

FILED

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
ALEXANDRIA DIVISION

2014 NOV -4 P 3:30

SAMSUNG ELECTRONICS CO., LTD., and
SAMSUNG ELECTRONICS AMERICA,
INC.,

Plaintiffs,

v.

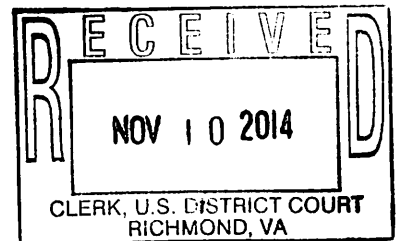
NVIDIA CORPORATION, VELOCITY
MICRO, INC. D/B/A VELOCITY MICRO,
AND VELOCITY HOLDINGS, LLC

Defendants.

CIVIL ACTION NO.

3:14-cv-00757
CLERK U.S. DISTRICT COURT
ALEXANDRIA, VIRGINIA
REO

JURY TRIAL DEMANDED



COMPLAINT

Plaintiffs Samsung Electronics Company, Ltd. ("SEC") and Samsung Electronics America, Inc. ("SEA") (collectively "Samsung"), by and through their undersigned attorneys, hereby file this Complaint against NVIDIA Corporation ("NVIDIA"), Velocity Micro, Inc. d/b/a Velocity Micro, and Velocity Holdings, LLC (collectively "Velocity"). All defendants will be referred to collectively as "Defendants." Samsung states as follows:

THE PARTIES

1. Plaintiff SEC is a multi-national corporation organized under the laws of Korea with its principal place of business located at 416 Maetan-3dong, Yeongtong-gu, Suwon-City, Gyeonggi-do, Korea 443-742.

2. Plaintiff SEA is a corporation organized and existing under the laws of the state of New York with its principal place of business in Ridgefield Park, New Jersey and is a wholly-owned subsidiary of SEC.

3. Defendant NVIDIA is a Delaware corporation with its headquarters located at 2701 San Tomas Expressway, Santa Clara, California 95050. NVIDIA imports into the United

States, offers for sale, sells and/or uses in the United States graphics processing units (GPUs), system on a chip (SOC) units, graphics cards, and mobile computing devices such as tablet computers.

4. Defendant Velocity Micro, Inc., which does business in Virginia as Velocity Micro, is a corporation organized and existing under the laws of Delaware with its principal place of business located at 7510 Whitepine Road, Richmond, Virginia 23237. The State Corporation Commission of the Commonwealth of Virginia lists Velocity Micro, Inc.'s principal office as 9030 Stony Point Parkway, Suite 400, Richmond, Virginia, 23235. Velocity Micro, Inc. incorporates NVIDIA GPUs, SOC's, and/or graphics cards in products that it offers for sale, sells and/or uses in the United States.

5. Defendant Velocity Holdings, LLC is a limited liability corporation organized and existing under the laws of Virginia with its principal place of business located at 825 Grove Rd. Suite 3, Midlothian, Virginia 23114. The members of Velocity Holdings, LLC reside in the Eastern District of Virginia. Velocity Holdings, LLC is a manufacturer of computers that it offers for sale, sells and/or uses in the United States.

SAMSUNG

6. From its inception as a small business in Taegu, Korea, Samsung has grown to become one of the world's leading electronics companies, specializing in digital products, semiconductors, memory, and system integration. Today, Samsung's innovative consumer products are widely recognized and appreciated across the globe. Samsung designs, develops, manufactures, and sells leading consumer electronics, including mobile phones, smartphones, tablet computers, and laptop computers.

7. Samsung has a long history of groundbreaking innovation across a wide range of technologies. During the 1970s and 1980s, Samsung's core technology businesses diversified and expanded globally. For example, Samsung began production of personal computers in 1983 and selected telecommunications and semiconductors as core business lines in 1988. *About Samsung*, Samsung, <http://www.samsung.com/us/aboutsamsung/corporateprofile/history04.html>. During this period, Samsung additionally challenged itself to restructure old businesses and enter new ones with the aim of becoming one of the world's top five electronics companies.

8. Samsung's commitment to innovation is demonstrated in part by the billions of dollars in research and development expenditures incurred over the years. From 2005 through 2010 alone, Samsung invested more than \$35 billion in research and development. More than a quarter of all Samsung employees—over 55,100 engineers overall—are engaged in cutting-edge research and development projects.

9. Samsung's commitment to innovation and investment in research and development is demonstrated by the fact that SEC has in its portfolio over 40,000 United States utility patents and over 4,000 design patents. Samsung is consistently ranked ahead of other technology companies in terms of the number of issued patents obtained in the United States, with over 4,000 U.S. utility patents issued each year in recent years.

