their intended purpose to infringe the '742 patent; and with the knowledge and intent to encourage and facilitate the infringement through the dissemination of the products with USB host controllers and/or the creation and dissemination of documentation and technical information related to the products with USB host controllers.

102. Toshiba has contributed to the infringement by third parties, including Toshiba's customers, and continues to contribute to infringement by third parties, of one or more claims of the '742 patent under 35 U.S.C. § 271(c), by selling and/or offering for sale in the United States, and/or importing into the United States, products with USB host controllers, knowing that those products constitute a material part of the inventions of the '742 patent, knowing that those products are especially made or adapted to infringe the '742 patent, and knowing that those products are not staple articles of commerce suitable for substantial noninfringing use.

103. Intellectual Ventures I has been and continues to be damaged by Toshiba's infringement of the '742 patent.

104. Toshiba's infringement of the '742 patent was, and continues to be, willful.

105. Toshiba's conduct in infringing the '742 patent renders this case exceptional within the meaning of 35 U.S.C. § 285.

COUNT IX

Infringement Of The '371 Patent

106. Paragraphs 1 through 105 are incorporated by reference as if fully stated herein.

107. The '371 patent is valid and enforceable.

108. Toshiba has infringed, and continues to infringe, one or more claims of the '371 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products encompassed by those claims, including for example, by making, using, selling, offering for sale, and/or importing microcontroller products such as, for example, ARM-based controllers with Embedded Trace Macrocell ("ETM") and products incorporating such controllers.

109. Third parties, including Toshiba's customers, have infringed, and continue to infringe, one or more claims of the '371 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, ARM-based controllers with ETM and products incorporating such controllers supplied by Toshiba.

110. Toshiba has had knowledge of and notice of the '371 patent and its infringement since at least September 7, 2010. For example, Intellectual Ventures informed Toshiba of the '371 patent on or about September 7, 2010. On June 30, 2011, Intellectual Ventures provided Toshiba with a presentation discussing the '371 patent and Toshiba's system-on-chip (SoC) products as an attachment to an email sent to Ikuko Shimogawara and Mitch Hatsumi from Ken Dyer. Intellectual Ventures also presented the presentation to Toshiba at a meeting in Tokyo on June 30, 2011. On March 19, 2013, Intellectual Ventures sent Toshiba an infringement notice

letter. On March 20, 2013, Intellectual Ventures served Toshiba with a Complaint alleging infringement of the '371 patent. On November 14, 2014, Intellectual Ventures served on Toshiba its first set of interrogatories. Interrogatory No. 5 asks, in part, for Toshiba to identify all factual and legal bases for its contention that its manufacture, sale, offer for sale, and/or importation of the accused products do not infringe the '371 patent. On April 2, 2015, Intellectual Ventures served on Toshiba its infringement contentions. To date, Toshiba has not identified any bases for its assertions of noninfringement in its response to Intellectual Ventures' Interrogatory No. 5.

111. Toshiba has induced infringement, and continues to induce infringement, of one or more claims of the '371 patent under 35 U.S.C. § 271(b). Toshiba actively, knowingly, and intentionally induced, and continues to actively, knowingly, and intentionally induce, infringement of the '371 patent by selling or otherwise supplying ARM-based controllers with ETM and products incorporating such controllers; with the knowledge and intent that third parties will use, sell, and/or offer for sale in the United States, and/or import into the United States, the ARM-based controllers with ETM and products incorporating such controllers supplied by Toshiba for their intended purpose to infringe the '371 patent; and with the knowledge and intent to encourage and facilitate the infringement through the dissemination of the ARM-based controllers with ETM and products incorporating such controllers and/or the creation and dissemination of documentation and technical information related to the ARM-based controllers with ETM and products incorporating such controllers.

112. Toshiba has contributed to the infringement by third parties, including Toshiba's customers, and continues to contribute to infringement by third parties, of one or more claims of the '371 patent under 35 U.S.C. § 271(c), by selling and/or offering for sale in the United States, and/or importing into the United States, ARM-based controllers with ETM and products

incorporating such controllers, knowing that those products constitute a material part of the inventions of the '371 patent, knowing that those products are especially made or adapted to infringe the '371 patent, and knowing that those products are not staple articles of commerce suitable for substantial noninfringing use.

113. Intellectual Ventures I has been and continues to be damaged by Toshiba's infringement of the '371 patent.

114. Toshiba had notice regarding the '371 patent for at least the reasons set forth above in Paragraph 110. Toshiba's infringement of the '371 patent was, and continues to be, willful.

