

**UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, DC**

In the Matter of

CERTAIN DYNAMIC RANDOM ACCESS
MEMORY AND NAND FLASH MEMORY
DEVICES AND PRODUCTS CONTAINING
SAME

Inv. No. 337-TA-_____

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**VERIFIED COMPLAINT OF INTELLECTUAL VENTURES MANAGEMENT, LLC,
INVENTION INVESTMENT FUND I, L.P., INVENTION INVESTMENT FUND II, LLC,
INTELLECTUAL VENTURES I LLC, AND INTELLECTUAL VENTURES II LLC,
UNDER SECTION 337 OF THE TARIFF ACT OF 1930, AS AMENDED**

COMPLAINANTS

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Exhibit 7	Certified Copy of U.S. Patent No. 5,963,481
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Exhibit 12	Certified Copy of Assignment(s) for U.S. Patent No. 5,500,819
Exhibit 13	Certified Copy of U.S. Patent No. 5,687,132
Exhibit 14	Certified Copy of Assignment(s) for U.S. Patent No. 5,687,132
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- Exhibit 41C Claim Chart Demonstrating Infringement of U.S. Patent No. 5,982,696 by Hynix Devices (Confidential)
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- Exhibit 54 April 14, 2011 Form 8-K Current Report of Micron
- Exhibit 55 October 26, 2010 Form 10-K Annual Report of Micron

- Exhibit 56 Micron "Communities" website pages
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APPENDICES

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Appendix I	Certified Prosecution History for U.S. Patent No. 5,687,132
Appendix J	Technical References for U.S. Patent No. 5,687,132

I. INTRODUCTION

1. Complainants Intellectual Ventures Management, LLC ("IV Management"), Invention Investment Fund I, L.P. ("IIF I"), Invention Investment Fund II, LLC. ("IIF II"), Intellectual Ventures I LLC ("IV I"), and Intellectual Ventures II LLC ("IV II"), (collectively, "Complainants") respectfully request that the United States International Trade Commission ("the Commission") institute an investigation into violations of Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, by the following entities: Hynix Semiconductor Inc.; Hynix Semiconductor America, Inc.; Elpida Memory, Inc.; Elpida Memory (USA) Inc.; Acer Inc.; Acer America Corp.; ADATA Technology Co., Ltd.; ADATA Technology (U.S.A.) Co., Ltd.; Asustek Computer Inc.; Asus Computer International Inc.; Dell, Inc.; Hewlett-Packard Company; Kingston Technology Co., Inc.; Logitech International S.A.; Logitech, Inc.; Pantech Co., Ltd.; Pantech Wireless, Inc.; Best Buy Corp.; and Wal-Mart Stores, Inc. (collectively, "Proposed Respondents").

2. This Complaint is based upon Proposed Respondents' unlawful and unauthorized importation into the United States, sale for importation, and/or the sale within the United States after importation of certain dynamic random access memory ("DRAM") and NAND Flash memory devices and products containing such DRAM and/or NAND Flash memory devices (collectively, the "Accused Products") that infringe at least one or more claims of U.S. Patent Nos. 5,654,932 ("the '932 patent"), 5,963,481 ("the '481 patent"), 5,982,696 ("the '696 patent"), 5,500,819 ("the '819 patent"), or 5,687,132 ("the '132 patent") (collectively, "the Asserted Patents"). The Asserted Patents are valid and enforceable United States patents, the entire right, title, and interest to which Complainants IV I (as to the '481 patent) and IV II (as to the '932, '132, '819, and '696 patents) own by assignment.

3. The Asserted Patents include technologies that relate to DRAM and NAND Flash memory products. The '932 patent generally relates to systems and methods for memories with selectable memory access types. Certain of the Proposed Respondents' DRAM products and products containing same infringe at least claim 28 of the '932 patent. The '481 patent generally relates to systems and methods for improving access throughput in a memory device. Certain of the Proposed Respondents' DRAM products and products containing same infringe at least claims 16 and 17 of the '481 patent. The '696 patent generally relates to systems and methods for electronic memories with programmable address decoders. Certain of the Proposed Respondents' DRAM products and products containing same infringe at least claims 1, 5-7, and 13 and 18-19, 21, 23-24 of the '696 patent. The '819 patent relates to devices, systems and methods of copying in memory. Certain of the Proposed Respondents' NAND flash memory products and products containing same infringe at least claims 17 and 19 of the '819 patent. The '132 patent generally relates to systems and methods for more efficient data transfers between memory locations. Certain of the Proposed Respondents' NAND flash memory products and products containing same infringe at least claims 1-2, 4, 6, 9-10, and 28-29 of the '132 patent.

4. In summary, Proposed Respondents infringe at least one or more of the patents and claims listed in the chart below.

U.S. Patent No.	Asserted Claims
5,654,932	28
5,963,481	16 and 17
5,982,696	1, 5-7, 13, 18-19, 21, and 23-24
5,500,819	17 and 19
5,687,132	1-2, 4, 6, 9-10, and 28-29

5. Proposed Respondents' activities with respect to the importation into the United States, the sale for importation into the United States, and/or the sale within the United States after importation of the Accused Products, described more fully *infra*, are unlawful under 19

U.S.C. § 1337(a)(1)(B)(i), in that they constitute infringement of the valid and enforceable Asserted Patents.

6. Complainants seek relief from the Commission in the form of a limited exclusion order permanently excluding from entry into the United States DRAM and/or NAND Flash memory devices and a general exclusion order and/or a limited exclusion order permanently excluding from entry into the United States products containing such DRAM and/or NAND Flash memory devices. Complainants further seek as relief cease and desist orders prohibiting the importation, sale, offer for sale, marketing, advertising, or the soliciting of any Accused Products owned, held, or stored by Proposed Respondents or their related companies.

II. THE PARTIES

A. Complainants

1. Background on the Intellectual Ventures Organization

7. Complainant IV Management is a Washington limited liability company headquartered in Bellevue, Washington. IV Management oversees the entire family of companies known in the industry, and referred to collectively in this Complaint, as "Intellectual Ventures." Attached as Exhibit 1 is a Confidential Declaration describing the structure of the Intellectual Ventures organization.

8. Complainants IV I and IV II are limited liability companies organized and existing under the laws of Delaware, with their principal place of business located in Bellevue, Washington. IV I is an indirect, wholly-owned subsidiary of Complainant IIF I, a limited partnership organized and existing under the laws of Delaware, with its principal place of business located in Bellevue, Washington. IV II is an indirect, wholly-owned subsidiary of Complainant IIF II, a limited liability company organized and existing under the laws of Delaware, with its principal place of business located in Bellevue, Washington.

9. Intellectual Ventures is an invention capital organization founded on the core principle that ideas are valuable. Since its creation in 2000, Intellectual Ventures has been a global leader in the business of invention.

10. Intellectual Ventures conducts its operations through the efforts of more than 760 employees and dedicated service providers in offices around the world. Over 680 of those employees and dedicated service providers work in the United States at Intellectual Ventures' offices in Bellevue, Washington, Austin, Texas, and Silicon Valley, California.

11. Intellectual Ventures invests both expertise and capital in the development of inventions. Intellectual Ventures collaborates with leading inventors, and it partners with pioneering companies. By providing access to its portfolio of patents, Intellectual Ventures helps its licensees innovate and reduce their risk by bridging the gap between the invention rights they currently have and the invention rights they need. Intellectual Ventures' goal is to build an active, dynamic, and more efficient market for invention.

2. Intellectual Ventures' Business Activities

12. Intellectual Ventures pursues four main lines of business: (1) patent acquisition and licensing; (2) invention; (3) invention collaboration; and (4) using inventions to foster global good.

13. Currently, the most significant and profitable components of Intellectual Ventures' business are its patent acquisition and licensing activities. These efforts are carried out through Complainants IIF I and IIF II (referred to as "the Funds") and affiliated entities. The Funds acquire patents, group them within appropriate portfolios, and seek to license those portfolios to major technology companies. The Funds' licensing efforts include pre-assertion due diligence, market and industry research, reverse engineering of potentially infringing products, preparation of claim charts, face-to-face licensing negotiations, and preparations for litigation.