10. Samsung is the assignee and owner of the patents at issue in this action, which relate to semiconductor technologies and computing devices: U.S. Patent No. 5,860,158 (the "158 Patent"), U.S. Patent No. 6,282,938 (the "938 Patent"), U.S. Patent No. 6,287,902 (the "902 Patent"), U.S. Patent No. 6,819,602 (the "602 Patent"), U.S. Patent No. 8,252,675 (the "675 Patent"), U.S. Patent No. 6,804,724 (the "724 Patent"), U.S. Patent No. 7,073,054 (the

“’054 Patent), and U.S. Patent No. 5,777,854 (the “’854 Patent”) (collectively the “Asserted Patents”).

11. Samsung has expended significant resources and efforts to become a pioneer in the area of mobile devices including smartphones, tablets, and computers. Samsung’s research and development successes have propelled the company to its status as one of the world’s leading electronics companies.

12. As the Android operating system has grown, Samsung has grown with it to become the leading supplier of Android-based devices, including both Android-based smartphones and Android-based tablet computers.

13. Samsung has also continuously innovated in the design and manufacturing of semiconductor products. Samsung established its first semiconductor fabrication facility in 1984 and began solidifying its position as a leading company in semiconductor technology. Samsung’s semiconductor research and development has led numerous industry innovations. Just one year after its initial semiconductor facility was established, Samsung established the industry’s first 6 inch fabrication facility in 1985. In 1992, Samsung developed the world’s first 64Mb DRAM. In 1998, Samsung began shipping the world’s first 128 Mb flash memory, and in 2006 Samsung launched the world’s first 32GB solid state disk drive.

14. Because of Samsung’s commitment to semiconductor research and development, Samsung is now recognized as one of the world’s leading semiconductor manufacturers. Samsung’s semiconductor foundry labs include state-of-the-art facilities that support volume production of chips using 90 nm, 65 nm, 45/40 nm, and 32/28 nm processes.

15. Samsung's deep experience and comprehensive knowledge of high-volume manufacturing technology has led to numerous innovations in the design and manufacturing of graphics technologies and computing devices.

16. Without the ability to enforce its intellectual property rights, such as those relating to the semiconductor technologies and computing devices at issue in this action, Samsung would not be able to sustain the extensive commitment to research and development that has enabled it to lead the way into numerous improvements across a broad range of technologies.

NVIDIA

17. NVIDIA designs, develops, manufactures, imports, and sells GPUs, SOC's, and graphics cards for a wide range of products including mobile devices and desktop systems. NVIDIA creates and uses reference graphics card designs for incorporating NVIDIA GPUs and SOC's into graphics cards, in addition to designing, manufacturing, using and selling graphics cards. NVIDIA additionally manufactures, or contracts others to manufacture, mobile processors for smartphones and tablets. NVIDIA sells tablet computers under the name "SHIELD Tablet." NVIDIA's tablet computers use the Android operating system and compete directly with Samsung tablet computers that also incorporate the Android operating system.

18. NVIDIA sells and offers to sell products and services throughout the United States, including in this Judicial District, through its website and through major electronics retailers in North America. NVIDIA introduces products and services that infringe the Asserted Patents knowing that they would be sold in this Judicial District and elsewhere in the United States.

19. NVIDIA conducts a significant amount of business in Virginia through online sales and advertisements directly to consumers and through product sales by NVIDIA's

distributors and resellers. NVIDIA targets Virginia residents through training programs offered in this Judicial District, such as “CUDA Defense Workshops” offered for consumers of its GPU platforms and products. *See Cuda Defense Workshops*, Acceleware <http://www.acceleware.com/cuda-defense-workshops>. CUDA Defense Workshops are multi-day training programs “designed for programmers working in the defense industry, who are looking to develop skills in application design and optimization to fully leverage the parallel computing capabilities of compute GPUs using the CUDA platform.” (*Id.*) For example, NVIDIA sponsored and delivered a free two-day CUDA Defense Workshop on its GPU products on May 23-24, 2013 at 13600 Eds Dr., Herndon, VA 20171. *Id.*

20. NVIDIA is registered as a foreign corporation with the Commonwealth of Virginia and may be served with process through its registered agent in the Commonwealth of Virginia, Corporation Service Company, 1111 E. Main St., Richmond, VA 23219.