115. Toshiba's conduct in infringing the '371 patent renders this case exceptional within the meaning of 35 U.S.C. § 285.

COUNT X

Infringement Of The '788 Patent

116. Paragraphs 1 through 115 are incorporated by reference as if fully stated herein.

117. The '788 patent is valid and enforceable.

118. Toshiba has infringed, and continues to infringe, one or more claims of the '788 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products and/or methods encompassed by those claims, including for example, by making, using, selling, offering for sale, and/or importing hard drive products, such as, for example, Serial ATA ("SATA") hard drives and products incorporated such hard drives.

119. Third parties, including Toshiba's customers, have infringed, and continue to infringe, one or more claims of the '788 patent under 35 U.S.C. § 271(a), either literally and/or

under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, SATA hard drives and products incorporated such hard drives supplied by Toshiba.

120. Toshiba has had knowledge of and notice of the '788 patent and its infringement since at least November 14, 2012. For example, on November 14, 2012, Masanobu Katoh, Ken Dyer, and John Paschke from Intellectual Ventures provided Toshiba with a presentation, including a claim chart, comparing the '788 patent to Toshiba's Serial ATA hard drives. On March 19, 2013, Intellectual Ventures sent Toshiba an infringement notice letter. On March 20, 2013, Intellectual Ventures served Toshiba with a Complaint alleging infringement of the '788 patent. On November 14, 2014, Intellectual Ventures served on Toshiba its first set of interrogatories. Interrogatory No. 5 asks, in part, for Toshiba to identify all factual and legal bases for its contention that its manufacture, sale, offer for sale, and/or importation of the accused products do not infringe the '788 patent. On April 2, 2015, Intellectual Ventures served on Toshiba its infringement contentions. To date, Toshiba has not identified any bases for its assertions of noninfringement in its response to Intellectual Ventures' Interrogatory No. 5

121. Toshiba has induced infringement, and continues to induce infringement, of one or more claims of the '788 patent under 35 U.S.C. § 271(b). Toshiba actively, knowingly, and intentionally induced, and continues to actively, knowingly, and intentionally induce, infringement of the '788 patent by selling or otherwise supplying SATA hard drives and products incorporated such hard drives; with the knowledge and intent that third parties will use, sell, and/or offer for sale in the United States, and/or import into the United States, the SATA hard drives and products incorporated such hard drives supplied by Toshiba for their intended purpose to infringe the '788 patent; and with the knowledge and intent to encourage and

facilitate the infringement through the dissemination of the SATA hard drives and products incorporated such hard drives and/or the creation and dissemination of documentation and technical information related to the SATA hard drives and products incorporated such hard drives.

122. Toshiba has contributed to the infringement by third parties, including Toshiba's customers, and continues to contribute to infringement by third parties, of one or more claims of the '788 patent under 35 U.S.C. § 271(c), by selling and/or offering for sale in the United States, and/or importing into the United States, SATA hard drives and products incorporated such hard drives, knowing that those products constitute a material part of the inventions of the '788 patent, knowing that those products are especially made or adapted to infringe the '788 patent, and knowing that those products are not staple articles of commerce suitable for substantial noninfringing use.

123. Intellectual Ventures II has been and continues to be damaged by Toshiba's infringement of the '788 patent.

124. Toshiba had notice regarding the '788 patent for at least the reasons set forth above in Paragraph 120. Toshiba's infringement of the '788 patent was, and continues to be, willful.

125. Toshiba's conduct in infringing the '788 patent renders this case exceptional within the meaning of 35 U.S.C. § 285.

Prayer For Relief

WHEREFORE, Intellectual Ventures I and Intellectual Ventures II pray for judgment as follows:

- A. That Toshiba has infringed each of the patents-in-suit;

B. That Intellectual Ventures I and Intellectual Ventures II be awarded all damages adequate to compensate them for Toshiba's infringement of the patents-in-suit, such damages to be determined by a jury and, if necessary to adequately compensate Intellectual Ventures I and Intellectual Ventures II for the infringement, an accounting, and that such damages be trebled and awarded to Intellectual Ventures I and Intellectual Ventures II with pre-judgment and post-judgment interest;

C. That this case be declared an exceptional case within the meaning of 35 U.S.C. § 285 and that Intellectual Ventures I and Intellectual Ventures II be awarded the attorney fees, costs, and expenses incurred in connection with this action; and

D. That Intellectual Ventures I and Intellectual Ventures II be awarded such other and further relief as this Court deems just and proper.

Demand For Jury Trial

Plaintiffs Intellectual Ventures I and Intellectual Ventures II hereby demand a trial by jury on all issues so triable.

Dated: August 20, 2015

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