14. The Funds acquire inventions from businesses as well as individual inventors and then license the inventions to those who need them. Approximately 25% of the Funds' expenditures for the acquisition of patents have gone to individual inventors. Through its acquisition and licensing activities, Intellectual Ventures allows companies and individual inventors to reap a financial reward from their innovations and to devote their creativity to new ideas, inventions, and patents. By serving as a conduit between inventors and manufacturers, Intellectual Ventures helps the market achieve greater efficiencies in technology valuation and intellectual property rights transfer.

15. Intellectual Ventures has earned substantial revenues by licensing the Funds' patents to some of the world's most innovative and successful technology companies. These licensees, many of which are headquartered in the United States, use the licensed technology in making computer equipment, software, semiconductor devices, and a wide array of other commercially significant products. The success of the Funds has confirmed Intellectual Ventures' core belief that ideas and inventions have real economic value.

16. The invention component of Intellectual Ventures' business occurs within The Invention Science Fund ("ISF"). ISF employs approximately 60 scientists and engineers, and works with approximately 100 external advisors, to develop ideas in a broad range of fields, including agriculture, computer hardware, life sciences, medical devices, energy, financial services, consumer electronics, semiconductors, software, and many other fields. From Intellectual Ventures' state-of-the-art laboratory facilities in Bellevue, Washington—three buildings totaling 43,100 square-feet—ISF develops and tests new ideas. Through such activities, more than 5,000 inventions have been created, more than 2,734 patent applications filed, and approximately 330 patents have issued.

17. Experts at ISF also helped launch TerraPower, an energy company. TerraPower was created specifically to develop a new type of nuclear reactor that produces significantly smaller amounts of nuclear waste than conventional nuclear reactors and eliminates the need to enrich uranium. The work of TerraPower has the chance of reducing carbon emissions substantially and producing power at a much lower cost. Expected to go online by 2020, the TerraPower project has received funding from outside investors and is the first official spinout from Intellectual Ventures.

18. Intellectual Ventures' Invention Development Fund ("IDF"), which has a staff of approximately 126 people, creates inventions by collaborating with inventors and over 400 research institutions around the world, including American universities. IDF develops inventions by identifying a technical challenge, requesting proposals for inventions to solve the challenge, selecting the most promising ideas, rewarding the inventors and institutions for their contributions, and filing patent applications on the ideas. Through such activities, more than 6,500 inventions have been created, more than 1,300 patent applications have been filed, approximately 300 patents have issued, and over \$20 million has been awarded to inventors. A large percentage of this activity takes place in the United States.

19. The Global Good program at Intellectual Ventures seeks to help solve social, health, and other problems in the developing world and to address education issues in the United States.

20. Intellectual Ventures uses its network of scientists and inventors to address neglected areas of research, many of which are connected to some of the world's most pressing problems. For example, Intellectual Ventures has created innovative approaches for diagnosing malaria, a disease that annually sickens or kills millions around the world, and for targeting the

mosquitoes that spread the disease. Already, Intellectual Ventures has helped develop the photonic fence, a tiny ultraviolet laser that tracks and destroys mosquitoes in flight.

21. Intellectual Ventures is a forward-thinking organization that uses private sector resources to promote innovation. By helping inventors capitalize on their creations and providing technology firms with better access to powerful ideas, Intellectual Ventures makes valuable contributions to the U.S. economy.

B. Proposed Respondents

1. Memory Manufacturer Respondents

**a) Hynix Semiconductor Inc. and
Hynix Semiconductor America Inc.**

22. On information and belief, Proposed Respondent Hynix Semiconductor Inc. ("HSI") is a corporation organized under the laws of Korea, with its principal place of business at San 136-1, Ami-ri, Bubal-eub Icheon-si, Gyeonggi-do, Korea.

23. On information and belief, Proposed Respondent Hynix Semiconductor America Inc. ("HSA") is a corporation organized under the laws of California, having its principal place of business at 3101 North First Street, San Jose, California 95134. On information and belief, HSA is a wholly-owned subsidiary of proposed Respondent HSI. HSI and HSA are hereinafter referred to collectively as "Hynix."

24. Hynix is one of the world's largest manufacturers of DRAM. On information and belief, Hynix has made and sold billions of dollars worth of DRAM, with revenues of approximately \$8.28 billion for 2010. *See Exhibit 2.*

25. Hynix also makes and sells NAND Flash memory devices. On information and belief, Hynix has made and sold hundreds of millions of dollars of NAND Flash memory, with revenues of approximately \$1.744 billion for 2010. *See Exhibit 2.*

26. On information and belief, Hynix is in the business of, among other things, manufacturing and/or selling infringing DRAM and NAND Flash memory devices (the "Hynix Accused Devices"). Further, the Hynix Accused Devices are unlawfully sold for importation, imported, and/or sold after importation into the United States by the proposed Respondents and others. On information and belief, the Hynix Accused Devices are manufactured by or for Hynix in China and/or elsewhere in Asia.

27. On information and belief, Hynix sells the Hynix Accused Devices to consumer goods manufacturers and sellers, including proposed Consumer Products Respondents identified hereinafter, with the knowledge and expectation that such parties intend to sell for importation into the United States, import into the United States, and/or sell in the United States after importation consumer goods containing Hynix Accused Devices, including at retailers such as proposed Retailer Respondents identified hereinafter.

28. Additional information regarding Hynix is set forth in Exhibit 3.

29. Beginning in 2008, Intellectual Ventures approached Hynix about taking a license to Intellectual Ventures' memory patents. In 2009 and 2010, Intellectual Ventures discussed many of its patents with Hynix, including some of the patents asserted against Hynix in this complaint, in an effort to negotiate a license. Further, Intellectual Ventures explained to Hynix how Hynix was using Intellectual Ventures' patented inventions in its DRAM and NAND Flash memory devices. Despite Intellectual Ventures' good faith efforts to negotiate a business solution, Hynix has refused to license Intellectual Ventures' patents on reasonable terms and continues to use those inventions without permission.

b) Elpida Memory, Inc. and Elpida Memory (USA) Inc.

30. On information and belief, Proposed Respondent Elpida Memory, Inc. ("EMI") is a corporation organized under the laws of Japan with its principal place of business at Sumitomo Seimei Yaesu Building, 3rd Floor, 2-1 Yaesu 2-chome Chuo-ku, Tokyo, Japan.

31. On information and belief, Proposed Respondent Elpida Memory (USA) Inc. ("EMU") is a corporation organized under the laws of Delaware, having its principal place of business at 1175 Sonora Court, Sunnyvale, California 94086. On information and belief, EMU is a wholly-owned subsidiary of proposed Respondent EMI. EMU and EMI are hereinafter referred to collectively as "Elpida."

32. Elpida is one of the world's largest manufacturers of DRAM. Upon information and belief, Elpida has made and sold billions of dollars worth of DRAM, with revenues of approximately \$6.443 billion for 2010. *See* Exhibit 2.

33. On information and belief, Elpida is in the business of, among other things, manufacturing and/or selling infringing DRAM devices (the "Elpida Accused Devices"). Further, the Elpida Accused Devices are unlawfully sold for importation, imported, and/or sold after importation into the United States by the Proposed Respondents and others. On information and belief, the Elpida Accused Devices are manufactured by or for Elpida in Japan and/or elsewhere in Asia.

34. On information and belief, Elpida also sells the Elpida Accused Devices to consumer goods manufacturers and sellers, including proposed Consumer Products Respondents identified hereinafter, with the knowledge and expectation that such parties intend to sell for importation into the United States, import into the United States, and/or sell in the United States after importation consumer goods containing Elpida Accused Devices, including at retailers such as proposed Retailer Respondents identified hereinafter.