VELOCITY

21. Velocity produces custom high-performance desktop and mobile computers (including tablets) that are designed for applications such as gaming, digital graphic design, home theater use, and common home and office use. Velocity also provides personal computers designed for specialized applications, including scientific workstations. As of October 29, 2014, Velocity advertised itself as “the premier high-performance innovator of consumer technology and electronics in North America.” *About Us*, Velocity, <http://www.velocitymicro.com/about.php>. Velocity additionally advertised that it is “100% based in the USA in Richmond, VA” *id.* and that its laptop computers are “[a]ssembled by our expert engineers in Richmond, VA” *Gaming and Enthusiast Laptops*, Velocity, <http://www.velocitymicro.com/gaming-laptops.php>.

22. Velocity prominently advertises that several of its product lines use NVIDIA GPUs. For example, on February 18, 2014, Velocity announced “the immediate availability of the NVIDIA GeForce GTX 750, GTX 750 Ti, and the amazing GTX TITAN Black in select Gaming/Enthusiast and Workstation desktops.” *Press Release - NVIDIA GeForce GTX 750, 750 Ti, and TITAN Black*, Velocity (Feb. 18, 2014), <http://www.velocitymicro.com/press-release-nvidia-geforce-gtx.php>. “‘Every evolution of the GeForce cards presents better and better choices for consumers, and these new products are no exception,’ said Randy Copeland, President and CEO of Velocity. ‘With the best-in-class performance of the TITAN Black and incredible price for performance of the GTX 750 and 750 Ti, NVIDIA has brought two great choices to market. We’re excited to offer them to our enthusiast customers.’” *Id.*

23. In another example, on May 23, 2013, Velocity issued a press release announcing “desktops powered by NVIDIA GeForce GTX 780.” *Press Release*, Velocity (May 23, 2013), http://www.velocitymicro.com/pr_20130523.php. “‘Since our first Editors’ Choice award in 2002, we’ve seen PC hardware come a long way. NVIDIA has always led the way in that innovation,’ said Randy Copeland, President and CEO of Velocity. ‘After spending a few days testing the GeForce GTX 780, all I can say is WOW – they’ve done it again. This is seriously fast hardware and a must have for enthusiasts.’” *Id.*

24. In yet another example, on May 25, 2010, Velocity issued a press release announcing the release of its “Raptor X17 Notebook Featuring NVIDIA® GeForce® GTX 480M Mobile Graphics.” *Press Release*, Velocity (May 25, 2010), http://www.velocitymicro.com/pr_20102505.php. “‘With the release of the NVIDIA GeForce GTX 480M, we’re able to provide a new level of mobile gaming performance to our customers

who demand the best hardware,’ said Chip Lowell, VP of Sales for Velocity. ‘This is more than just a desktop replacement. It’s the ultimate mobile gaming system.’” *Id.*

25. Velocity has a history of issuing press releases prominently advertising Velocity as the global launch partner of select NVIDIA GPUs. For example, on June 5, 2006, Velocity issued a press release announcing it as a global launch partner for NVIDIA’s GeForce 7950 GX2 Graphics Solution. *Press Release*, Velocity (June 5, 2006), <http://www.velocitymicro.com/press-release-nvidia-geforce-gtx.php>. “‘We are proud to be a global launch partner with NVIDIA on this exciting new graphics solution. NVIDIA GeForce 7950 GX2 takes gaming performance to extreme levels,’” said Randy Copeland, Velocity President and founder. Our strong relationship with NVIDIA enables us to continue to offer our customers the level of innovation and performance that they’ve grown to expect from us.’” *Id.* Ujesh Desia, general manager of desktop GPUs at NVIDIA, stated that “[w]ith that kind of graphics horsepower at their disposal, Velocity has the knowledge necessary to configure a PC for customers of BestBuy.com that will deliver an immersive, high-performance gaming experience.’” *Id.*

26. In another example, Velocity issued a press release announcing that “Velocity Micro Partners With NVIDIA To Launch GeForce 6 Series of Graphics.” *Press Release*, Velocity (April 16, 2004), http://www.velocitymicro.com/pr_20041604.php. “‘We’re pleased to be able to launch such compelling technology in conjunction with a well-respected company like NVIDIA,’ said Velocity founder and president Randall Copeland. ‘This partnership is just one of the many reasons why Velocity Micro is able to offer premium products to meet the needs of all its customers.’” *Id.*

27. Velocity sells desktop and laptop computers that incorporate NVIDIA GPUs. Velocity competes with Samsung in the sale of computers.

28. In 2010, Velocity introduced a tablet computer under the name “Cruz Tablet” that uses the Android operating system and competes with Samsung tablet computers that incorporate the Android operating system.

29. Velocity sells and offers to sell products and services throughout the United States, including in this Judicial District, through its website and through major electronics retailers in North America. Velocity advertises that it “competes on a national level with a full product line that includes PCs, notebooks, and peripherals. Velocity products have been sold at nearly every major electronics retailer in North America including Best Buy, Circuit City, RadioShack, Costco, Sears, Target, and many others.” *Company History*, Velocity, <http://www.velocitymicro.com/velocity-story.php>. Velocity introduces products and services that infringe the Asserted Patents knowing that they would be sold in this Judicial District and elsewhere in the United States.

JURISDICTION AND VENUE

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

31. Pursuant to 28 U.S.C. § 1367(a), this Court also has supplemental jurisdiction over the state law claim of false advertising under Va. Code §§ 18.2-216 and 59.1-68.3. This state law claim is so related to the claims under which the Court has original subject matter jurisdiction that it forms part of the same case and controversy under Article III of the United States Constitution.

32. Pursuant to 28 U.S.C. § 1332, this Court also has subject matter jurisdiction over the state law claim asserted in this action because there is complete diversity between the parties to the state law claim and because the amount in controversy against defendant NVIDIA separately exceeds the value of \$75,000, exclusive of interests and costs.

33. This Court has personal jurisdiction over NVIDIA and Velocity by virtue of the business activities Defendants conduct within the Commonwealth of Virginia, resulting in sufficient minimum contacts with this forum. NVIDIA and Velocity conduct substantial business activities in the state, including acts of patent infringement that have injured Samsung, and therefore Defendants have purposefully availed themselves of the laws of the Commonwealth of Virginia.

34. NVIDIA and Velocity directly and/or through intermediaries make, offer for sale, sell, and/or advertise (including through a website) products and services in the Commonwealth of Virginia and in this Judicial District. Defendants NVIDIA and Velocity purposefully and voluntarily place their infringing products into the stream of commerce with the expectation that they will be purchased by consumers in the Commonwealth of Virginia and in this Judicial District. These infringing products have been and continue to be purchased by consumers in the Commonwealth of Virginia and in this Judicial District.

35. NVIDIA has been registered as a foreign corporation with the Commonwealth of Virginia since at least May 12, 2010. NVIDIA may be served with process through its registered agent in the Commonwealth of Virginia, Corporation Service Company, 1111 E. Main St., Richmond, VA 23219.

36. Velocity advertised that it is “100% based in the USA in Richmond, VA.” *About Us*, Velocity, <http://www.velocitymicro.com/about.php>. Velocity additionally advertised that its

laptop computers are “[a]ssembled by our expert engineers in Richmond, VA.” *Gaming and Enthusiast Laptops*, Velocity, <http://www.velocitymicro.com/gaming-laptops.php>. Velocity has been registered as a corporation with the Commonwealth of Virginia since at least January 7, 1998. Velocity may be served with process through their registered agents in the Commonwealth of Virginia, Freed & Shepherd, P.C., 9030 Stony Point Pkwy Suite 400, Richmond, VA 2325 and Gary S Cook, 4551 Cox Rd Suite 210, Glen Allen, VA 23060.

37. Venue is proper in this Judicial District pursuant to 28 U.S.C. §§ 1391(b)-(c) and 1400(b) because Defendants have conducted business in this Judicial District, have offices and facilities in this District, have committed specific acts of infringement and/or induced or contributed to acts of infringement in this District, and continue to commit and/or induce or contribute to acts of infringement in this District, entitling Samsung to relief.

FIRST CLAIM FOR RELIEF
INFRINGEMENT OF U.S. PATENT NO. 5,860,158
(AGAINST NVIDIA AND VELOCITY)

38. Each of the above listed paragraphs is incorporated herein by reference, and adopted, as if set forth fully again.

39. The '158 Patent was filed on November 15, 1996, issued on January 12, 1999, and is entitled “Cache Control Unit With A Cache Request Transaction-Oriented Protocol.” The '158 Patent is generally directed to a cache control unit and a method of controlling a cache.

40. SEC was assigned the '158 Patent and continues to hold all rights, title, and interest in the '158 Patent. A true and correct copy of the '158 Patent is attached hereto as Exhibit A.

41. NVIDIA has directly infringed and continues to directly infringe one or more of the claims of the '158 Patent by making, using, offering to sell, selling, or importing its

infringing devices, including but not limited to the NVIDIA Tegra 250 processor and the NVIDIA Tegra 3 T33 processor.

42. Velocity has directly infringed and continues to directly infringe one or more of the claims of the '158 Patent by making, using, offering to sell, selling, or importing its infringing devices, including but not limited to the Cruz Tablet L510 incorporating the NVIDIA Tegra 250 processor.