35. Additional information regarding Elpida is set forth in Exhibit 4.

36. Intellectual Ventures contacted Elpida in 2009 and, in early 2010 Intellectual Ventures approached Elpida about taking a license to Intellectual Ventures' memory patents. During the course of the year 2010, Intellectual Ventures made significant efforts to meet with Elpida, discuss Intellectual Ventures' patents, and negotiate a license. Despite repeated requests from Intellectual Ventures for a meeting, Elpida repeatedly delayed. Finally, Intellectual Ventures and Elpida met in the Fall of 2010, during which Intellectual Ventures discussed many of its patents with Elpida, including some of the patents asserted against Elpida in this complaint. Intellectual Ventures explained how Elpida was using Intellectual Ventures' patented inventions in its DRAM devices. Despite Intellectual Ventures' good faith efforts to negotiate a business solution, Elpida has refused to license Intellectual Ventures' patents on reasonable terms and continues to use those inventions without permission.

37. Hynix and Elpida are collectively referred to as the "Memory Manufacturer Respondents."

2. Consumer Products Respondents

a) Acer Inc. and Acer America Corp.

38. On information and belief, Proposed Respondent Acer Inc. is a Taiwanese corporation with its principal place of business at 8F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei, Hsien 221, Taiwan, R.O.C. Proposed Respondent Acer America Corp. is a U.S. subsidiary of Acer Inc. with its principal place of business at 333 W. San Carlos Street, Suite 1500, San Jose, California 95110. Proposed Respondents Acer Inc. and Acer America Corp. are referred to herein collectively as "Acer."

39. On information and belief, Acer is in the business of importing, selling for importation, and/or selling after importation consumer products that contain DRAM and/or NAND Flash memory devices including the Hynix and/or Elpida Accused Devices.

40. Acer is not licensed to import, sell for importation, or sell after importation products that use or contain Complainants' patented technologies.

**b) ADATA Technology Co., Ltd. and
ADATA Technology (U.S.A.) Co., Ltd.**

41. On information and belief, Proposed Respondent ADATA Technology Co., Ltd. has its principal place of business at 2F, No. 258, Lian Cheng Rd., Chung Ho District, New Taipei City, Taiwan, R.O.C. On information and belief, Proposed Respondent ADATA Technology (U.S.A.) Co., Ltd. is a California corporation and a wholly-owned subsidiary of ADATA Technology Co., Ltd. with its principal place of business at 17101 Gale Avenue, Hacienda Heights, California 91745. These Proposed Respondents are collectively referred to as "ADATA."

42. On information and belief, ADATA is in the business of importing, selling for importation, and/or selling after importation consumer products that contain DRAM and/or NAND Flash memory devices including the Hynix and/or Elpida Accused Devices.

43. ADATA is not licensed to import, sell for importation, or sell after importation products that use or contain Complainants' patented technologies.

**c) Asustek Computer Inc. and
Asus Computer International Inc.**

44. On information and belief, Proposed Respondent Asustek Computer Inc. is a public company with its principal place of business at 4F, No. 15, Li Teh Rd., Peitou District, Taipei 112, Taiwan R.O.C. On information and belief, Proposed Respondent Asus Computer International Inc. is a California corporation and a wholly-owned subsidiary of Asustek

Computer Inc. with its principal place of business at 800 Corporate Way, Fremont, California 94539. These Proposed Respondents are collectively referred to as "Asus."

45. On information and belief, Asus is in the business of importing, selling for importation, and/or selling after importation consumer products that contain DRAM and/or NAND Flash memory devices including the Hynix and/or Elpida Accused Devices.

46. Asus is not licensed to import, sell for importation, or sell after importation products that use or contain Complainants' patented technologies.

d) Dell, Inc.

47. On information and belief, Proposed Respondent Dell, Inc. ("Dell") is a Delaware corporation having its principal place of business at One Dell Way, Round Rock, Texas 78682.

48. On information and belief, Proposed Respondent Dell is in the business of importing, selling for importation, and/or selling after importation consumer products that contain DRAM and/or NAND Flash memory devices including the Hynix and/or Elpida Accused Devices.

49. Dell is not licensed to import, sell for importation, or sell after importation products that use or contain Complainants' patented technologies.

e) Hewlett-Packard Company

50. On information and belief, Proposed Respondent Hewlett-Packard Company ("HP") is a Delaware corporation with its principal place of business at 3000 Hanover Street, Palo Alto, California 94304.

51. On information and belief, Proposed Respondent HP is in the business of importing, selling for importation, and/or selling after importation consumer products that contain DRAM and/or NAND Flash memory devices including the Hynix and/or Elpida Accused Devices.

52. HP is not licensed to import, sell for importation, or sell after importation products that use or contain Complainants' patented technologies.

f) **Kingston Technology Co., Inc.**

53. On information and belief, Proposed Respondent Kingston Technology Co., Inc. ("Kingston") is a Delaware corporation with its principal place of business at 17600 Newhope Street, Fountain Valley, California 92708.

54. On information and belief, Proposed Respondent Kingston imports, sells for importation, and/or sells after importation consumer products that contain DRAM and/or NAND Flash memory devices including the Hynix and/or Elpida Accused Devices.

55. Kingston is not licensed to import, sell for importation, or sell after importation products that use or contain Complainants' patented technologies.

g) **Logitech International S.A. and Logitech, Inc.**

56. On information and belief, Proposed Respondent Logitech International S.A. is a Swiss corporation with its principal place of business at Moulin du Choc, CH-1122, Romanel-sur-Morges, Vaud, Switzerland. On information and belief, Proposed Respondent Logitech, Inc. is a California corporation and a wholly-owned subsidiary of Logitech International, S.A. with its principal place of business at 6505 Kaiser Drive, Fremont, California 94555. These Respondents are collectively referred to as "Logitech."

57. On information and belief, Logitech imports, sells for importation, and/or sells after importation consumer products that contain DRAM and/or NAND Flash memory devices including the Hynix and/or Elpida Accused Devices.

58. Logitech is not licensed to import, sell for importation, or sell after importation products that use or contain Complainants' patented technologies.

h) Pantech Co., Ltd. and Pantech Wireless, Inc.

59. On information and belief, Proposed Respondent Pantech Co., Ltd., has its principal place of business at 1-2, DMC Sangam-don Mapo-gu, Seoul, Korea. Upon information and belief, Respondent Pantech Wireless, Inc., is a Georgia corporation and a wholly-owned subsidiary of Pantech Technology Co., Ltd. with its principal place of business at 5607 Glenridge Drive, Suite 500, Atlanta, Georgia 30342. These Respondents are collectively referred to as "Pantech."

60. On information and belief, Pantech is in the business of importing, selling for importation, and/or selling after importation consumer products that contain DRAM and/or NAND Flash memory devices including the Hynix and/or Elpida Accused Devices.

61. Pantech is not licensed to import, sell for importation, or sell after importation products that use or contain Complainants' patented technologies.

62. Acer, ADATA, Asus, Dell, HP, Kingston, Logitech, and Pantech are collectively referred to as the "Consumer Products Respondents."

3. Retailer Respondents

a) Best Buy Corp.

63. On information and belief, Proposed Respondent Best Buy Corp. ("Best Buy") is a Delaware corporation having its principal place of business at 7601 Penn Avenue S, Richfield, Minnesota 55423.

64. On information and belief, Proposed Respondent Best Buy imports and/or sells after importation consumer products that contain DRAM and/or NAND Flash memory devices including the Hynix and/or Elpida Accused Devices.

65. Best Buy is not licensed to import or sell after importation products that contain or use Complainants' patented technologies.

b) **Wal-Mart Stores, Inc.**

66. On information and belief, Proposed Respondent Wal-Mart Stores, Inc. ("Wal-Mart") is a Delaware corporation having its principal place of business at 708 SW 8th Street, Bentonville, Arkansas 72716.

67. On information and belief, Proposed Respondent Wal-Mart imports and/or sells after importation, including through its Sam's Club membership club warehouse stores, consumer products that contain DRAM and/or NAND Flash memory devices including the Hynix and/or Elpida Accused Devices.

68. Wal-Mart is not licensed to import or sell after importation products that contain or use Complainants' patented technologies.

69. Best Buy and Wal-Mart are collectively referred to as the "Retailer Respondents."

III. **THE TECHNOLOGY AND PRODUCTS AT ISSUE**

A. **The Technology**

70. The technology at issue includes various models of two types of semiconductor memory devices—Dynamic Random Access Memory, or DRAM, and NAND Flash memory—and products containing the same. DRAM is typically used as the main memory in personal computers, laptops, servers, and other electronic products. NAND Flash typically is used as a memory device within USB flash drives, memory cards, and solid-state drives and in personal electronic products, such as MP3 and other digital audio players, mobile phones, digital cameras, laptop computers, and tablets.

71. The DRAM technologies at issue in the '932 patent relate generally to burst access with on-the-fly bit count variation and accessing groups of columns in a memory array using different access types during a single row address strobe (RAS) cycle. A single memory unit that supports multiple access modes during a single RAS cycle allows greater access efficiency.

72. The DRAM technologies at issue in the '481 patent relate generally to bank interleaving and a multi-row memory on a single substrate that accepts an access request to one row before an access request to another row has been completed. This supports concurrent activities, including accessing data in a first memory row while an access request is generated for a second memory row.

73. The DRAM technologies at issue in the '696 patent relate generally to a DRAM mode register and a programmable volatile storage in a system with a hardwired address decoder and an external address bus. This facilitates redirection of externally applied addresses to internally accessed memory cells, reducing access latency and saving power.

74. The NAND Flash technologies at issue in the '819 patent relate generally to data moving and copying functionality. This includes a method of selecting a row in a memory array, sensing the bitlines of the array to read data stored in the cells of the selected row with a bank of master sense amplifiers, latching the data read from the cells in the selected row in a bank of slave sense amplifiers and writing the data stored in the slave sense amplifiers through the master sense amplifiers to different cells in the array. This supports speeding up the movement and copying of data.

75. The NAND Flash technologies at issue in the '132 patent relate generally to NAND Flash copy back functionality, which facilitates wear leveling. This includes memory having multiple gates in independently controlled groups for selectively coupling bitlines of a first set of memory columns with bitlines of a second set of memory columns, to transfer data from selected memory locations in first set of columns to selected memory locations in second set of columns. This supports functionality in which data can be selectively transferred from one memory location to another, for example, to allow wear leveling.

B. The Accused Products

76. The Hynix Accused Devices include, but are not limited to, the following memory devices and any other Hynix DRAM (e.g., DDR2, DDR3, GDDR4, GDDR5, mobile DRAM, etc.), Flash devices, and multiple chip packages (MCPs) that contain such Hynix DRAM or Flash devices, that use Complaints' patented technology:

- a. Hynix DDR2 DRAM, e.g., products bearing part numbers: H5PS1G83EFR, HY5PS12821B, HY5PS1G1631C, HY5PS1G831C, HYMP112S64CP6-S6 AB-C, and HYMP125U64CP8-S6 AB;
- b. Hynix DDR3 DRAM, e.g., products bearing part numbers: H5TQ1G83BFR and HMT112U6BFR8C-H9;
- c. Hynix GDDR4 DRAM, e.g., products bearing part number: HY5FS123235A; and
- d. Hynix NAND Flash, e.g., products bearing part numbers: H27UBG8T2A and H27UBG8T2ATR-BC.

77. The Elpida Accused Devices include, but are not limited to, the following memory devices and any other Elpida DRAM (e.g., DDR2, DDR3, GDDR4, GDDR5, etc.) that use Complaints' patented technology:

- a. Elpida DDR2 DRAM, e.g., products bearing part numbers: E1108AFSE-8E-F and EDE2104ABSE; and
- b. Elpida DDR3 DRAM, e.g., products bearing part numbers: EBJ21UE8BFU0-DJ-F, EBJ21UE8BFU1-DJ-F, J1108BFBG-DJ-F, and EDJ1108BBSE.

78. The Accused Products of the Consumer Products Respondents and the Retailer Respondents are the products imported, sold for importation, or sold after importation that

contain the aforementioned Hynix and/or Elpida Accused Devices, including, but not limited to, the following:

- a. ACER Aspire 5253-BZ661;
- b. ADATA USB Flash Drive, Classic C008;
- c. HP Pavilion dv6-3225dx and Pavilion Slimline s5747c-b;
- d. ASUS Eee PC 1015PE;
- e. Dell Inspiron i560-565NBK;
- f. Logitech Revue with Google TV;
- g. Kingston HyperX Genesis DIMM (KHX1600C9AD3K2/4GETR) and KPR5300/1GR; and
- h. Pantech Pursuit P9020.

79. In addition to the products listed above, the Accused Products include any other consumer products imported, sold for importation, or sold after importation by the Consumer Products Respondents and/or the Retailer Respondents that contain infringing devices of the Memory Manufacturer Respondents. On information and belief, any consumer products imported, sold for importation, or sold after importation by any Proposed Respondent that contain infringing devices of the Memory Manufacturer Respondents will also infringe the Asserted Patents. Complainants reserve the right to accuse those additional products at the appropriate time after discovery is taken in the Investigation.

80. On information and belief, the specific Accused Products identified above are exemplary of other Accused Products that the proposed Respondents and others directly or indirectly import, sell for importation, or sell after importation.

IV. THE PATENTS AT ISSUE

A. U.S. Patent No. 5,654,932

1. Identification of the Patent and Ownership by Complainants

81. Complainant IV II owns by assignment the entire right, title, and interest in the '932 patent entitled Memory Devices With Selectable Access Type and Methods Using the Same," which issued on August 5, 1997. The '932 patent issued to inventor G. R. Mohan Rao from United States Patent Application No. 08/538,903, filed on October 4, 1995. It expires on October 4, 2015. A certified copy of the '932 patent is attached as Exhibit 5. Certified copies of the recorded assignments of the '932 patent are attached as Exhibit 6.

82. Pursuant to Commission Rule 210.12(c), a certified copy and three additional copies of the prosecution history of the '932 patent, as well as four copies of the applicable pages from each technical reference cited in the prosecution history, are attached as Appendices A and B, respectively.

2. Non-Technical Description of the '932 Patent¹

83. The '932 patent has thirty-two claims: seven independent claims and twenty-five dependent claims.

84. The '932 patent generally relates to systems and methods for memories with selectable access types. Memory locations of a computer main memory provide storage locations from which data can be read or to which data can be written. The memory locations are typically arranged in arrays of rows and columns. Locations within the memory arrays are

¹ This description and any other non-technical descriptions within this Complaint are for illustrative purposes only. Nothing in any non-technical description contained within this Complaint is intended, either implicitly or explicitly, to express any position regarding the scope or proper construction of any claim of the Asserted Patents.

identified by memory addresses. To access memory locations within the array, the addresses of the memory locations are provided to decoder circuitry of the memory device.

85. The decoder circuitry decodes the address signals applied thereto to permit access to the memory locations identified by the address signals. During a memory access, a row address is presented to a row decoder to activate a row in the array. The row address timing is controlled by a row address strobe (RAS) signal. For example, when in a low level the RAS signal may place the memory device in a precharge state and when in a high level the RAS signal may place the memory in an active state for receiving a row address. Data is read from or written to one or more memory cells along the selected row based on a column address presented to a column decoder.

86. In a processing system that executes instructions, certain types of memory accesses may be better suited to the performance of certain processing operations. In order to enhance system performance, it may be desirable to select the type of memory access to a given memory resource to optimize execution. In a typical system, the change from one access mode to another requires a delay until the next active RAS cycle is initiated.

87. The '932 patent provides systems and methods for performing multiple access modes within a single RAS cycle, for example, by selectively performing an access of a selected type to a selected location in a first group of columns and performing an access of a second type to a selected location in a second group of columns. Advantageously, the signals that select the type of access and the target group of columns can be changed "on-the-fly."