43. NVIDIA and Velocity indirectly infringe the '158 Patent by inducing infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(b), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, customers, importers, resellers, and/or end-use customers by, for example, the manufacture, offer for sale, sale, importation, or use of infringing devices.

44. NVIDIA and Velocity have induced and continue to induce infringement of the '158 Patent by intending that others infringe the '158 patent by making, using, importing, offering for sale, or selling in the United States products covered by one or more claims of the '158 Patent including, but not limited to, the products listed above.

45. NVIDIA and Velocity provide the identified products to others, such as manufacturers, customers, resellers, and end-use consumers who, in turn, make, use, import into, offer for sale, or sell in the United States products that infringe one or more claims of the '158 Patent.

46. NVIDIA has had actual knowledge of, or was willfully blind to, the Asserted Patents since at least as early as August 7, 2013. In 2013, Samsung and NVIDIA were engaged in negotiations regarding rights to various patents and, on August 7, 2013, Samsung sent

infringement claim charts and other documents to NVIDIA that specifically highlighted certain exemplary patents, claims, and products. Although Samsung avers that NVIDIA had notice of the Asserted Patents at least as of that submission date, at the very latest, NVIDIA received actual notice of the Asserted Patents as of the date this complaint was filed and served.

47. Velocity received notice of the Asserted Patents at least as of the date this complaint was filed and served.

48. NVIDIA and Velocity designed the infringing products such that they would each infringe one or more claims of the '158 Patent if made, used, sold, offered for sale, or imported into the United States.

49. NVIDIA provides the infringing products, and reference designs for the infringing products, to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '158 Patent. Through its manufacture (either directly, or through contract manufacturing facilities) and/or sale of the infringing products, NVIDIA specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '158 Patent.

50. Velocity provides the infringing products to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '158 Patent. Through its manufacture, testing, use, and/or sale of the infringing products, Velocity specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '158 Patent.

51. NVIDIA specifically intends for others, such as OEMs, manufacturers, importers, resellers, customers, and end users, to directly infringe one or more claims of the '158 Patent in the United States. For example, NVIDIA advertised its "NVIDIA Authorized Board Partner Program ensures an exceptional customer experience when purchasing graphics cards and motherboards manufactured by partners that make use of NVIDIA's latest technologies." *NVIDIA PartnerForce Info*, NVIDIA, http://www.nvidia.com/object/pf_boardpartners.html. NVIDIA claims that its "NVIDIA Authorized Board Partners offer the latest technologies from NVIDIA" and lists six Authorized Board Partners in the United States, six in Canada, and none in any other countries. *Id.* NVIDIA also lists ten distributors in the United States (including "pre and post sales technical support") and seven in Canada but none in any other country. *See id.*

52. As an additional example, as of October 31, 2014, NVIDIA also advertised the "NVIDIA PartnerForce Program" which is "a sales and marketing program for value-added resellers, system builders, etailers and retailers who sell NVIDIA based components or systems." *NVIDIA PartnerForce Program*, NVIDIA, <http://www.nvidia.com/page/channel.html>. NVIDIA advertises in the United States and in this judicial district that "[b]y joining the PartnerForce Program, you may leverage the world-class brands and technology platforms from NVIDIA, sales and technical support from our experienced team and hundreds of turnkey sales and marketing tools." *Id.*

53. NVIDIA also provides marketing materials and templates, including retail display items, web banners, copy blocks, logos, product shots, email and web page templates, to members of the "NVIDIA PartnerForce Program" which includes value-added resellers, system

builders, etailers and retailers inducing them to offer to sell and sell NVIDIA products that infringe the '158 Patent in the United States. *See id.*

54. NVIDIA and Velocity also provide OEMs, manufacturers, importers, resellers, customers, and end users instructions, user guides, and technical specifications. When OEMs, manufacturers, importers, resellers, customers, and end users follow such instructions, user guides, and/or other design documentation, they directly infringe one or more claims of the '158 Patent. NVIDIA and Velocity know that by providing such instructions, user guides, and/or other design documentation, OEMs, manufacturers, importers, resellers, customers, and end users follow those instructions, user guides, and other design documentation, and directly infringe one or more claims of the '158 Patent. NVIDIA and Velocity thus know that their actions actively induce infringement.

55. NVIDIA and Velocity also specifically target the United States market for their products listed above and actively induce OEMs, manufacturers, importers, resellers, customers, and end users to directly infringe one or more claims of the '158 Patent in the United States.