3. Foreign Counterparts to the '932 Patent

88. Pursuant to Commission Rule 210.12(a)(9)(v), on information and belief, Exhibit 15 identifies the foreign patents or patent applications corresponding to the '932 patent this patent that have been filed, abandoned, withdrawn, or rejected.

4. Licensees Under the '932 Patent

89. Pursuant to Commission Rule 210.12(a)(9)(iii), a list identifying each licensee specifically licensed under the '932 patent is attached as Exhibit 16C.

B. U.S. Patent No. 5,963,481

1. Identification of the Patent and Ownership by Complainants

90. Complainant IV I owns by assignment the entire right, title, and interest in the '481 patent entitled "Embedded Enhanced DRAM, and Associated Method," which issued on October 5, 1999. The '481 patent issued to inventor Michael Alwais from United States Patent Application No. 09/108,089, filed on June 30, 1998. It expires on June 30, 2018. A certified copy of the '481 patent is attached as Exhibit 7. Certified copies of the recorded assignments of the '481 patent are attached as Exhibit 8.

91. Pursuant to Commission Rule 210.12(c), a certified copy and three additional copies of the prosecution history of the '481 patent, as well as four copies of the applicable pages from each technical reference cited in the prosecution history, are attached as Appendices C and D, respectively.

2. Non-Technical Description of the '481 Patent

92. The '481 patent has twenty-two claims: two independent claims and twenty dependent claims.

93. The '481 patent generally relates to systems and methods for improving access throughput in a memory device. Memory locations of a computer main memory provide storage locations from which data can be read or to which data can be written. The memory locations are typically arranged in arrays of rows and columns. Locations within the memory arrays are

identified by memory addresses. To access memory locations within the memory array, the addresses of the memory locations are provided to decoder circuitry of the memory device.

94. The decoder circuitry decodes the address signals applied thereto to permit access to the memory locations identified by the address signals. During a memory access, a row address is presented to a row decoder to activate a row in the array. The row address timing is controlled by a row address strobe ("RAS") signal. For example, when in a low level the RAS signal may place the memory device in a precharge state and when in a high level the RAS signal may place the memory in an active state for receiving a row address. Data is read from or written to one or more memory cells along the selected row based on a column address presented to a column decoder.

95. The '481 patent provides systems and methods for memory located on a common substrate in which a read or write cycle to locations in a subsequent memory row can be started while a current cycle is still in progress. As a result, a subsequent memory row is able to be accessed without incurring a precharge delay, and refresh operations can be effectuated without interfering with the memory access.

3. Foreign Counterparts to the '481 Patent

96. Pursuant to Commission Rule 210.12(a)(9)(v), on information and belief, Exhibit 15 identifies the foreign patents or patent applications corresponding to the '481 patent that have been filed, abandoned, withdrawn, or rejected.

4. Licensees Under the '481 Patent

97. Pursuant to Commission Rule 210.12(a)(9)(iii), a list identifying each licensee specifically licensed under the '481 patent is attached as Exhibit 16C.

C. **U.S. Patent No. 5,982,696**

1. **Identification of the Patent and Ownership by Complainants**

98. Complainant IV II owns by assignment the entire right, title, and interest in the '696 patent entitled "Memories With Programmable Address Decoding and Systems and Methods Using the Same," which issued on November 9, 1999. The '696 patent issued to inventor G. Mohan Rao from United States Patent Application No. 08/659,664, filed on June 6, 1996. It expires on June 6, 2016. A certified copy of the '696 patent is attached as Exhibit 9. Certified copies of the recorded assignments of the '696 patent are attached as Exhibit 10.

99. Pursuant to Commission Rule 210.12(c), a certified copy and three additional copies of the prosecution history of the '696 patent, as well as four copies of the applicable pages from each technical reference cited in the prosecution history, are attached as Appendices E and F, respectively.

2. **Non-Technical Description of the '696 Patent**

100. The '696 patent has twenty-eight claims: five independent claims and twenty-three dependent claims.

101. The '696 patent generally relates to systems and methods for electronic memories with programmable address decoders. A typical memory includes an array of memory cells organized in intersecting rows and columns. During a memory access, a row address is presented to a row decoder to activate a row in the array. Data is read from or written to one or more memory cells along the selected row based on a column address presented to a column decoder.

102. In a conventional memory, the row and column decoders are hardwired such that a given row or column address always selects only one corresponding row or column in the

array. Thus, an address selecting a given row/column of cells cannot be "moved" and used to address another row/column of cells in the same memory. This resulted in inefficient memory access because memory efficiency was at the mercy of the particular manner in which a CPU and operating system generated addresses to access the memory to execute a given task.

103. To overcome these and other problems, the '696 patent provides a programmable address decoding system and method for selectively redirecting memory address bits to an address decoder in response to a control signal. These systems and methods can, for example, allow multiple memory locations to be accessed by a single address.

3. Foreign Counterparts to the '696 Patent

104. Pursuant to Commission Rule 210.12(a)(9)(v), on information and belief, no foreign patents or patent applications corresponding to the '696 patent this patent have been filed, abandoned, withdrawn, or rejected.

4. Licensees Under the '696 Patent

105. Pursuant to Commission Rule 210.12(a)(9)(iii), a list identifying each licensee specifically licensed under the '696 patent is attached as Exhibit 16C.

D. U.S. Patent No. 5,500,819

1. Identification of the Patent and Ownership by Complainants

106. Complainant IV II owns by assignment the entire right, title, and interest in the '819 patent entitled "Circuits, Systems and Methods for Improving Page Accesses and Block Transfers in a Memory System," which issued on March 19, 1996. The '819 patent issued to inventor Michael E. Runas from United States Patent Application No. 315,934, filed on September 30, 1994. It expires on September 30, 2014. A certified copy of the '819 patent is

attached as Exhibit 11. Certified copies of the recorded assignments of the '819 patent are attached as Exhibit 12.

107. Pursuant to Commission Rule 210.12(c), a certified copy and three additional copies of the prosecution history of the '819 patent, as well as four copies of the applicable pages from each technical reference cited in the prosecution history, are attached as Appendices G and H, respectively.

2. Non-Technical Description of the '819 Patent

108. The '819 patent has nineteen claims: five independent claims and fourteen dependent claims.

109. The '819 patent generally relates to electronic memories and in particular to circuits, systems and methods for improving page accesses and block transfers in a memory system. Typically, to transfer data from one block of storage to another, the circuitry and software sequence through the source addresses and each word in the identified source block is moved (or copied) from its source address and sent to a corresponding destination address. This process reads data from the source block of memory locations a word or byte at a time and then writes that data into the destination block of memory a word or byte at a time. Such an approach to moving and copying data is slower than desired usage requirements.

110. To overcome this and other problems, the '819 provides a memory which includes an array of volatile memory cells, address decode circuitry for selecting rows and/or columns of cells in the memory array, and master sense amplifier circuitry for reading and writing data into those selected cells. It also provides for at least two sets of latching circuitry coupled to the master sense amplifiers for temporarily storing data being exchanged with the master sense amplifiers during read and write operations to the array of memory cells. These devices, systems and methods improve the speed of moving and copying data by pipelining data to and from the

master sense amplifiers during read and write operations to ensure continuous data flow. Also, such devices, systems and methods improve moving and copying time by allowing the temporary storage of data being moved or copied while the memory array is being reconfigured from a state allowing a read of source information to a state allowing the data to be read to a destination location.

3. Foreign Counterparts to the '819 Patent

111. Pursuant to Commission Rule 210.12(a)(9)(v), on information and belief, Exhibit 15 identifies the foreign patents or patent applications corresponding to the '819 patent that have been filed, abandoned, withdrawn, or rejected.

4. Licensees Under the '819 Patent

112. Pursuant to Commission Rule 210.12(a)(9)(iii), a list identifying each licensee specifically licensed under the '819 patent is attached as Exhibit 16C.