56. For example, at the Ford Event and Conference Center, in Dearborn, Michigan, NVIDIA showcased its latest processor technologies, which power everything from the CAD software that designers use to style cars to the infotainment systems that drivers use to map their trips and listen to music, in an effort to encourage domestic car manufacturers to include infringing technology in vehicles manufactured and sold in the United States. *See Traveling The Road To Silicon Motown*, NVIDIA Blog (Feb. 2, 2012), <http://blogs.nvidia.com/blog/2012/02/02/traveling-the-road-to-silicon-motown/>.

57. Velocity products have been sold at nearly every major electronics retailer in North America including Best Buy, Circuit City, RadioShack, Costco, Sears, Target, and many

others. *See Company History, Velocity*, <http://www.velocitymicro.com/velocity-story.php>.

Velocity introduces products and services that infringe the Asserted Patents intending that they would be sold in this Judicial District and elsewhere in the United States.

58. NVIDIA and Velocity indirectly infringe the '158 Patent by contributing to infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(c), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, importers, resellers, customers, and end users of the infringing products.

59. For example, NVIDIA's and Velocity's infringing products identified above allow for the control of cache. When the infringing products are used as intended in the products of their OEMs, manufacturers, importers, resellers, customers, and end users, the infringing products must necessarily control the cache in an infringing manner. The infringing products cannot operate in an acceptable manner without controlling the cache as claimed in the '158 Patent.

60. From the facts set forth above, it is evident that NVIDIA and Velocity knew or should have known that the ability to control the cache in the infringing products is especially made or especially adapted to operate in the products of NVIDIA's and Velocity's OEMs, manufacturers, importers, resellers, customers, and end users, and is not a staple article or commodity of commerce and that its infringing use is required for operation of the infringing products. Any other use would be unusual, far-fetched, illusory, impractical, occasional, aberrant, or experimental.

61. NVIDIA's and Velocity's infringing products, with the ability to control the cache, are each a material part of the invention of the '158 Patent and are especially made or

adapted to infringe one or more claims of the '158 Patent. Because the manufacturing, offering for sale, sales, and use of the infringing products necessarily infringe one or more claims of the '158 Patent, NVIDIA's and Velocity's sales of its infringing products have no substantial non-infringing uses.

62. Accordingly, NVIDIA and Velocity offer to sell, or sell a component, material, or apparatus for use in practicing one or more claims of the '158 Patent knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

63. NVIDIA's infringement of the '158 Patent is willful and deliberate, entitling Samsung to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

64. Samsung has no adequate remedy at law for NVIDIA's and Velocity's infringement of the '158 Patent and is suffering irreparable harm, requiring permanent injunctive relief.

SECOND CLAIM FOR RELIEF
INFRINGEMENT OF U.S. PATENT NO. 6,262,938
(AGAINST NVIDIA AND VELOCITY)

65. Each of the above listed paragraphs is incorporated herein by reference, and adopted, as if set forth fully again.

66. The '938 Patent was filed on March 3, 2000, issued on July 17, 2001, and is entitled "Synchronous DRAM Having Posted CAS Latency And Method For Controlling CAS Latency." The '938 Patent is generally directed to an SDRAM that supports an operation generally referred to as "posted CAS" and a method for controlling the CAS latency of an SDRAM.

67. SEC was assigned the '938 Patent and continues to hold all rights, title, and interest in the '938 Patent. A true and correct copy of the '938 Patent is attached hereto as Exhibit B.

68. NVIDIA has directly infringed and continues to directly infringe one or more of the claims of the '938 Patent by making, using, offering to sell, selling, or importing its infringing devices, including but not limited to the NVIDIA Tegra 250 processor and the NVIDIA Tegra 4 processor.

69. Velocity has directly infringed and continues to directly infringe one or more of the claims of the '938 Patent by making, using, offering to sell, selling, or importing its infringing devices, including but not limited to the Cruz Tablet L510 incorporating the NVIDIA Tegra 250 processor.

70. NVIDIA and Velocity indirectly infringe the '938 Patent by inducing infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(b), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, customers, importers, resellers, and/or end-use customers by, for example, the manufacture, offer for sale, sale, importation, or use of infringing devices.

71. NVIDIA and Velocity have induced and continue to induce infringement of the '938 Patent by intending that others infringe the '938 patent by making, using, importing, offering for sale, or selling in the United States products covered by one or more claims of the '938 Patent including, but not limited to, the products listed above.

72. NVIDIA and Velocity provide the identified products to others, such as manufacturers, customers, resellers, and end-use consumers who, in turn, make, use, import into,

offer for sale, or sell in the United States products that infringe one or more claims of the '938 Patent.