E. U.S. Patent No. 5,687,132

**1. Identification of the Patent
and Ownership by Complainants**

113. Complainant IV II owns by assignment the entire right, title, and interest in the '132 patent entitled "Multiple-Bank Memory Architecture and Systems and Methods Using the Same," which issued on November 11, 1997. The '132 patent issued to inventor G. R. Mohan Rao from United States Patent Application No. 08/548,752, filed on October 26, 1995. It expires on October 26, 2015. A certified copy of the '132 patent is attached as Exhibit 13. Certified copies of the recorded assignments of the '132 patent are attached as Exhibit 14.

114. Pursuant to Commission Rule 210.12(c), a certified copy and three additional copies of the prosecution history of the '132 patent, as well as four copies of the applicable pages

from each technical reference cited in the prosecution history, are attached as Appendices I and J, respectively.

2. Non-Technical Description of the '132 Patent

115. The '132 patent has thirty claims: five independent claims and twenty-five dependent claims.

116. The '132 patent relates generally to systems and methods for more efficient data transfers between memory locations. During a data transfer, data may be moved or copied from a source area in memory to a destination area in memory. One way to accomplish such a transfer is to use two operations—a read from the source area and a write to the destination location, typically reading and then writing a word or byte at a time.

117. The use of two operations to accomplish each data transfer can require multiple processor cycles and result in substantial inefficiencies. For example, it can require double the number of required clock cycles and it also diverts the bandwidth of the device interfaces and the interconnecting bus from other critical operations that could otherwise be occurring.

118. The '132 patent provides memory devices, systems, and methods that allow for efficient data transfers. For example, the patent provides for the construction and operation of multiple bank memories that include an array of rows and columns of memory cells. The memory may be partitioned into multiple subarrays, each including columns of memory cells. The bitlines of the columns in the subarrays can be selectively coupled together by gates organized in independently controlled groups.

119. The '132 patent describes circuitry for coupling selected ones of the bit lines of the first subarray with corresponding ones of the bit lines of the second subarray. This configuration advantageously allows for the transfer of data, for example, from a first set of columns to a second set of columns, with only a single gate delay per bit.

3. Foreign Counterparts to the '132 Patent

120. Pursuant to Commission Rule 210.12(a)(9)(v), on information and belief, Exhibit 15 identifies the foreign patents or patent applications corresponding to the '132 patent that have been filed, abandoned, withdrawn, or rejected.

4. Licensees Under the '132 Patent

121. Pursuant to Commission Rule 210.12(a)(9)(iii), a list identifying each licensee specifically licensed under the '132 patent is attached as Exhibit 16C.

V. SPECIFIC INSTANCES OF IMPORTATION AND SALE

122. On information and belief, Hynix manufactures and imports into the United States, sells for importation into the United States, and/or sells within the United States after importation the Hynix Accused Devices. The specific instances of importation of the Hynix Accused Devices set forth below are exemplary of the unlawful importation and/or sale after importation of infringing articles.

123. A representative of the Complainants purchased in the United States the below listed exemplary samples of consumer products containing Hynix Accused Devices, photographs and sales receipts of which are provided in Exhibits 17 - 28.

Brand	Product	Type	Module	Component
ASUS	Eee PC 1015PE	DDR2	HYMP112S64CP6-S6 AB-C	HY5PS1G1631C
HP	Pavilion Slimline s5747c-b	DDR2	HYMP125U64CP8-S6 AB	HY5PS1G831C
Dell	Inspiron i560-565NBK	DDR3	HMT112U6BFR8C-H9	H5TQ1G838FR
Logitech	Revue with Google TV	NAND FLASH	n/a	H27UBG8T2ATR-BC
ADATA	USB Flash Drive Classic C008	NAND FLASH	n/a	H27UCG8T2MYA-BC
Pantech	Pursuit 9020	NAND Flash	n/a	H8AES0SQ0MCP-56M

124. Hynix has made public statements on its website that all of its manufacturing occurs outside of the United States, in either South Korea or China. Exhibit 3. Indeed, in press releases Hynix has stated that it manufactures NAND Flash and DRAM in facilities in

Cheongju, South Korea and Wuxi City, Jiangsu Province, China. *See* Exhibit 29. Moreover, the consumer products identified above are all labeled as being manufactured in China, with the exception of the Dell product which indicates that it was assembled in Mexico. *See* Exhibits 18, 20, 22, 24, 26 and 28. Additionally, several of the products listed in paragraph 123 were purchased at stores owned by Retailer Respondents. *See* Exhibits 17, 19, 21, 23, 25 and 27. Furthermore, Hynix's website shows that in the United States it only has sales locations. *See* Exhibit 3. On information and belief, the products listed in paragraph 123 were imported into the United States and then sold after importation.

125. On information and belief, Elpida manufactures and imports into the United States, sells for importation into the United States, and/or sells within the United States the Elpida Accused Devices. The specific instances of importation of the Elpida Accused Devices set forth below are exemplary of the unlawful importation and/or sale after importation of infringing articles.

126. A representative of the Complainants purchased in the United States the below listed exemplary samples of consumer products containing Elpida Accused Devices, photographs and sales receipts of which are provided in Exhibits 30 - 37.

Brand	Product	Type	Module	Component
Kingston	KPR5300/1GR	DDR2	9905431-018.A00LF	E1108AFSE-8E-F
ACER	Aspire 5253-BZ661	DDR3	EBJ21UE8BFU0-DJ-F	J1108BFBG-DJ-F
HP	Pavilion dv6-3225dx	DDR3	EBJ21UE8BFU1-DJ-F	J1108BFBG-DJ-F
Kingston	HyperX Genesis DIMM	DDR3	KHX1600C9AD3K2/4GETR	J1108BFBG-DJ-F

127. Elpida has made public statements on its website that all of its manufacturing occurs outside of the United States, in Japan and Taiwan. *See* Exhibit 4. Indeed, in press releases it has stated that it manufactures DRAM in facilities in Hiroshima, Japan and Taiwan. *See* Exhibit 38. Moreover, the consumer products identified above are all labeled as being manufactured in China. *See* Exhibits 31, 33, 35 and 37. Additionally, all but one of the above

listed products in paragraph 126 were purchased at stores owned by Best Buy. See Exhibits 30, 32, 34 and 36. Furthermore, a company presentation available on Elpida's website shows that in the United States it only has sales locations and that all manufacturing occurs in Japan and Taiwan. See Exhibit 4. On information and belief, the products listed in paragraph 126 were imported into the United States and then sold after importation.

128. On information and belief, each Accused Product is made by, or on behalf of, Proposed Respondents in China, Japan, or elsewhere in Asia, or in Mexico.

129. Complainants believe that the Hynix and Elpida Accused Devices fall under one or more of the following classifications of the Harmonized Tariff Schedule of the United States ("HTSUS"): Subheading Nos. 8542.32.00, HTSUS (related to DRAMs, flash devices, and MCPs); and/or 8471.70.60, HTSUS, (related to DRAMs, flash devices, and MCPs). These HTSUS identifications are illustrative and not exhaustive. The identifications are not intended to limit the scope of the Investigation, nor are they intended to restrict the scope of any exclusion order or other remedy issued by the Commission.

**VI. UNLAWFUL AND UNFAIR ACTS
COMMITTED BY PROPOSED RESPONDENTS**

130. On information and belief, the Proposed Respondents unlawfully sell for importation, import, and/or sell after importation into the United States Hynix Accused Devices and products containing same that directly or indirectly infringe at least the patent claims listed below:

U.S. Patent No.	Hynix Memory	Exemplary Asserted Claims
5,654,932	DRAM	28
5,963,481	DRAM	16 and 17
5,982,696	DRAM	1, 5-7, 13, 18-19, 21, and 23-24
5,500,819	NAND Flash	17 and 19
5,687,132	NAND Flash	1-2, 4, 6, 9-10, and 28-29

131. On information and belief, Hynix has induced, and continues to induce, others to infringe at least the above listed claims. On information and belief, Hynix has taken active steps to encourage and facilitate direct infringement by others, such as sellers and distributors and/or users of the Hynix Accused Devices, with knowledge of that infringement, such as by contracting for the distribution of the Hynix Accused Devices, by marketing the Hynix Accused Devices, and by creating and/or distributing datasheets, application notes, and/or similar materials with instructions on using the Hynix Accused Devices.

132. On information and belief, Hynix has contributorily infringed, and continues to contributorily infringe, at least the above listed claims. On information and belief, Hynix has sold for importation into the United States, offered for sale within the United States, and/or imported into the United States Hynix Accused Devices that embody a material part of the claimed inventions, that are known by Hynix to be specially made or specially adapted for use in an infringing manner and that are not staple articles or commodities suitable for substantial, non-infringing use.

133. Hynix has been aware of its infringement of U.S. Patent Nos. 5,654,932; 5,687,132; 5,963,481; and 5,982,696, due to prior licensing negotiations in August 2009 and in March, April, May, September, November, December 2010 and February 2011 as set forth in the Confidential Declaration attached as Exhibit 47C. By service of this Complaint, Hynix is on further notice that the technology practiced by the Hynix Accused Devices is both patented and infringing and comprises a material part of the inventions claimed in the Asserted Patents. Moreover, Complainants have sent a notice of infringement letter to Hynix prior to the filing of this Complaint.

134. Claim charts that apply each of the asserted independent claims of the Asserted Patents to exemplary Hynix Accused Devices are attached hereto as Exhibits 39C - 43C. Further discovery may reveal that other Hynix devices infringe the claims of the Asserted Patents and/or that additional claims of the Asserted Patents are infringed by Hynix's devices.

135. On information and belief, the Proposed Respondents unlawfully sell for importation, import, and/or sell after importation into the United States Elpida Accused Devices and products containing same that directly or indirectly infringe at least the claims listed below:

U.S. Patent No.	Elpida Memory	Exemplary Asserted Claims
5,654,932	DRAM	28
5,963,481	DRAM	16 and 17
5,982,696	DRAM	1, 5-7, 13, 18-19, 21, and 23-24

136. On information and belief, Elpida has induced, and continues to induce, others to infringe at least the claims listed above. On information and belief, Elpida has taken active steps to encourage and facilitate direct infringement by others, such as sellers and distributors and/or users of the Elpida Accused Devices, with knowledge of that infringement, such as by contracting for the distribution of the Elpida Accused Devices, by marketing the Elpida Accused Devices, and by creating and/or distributing datasheets, application notes, and/or similar materials with instructions on using the Elpida Accused Devices.

137. On information and belief, Elpida has contributorily infringed, and continues to contributorily infringe, at least the claims listed above. On information and belief, Elpida has sold for importation into the United States, offered for sale within the United States, and/or imported into the United States Elpida Accused Devices that embody a material part of the claimed inventions, that are known by Elpida to be specially made or specially adapted for use in an infringing manner and that are not staple articles or commodities suitable for substantial, non-infringing use.

138. Elpida has been aware of its infringement of U.S. Patent Nos. 5,654,932; 5,963,481; and 5,982,696, due to prior licensing negotiations in October and November 2010 as set forth in Confidential Declaration, Exhibit 47C. By service of this Complaint, Elpida is on further notice that the technology practiced by the Accused Devices is both patented and infringing and comprises a material part of the inventions claimed in the Asserted Patents. Moreover, Complainants have sent a notice of infringement letter to Elpida prior to the filing of this Complaint.

139. Claim charts that apply each of the asserted independent claims of the Asserted Patents to exemplary Elpida Accused Devices are attached hereto as Exhibits 44C - 46C. Further discovery may reveal that other Elpida devices infringe the claims of the Asserted Patents and/or that additional claims of the Asserted Patents are infringed by Elpida's devices.

VII. THE DOMESTIC INDUSTRY

A. Licensing

140. Complainants' substantial investments in the United States in the exploitation of the Asserted Patents, including through licensing, constitutes a domestic industry under 19 U.S.C. § 1337(a)(3)(C).

141. Such investments include, *inter alia*, the acquisition of patents; the grouping of patents into desirable packages; research into the relevant product markets; investigation of potential licensees; reverse engineering of potentially infringing products; preparation of technical claim charts; active efforts to negotiate licenses, including preparation for and travel to meetings with potential licensees; and preparation for litigation for the purpose of licensing.

142. Complainants conduct their licensing operations through affiliated licensing entities under the direction of IV Management. *See* Exhibit 1C.

143. Approximately 350 dedicated service providers resident in the U.S. offices of Intellectual Ventures are engaged on a fulltime basis in Complainants' licensing efforts. These dedicated service providers include engineers, licensing executives, marketing and business development personnel, accounting and finance personnel, transactional attorneys, patent attorneys, patent acquisition experts, business development experts, and support staff. All of these personnel contribute to licensing efforts with respect to the entire Intellectual Ventures patent portfolio, including the Asserted Patents.

144. As part of their exploitation of the Asserted Patents, Complainants license custom patent portfolios, including the Asserted Patents, to participants in the Funds and to outside entities. Such license agreements help those companies manage risk and maintain an innovative edge.

145. Intellectual Ventures has earned substantial revenue licensing its patents to some of the world's most innovative and successful technology companies. Those licensees use Intellectual Ventures' patented technology in making computer equipment, software, semiconductor devices, and a host of other products.

146. Complainants' licensing investments and activities are substantial both in absolute terms and relative to their overall operations, taking into account the nature of such expenditures in the DRAM and NAND Flash memory industries in general, the Complainants' relative size, and the relative importance of Complainants' domestic operations compared to any activities overseas.

147. The Confidential Declaration attached as Exhibit 47C sets forth in further detail Complainants' licensing activities and expenditures with respect to the Asserted Patents.

B. Micron's Significant Investment in Plant and Equipment, Significant Employment of Labor or Capital and Substantial Investment in Engineering and Research and Development

148. Complainants have licensed U.S. Patent Nos. 5,654,932; 5,963,481; 5,982,696; 5,500,819; and 5,687,132 to Micron Technology, Inc. ("Micron") for use in the manufacture and research and development and engineering of DRAM and NAND Flash memory. *See* Exhibit 48C.

149. On information and belief, Micron engages in manufacturing, engineering and research and development activities in the United States with respect to the Asserted Patents. Micron's investment in U.S. plant and equipment and labor and capital is significant. Moreover, Micron has made substantial investment in engineering and research and development with respect to exploiting the Asserted Patents considering the industry in general, Micron's relative size, and the relative importance of Micron's domestic operations compared to any of its activities overseas.

150. Micron's DDR3 SDRAM component and module products practice at least U.S. Patent Nos. 5,963,481 claim 16; 5,654,932 claim 28; and 5,982,696 claim 1. Micron's NAND Flash products practice at least U.S. Patent No. 5,687,132 claim 1 and 5,500,819 claim 17. Exemplary part numbers for each product category are MT41J128M8JP 1G DDR3, and MT29F32G08CBAAA 32GB NAND Flash. With respect to the patent claims addressed in this paragraph, these part numbers are exemplary of the Micron DDR3 SDRAM, and NAND Flash products referenced in this complaint and are referred to as "Intellectual Ventures Licensed Products." Claim charts that apply the '932, '481, '696, '819, and '132 patents to Micron's products are attached as Exhibits 49 - 53C.