73. NVIDIA and Velocity designed the infringing products such that they would each infringe one or more claims of the '938 Patent if made, used, sold, offered for sale, or imported into the United States.

74. NVIDIA provides the infringing products, and reference designs for the infringing products, to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '938 Patent. Through its manufacture (either directly, or through contract manufacturing facilities) and/or sale of the infringing products, NVIDIA specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '938 Patent.

75. Velocity provides the infringing products to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '938 Patent. Through its manufacture, testing, use, and/or sale of the infringing products, Velocity specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '938 Patent.

76. NVIDIA specifically intends for others, such as OEMs, manufacturers, importers, resellers, customers, and end users, to directly infringe one or more claims of the '938 Patent in the United States. For example, NVIDIA advertised its "NVIDIA Authorized Board Partner Program ensures an exceptional customer experience when purchasing graphics cards and motherboards manufactured by partners that make use of NVIDIA's latest technologies."

NVIDIA PartnerForce Info, NVIDIA, http://www.nvidia.com/object/pf_boardpartners.html.

NVIDIA claims that its “NVIDIA Authorized Board Partners offer the latest technologies from NVIDIA” and lists six Authorized Board Partners in the United States, six in Canada, and none in any other countries. *Id.* NVIDIA also lists ten distributors in the United States (including “pre and post sales technical support”) and seven in Canada but none in any other country. *See id.*

77. NVIDIA also provides marketing materials and templates, including retail display items, web banners, copy blocks, logos, product shots, email and web page templates, to members of the “NVIDIA PartnerForce Program” which includes value-added resellers, system builders, etailers and retailers inducing them to offer to sell and sell NVIDIA products that infringe the ’938 Patent in the United States. *See id.*

78. NVIDIA and Velocity also provide OEMs, manufacturers, importers, resellers, customers, and end users instructions, user guides, and technical specifications. When OEMs, manufacturers, importers, resellers, customers, and end users follow such instructions, user guides, and/or other design documentation, they directly infringe one or more claims of the ’938 Patent. NVIDIA and Velocity know that by providing such instructions, user guides, and/or other design documentation, OEMs, manufacturers, importers, resellers, customers, and end users follow those instructions, user guides, and other design documentation, and directly infringe one or more claims of the ’938 Patent. NVIDIA and Velocity thus know that their actions actively induce infringement.

79. NVIDIA and Velocity also specifically target the United States market for the products listed above and actively induce OEMs, manufacturers, importers, resellers, customers, and end users to directly infringe one or more claims of the ’938 Patent in the United States.

80. NVIDIA and Velocity indirectly infringe the '938 Patent by contributing to infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(c), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, importers, resellers, customers, and end users of the infringing products.

81. For example, NVIDIA's and Velocity's infringing products identified above allow for controlling CAS latency of an SDRAM. When the infringing products are used as intended in the products of their OEMs, manufacturers, importers, resellers, customers, and end users, the infringing products must necessarily control CAS latency of an SDRAM in an infringing manner. The infringing products cannot operate in an acceptable manner without controlling CAS latency of an SDRAM as claimed in the '938 Patent.

82. From the facts set forth above, it is evident that NVIDIA and Velocity knew or should have known that the ability to control CAS latency of an SDRAM in the infringing products is especially made or especially adapted to operate in the products of NVIDIA's and Velocity's OEMs, manufacturers, importers, resellers, customers, and end users and is not a staple article or commodity of commerce and that its infringing use is required for operation of the infringing products. Any other use would be unusual, far-fetched, illusory, impractical, occasional, aberrant, or experimental.

83. NVIDIA's infringing products, with the ability to control CAS latency of an SDRAM, are each a material part of the invention of the '938 Patent and are especially made or adapted to infringe one or more claims of the '938 Patent. Because the manufacturing, offering for sale, sales, and use of the infringing products necessarily infringe one or more claims of the

'938 Patent, NVIDIA's and Velocity's sales of its infringing products have no substantial non-infringing uses.

84. Accordingly, NVIDIA and Velocity offer to sell, or sell a component, material, or apparatus for use in practicing one or more claims of the '938 Patent knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

85. NVIDIA's infringement of the '938 Patent is willful and deliberate, entitling Samsung to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

THIRD CLAIM FOR RELIEF
INFRINGEMENT OF U.S. PATENT NO. 6,287,902
(AGAINST NVIDIA AND VELOCITY)

86. Each of the above listed paragraphs is incorporated herein by reference, and adopted, as if fully set forth again.

87. The '902 Patent was filed on May 25, 1999, issued on September 11, 2001, and is entitled "Methods Of Forming Etch Inhibiting Structures On Field Isolation Regions." The '902 Patent is generally directed to methods of forming microelectronic structures.