151. On information and belief, Micron manufactures and sells Intellectual Ventures Licensed Products through four separate divisions: 1) DRAM Solutions Group ("DSG"), which

includes high-volume DRAM products sold to the PC, consumer electronics, networking and server markets; 2) NAND Solutions Group ("NSG"), which includes high-volume NAND Flash products sold into data storage, personal music players, and portions of computing markets, as well as NAND Flash products sold to Intel through its consolidated IM Flash joint ventures; 3) Wireless Solutions Group ("WSG"), which includes DRAM and NAND Flash products, including multi-chip packages, sold to the mobile device market; and 4) Embedded Solutions Group ("ESG"), which includes DRAM and NAND Flash products sold into automotive and industrial applications, as well as NAND Flash sold to consumer electronics, networking, PC and server markets. *See Exhibit 54.*

152. On information and belief, Micron is headquartered in Boise, Idaho and employs approximately 10,000 individuals in the United States. *See Exhibits 54 & 55.* Work is done at its headquarters facility to develop and commercialize the next generation of its current Intellectual Ventures Licensed Products. Additionally, Micron's process development center and largest design center are located at its headquarters which research and develop manufacturing methods and designs for products covered by the Micron license, both in the United States and abroad. *See Exhibit 55.*

153. On information and belief, Micron Technology Virginia is based in Manassas, Virginia at 9600 Godwin Drive and manufactures memory chips used in cell phones, mobile music and video players, notebook computers and more. *See Exhibit 56.* Micron Technology Virginia is a subsidiary or division of Micron. This site is a premier 300 mm wafer fabrication facility deploying the world's most advanced memory technology. Micron's DRAM and NAND Flash products are manufactured in this facility. Micron Technology Virginia employs approximately 1,600 individuals. Micron plans on making an additional \$56 million dollar

investment in this facility, which will increase wafer production and create an additional 123 new jobs, as announced by the Governor of Virginia on November 23, 2010. *See* Exhibit 57.

154. On information and belief, approximately 2,300 individuals, located primarily in the United States, are employed through a joint venture of Micron with Santa Clara, California based Intel Corporation regarding NAND Flash manufacture. *See* Exhibit 54. As part of this joint venture, Micron operates a NAND Flash memory manufacturing facility in Lehi, Utah at 1550 East 3400. *See* Exhibit 56. All the products manufactured at this facility are Intellectual Ventures Licensed Products.

155. On information and belief, Micron's net value of property, plant and equipment in the United States is \$3,925,000,000. *See* Exhibit 54. The Confidential Declaration attached as Exhibit 58C sets forth in further detail Micron's domestic investments and activities with respect to articles protected by the Asserted Patents.

VIII. GENERAL EXCLUSION ORDER

156. A general exclusion order ("GEO") permanently excluding from entry into the United States products containing infringing DRAM and Flash Memory devices is warranted because such an order is necessary to prevent circumvention of an exclusion order limited to the Accused Products of the Proposed Respondents. In addition, a GEO is warranted because there is a pattern of violation of Section 337 and it is difficult to identify the source of all the infringing products.

157. Complainants have identified the entities for which they have substantial evidence of sale for importation, importation or sale after importation into the United States of consumer products containing infringing DRAM and NAND Flash memory devices. On information and belief, however, additional entities are engaged in the manufacture, sale for importation, importation, and sale after importation of similar infringing products, which Complainants have

not listed in this Complaint because they have been unable to identify all sources of those infringing products.

158. Consumer products containing DRAM and/or NAND Flash memory devices are offered for sale and sold via the "brick and mortar" stores and websites of various distributors and retailers, including as yet unidentified distributors and retailers. Such distributors and retailers do not typically identify the source of the DRAM or NAND Flash memory devices contained within their products.

159. On information and belief, manufacturers and sellers of consumer products often obtain DRAM and NAND Flash memory devices from multiple sources, making it possible that a consumer product purchased from a given seller may include DRAM and/or NAND Flash memory devices from any one of multiple overseas manufacturers.

160. Due to the complicated nature of the supply chains for the Accused Products, a GEO is necessary to prevent circumvention of an exclusion order limited to the Accused Products of the Proposed Respondents. Moreover, the complex manner in which the Accused Products are manufactured, sold, and imported into the United States indicates there is a pattern of violation of Section 337 making it difficult to identify all sources of the infringing products.

IX. RELATED LITIGATION

161. The Asserted Patents are the subject of a Civil Action in the U.S. District Court for the Western District of Washington at Seattle, case no. 2:11-cv-01145, filed on July 11, 2011, by Plaintiffs Intellectual Ventures I LLC and Intellectual Ventures II LLC, naming as Defendants each of the proposed Respondents in this Complaint. On information and belief, the Asserted Patents have not been the subject of any other court or agency litigation, domestic or foreign.

X. RELIEF REQUESTED

WHEREFORE, by reason of the foregoing, Complainants respectfully request that the United States International Trade Commission:

- (a) institute an immediate investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, into the violations by proposed Respondents of Section 337 arising from the importation into the United States, and/or sale for importation and/or sale within the United States after importation, of proposed Respondents' dynamic random access memory (DRAM) devices and NAND Flash memory devices and products containing same that infringe one or more claims of U.S. Patent Nos. 5,654,932; 5,963,481; 5,982,696; 5,500,819; and 5,687,132; and
- (b) schedule and conduct a hearing, pursuant to 19 U.S.C. § 1337(c) for purposes of receiving evidence and hearing argument concerning whether there has been a violation of Section 337 and, following the hearing, determine that there has been a violation of Section 337; and
- (c) issue a permanent general exclusion order, pursuant to 19 U.S.C. § 1337(d)(2), excluding from entry into the United States all products containing DRAM devices and NAND Flash memory devices manufactured by the Memory Manufacturer Respondents that infringe one or more claims of U.S. Patent Nos. 5,654,932; 5,963,481; 5,982,696; 5,500,819; and 5,687,132; and
- (d) issue a permanent limited exclusion order, pursuant to 19 U.S.C. § 1337(d)(1), excluding from entry into the United States all DRAM devices and NAND Flash memory devices and products containing same that are manufactured, imported, and/or sold by or on behalf of the Proposed Respondents, their affiliates,

subsidiaries, successors, or assigns and that infringe one or more claims of U.S. Patent Nos. 5,654,932; 5,963,481; 5,982,696; 5,500,819; and 5,687,132; and

- (e) issue a permanent order, pursuant to 19 U.S.C. § 1337(f), directing proposed Respondents to cease and desist from importing, selling, offering for sale, using, demonstrating, promoting, marketing, and/or advertising in the United States, or otherwise transferring outside the United States for sale in the United States proposed Respondents' DRAM and NAND Flash memory devices and products containing same that infringe one or more claims of U.S. Patent Nos. 5,654,932; 5,963,481; 5,982,696; 5,500,819; and 5,687,132; and
- (f) grant all such other and further relief as the Commission deems appropriate under the law, based upon the facts complained of herein and as determined by the Investigation.

Date: July 12, 2011

Respectfully submitted,



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VERIFICATION OF COMPLAINT

I, Peter Detkin, declare, in accordance with 19 C.F.R. §§ 210.4 and 210.12(a), under penalty of perjury, that the following statements are true and correct:

1. I am currently Co-Founder and Managing Director of Intellectual Ventures Management, LLC, and am duly authorized to sign this Complaint on behalf of the above-described Complainants;

2. I have read the foregoing Complaint and am aware of its contents;

3. To the best of my knowledge, information and belief, formed after an inquiry reasonable under the circumstances, the allegations and other factual contentions of the foregoing Complaint have evidentiary support or, if specifically so identified, are likely to have evidentiary support after a reasonable opportunity for further investigation or discovery;

4. To the best of my knowledge, information and belief, formed after a reasonable inquiry, the claims, defenses, and other legal contentions of the foregoing Complaint are warranted by existing law or by a nonfrivolous argument for the extension, modification, or reversal of existing law or the establishment of new law; and

5. To the best of my knowledge, information and belief, formed after an inquiry reasonable under the circumstances, the foregoing Complaint is not being filed for an improper purpose, such as to harass or to cause unnecessary delay or needless increase in the cost of the litigation or any related proceeding.

Executed on this 11 day of July, 2011.



Peter Detkin
Co-Founder and Managing Director
Intellectual Ventures Management, LLC