88. SEC was assigned the '902 Patent and continues to hold all rights, title, and interest in the '902 Patent. A true and correct copy of the '902 Patent is attached hereto as Exhibit C.

89. NVIDIA has directly infringed and continues to directly infringe one or more of the claims of the '902 Patent by importing, offering to sell, selling, or using products made by processes that infringe the '902 Patent, including but not limited to the NVIDIA GK107 Graphic Processor and the NVIDIA GeForce GTX 980 graphics card.

90. Velocity has directly infringed and continues to directly infringe one or more of the claims of the '902 Patent by making, using, offering to sell, selling, or importing its infringing devices, including but not limited to workstations incorporating the NVIDIA GK107 Graphic Processor, such as the Edge Z40.

91. NVIDIA and Velocity indirectly infringe the '902 Patent by inducing infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(b), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, customers, importers, resellers, and/or end-use customers by, for example, the manufacture, offer for sale, sale, importation, or use of infringing devices.

92. NVIDIA and Velocity have induced and continue to induce infringement of the '902 Patent by intending that others infringe the '902 Patent by making, using, importing, offering for sale, or selling in the United States products covered by one or more claims of the '902 Patent including, but not limited to, the products listed above.

93. NVIDIA and Velocity provide the identified products to others, such as manufacturers, customers, resellers, and end-use consumers who, in turn, make, use, import into, offer for sale, or sell in the United States products that infringe one or more claims of the '902 Patent.

94. NVIDIA provides the infringing products, and reference designs for the infringing products, to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '902 Patent. Through its manufacture (either directly, or through contract manufacturing facilities) and/or importation or sale of the infringing products,

NVIDIA specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '902 Patent.

95. Velocity provides the infringing products to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '902 Patent. Through its manufacture, testing, use, and/or sale of the infringing products, Velocity specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '902 Patent.

96. NVIDIA specifically intends for others, such as OEMs, manufacturers, importers, resellers, customers, and end users, to directly infringe one or more claims of the '902 Patent in the United States. For example, NVIDIA advertised its “NVIDIA Authorized Board Partner Program ensures an exceptional customer experience when purchasing graphics cards and motherboards manufactured by partners that make use of NVIDIA’s latest technologies.” *NVIDIA PartnerForce Info*, NVIDIA, http://www.nvidia.com/object/pf_boardpartners.html. NVIDIA claims that its “NVIDIA Authorized Board Partners offer the latest technologies from NVIDIA” and lists six Authorized Board Partners in the United States, six in Canada, and none in any other countries. *Id.* NVIDIA also lists ten distributors in the United States (including “pre and post sales technical support”) and seven in Canada but none in any other country. *See id.*

97. NVIDIA also provides marketing materials and templates, including retail display items, web banners, copy blocks, logos, product shots, email and web page templates, to members of the “NVIDIA PartnerForce Program” which includes value-added resellers, system

builders, etailers and retailers inducing them to offer to sell and sell NVIDIA products that infringe the '902 Patent in the United States. *See id.*

98. NVIDIA and Velocity also provide OEMs, manufacturers, importers, resellers, customers, and end users instructions, user guides, and technical specifications. When OEMs, manufacturers, importers, resellers, customers, and end users follow such instructions, user guides, and/or other design documentation, they directly infringe one or more claims of the '902 Patent. NVIDIA and Velocity know that by providing such instructions, user guides, and/or other design documentation, OEMs, manufacturers, importers, resellers, customers, and end users follow those instructions, user guides, and other design documentation, and directly infringe one or more claims of the '902 Patent. NVIDIA and Velocity thus know that their actions actively induce infringement.

99. NVIDIA and Velocity also specifically target the United States market for the products listed above and actively induce OEMs, manufacturers, importers, resellers, customers, and end users to directly infringe one or more claims of the '902 Patent in the United States.

100. NVIDIA's infringement of the '902 Patent is willful and deliberate, entitling Samsung to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

101. Samsung has no adequate remedy at law for NVIDIA's and Velocity's infringement of the '902 Patent and is suffering irreparable harm, requiring permanent injunctive relief.

FOURTH CLAIM FOR RELIEF
INFRINGEMENT OF U.S. PATENT NO. 6,819,602
(AGAINST NVIDIA AND VELOCITY)

102. Each of the above listed paragraphs is incorporated herein by reference, and adopted, as if fully set forth again.

103. The '602 Patent was filed on October 23, 2002, issued on November 16, 2004, and is entitled "Multimode Data Buffer And Method For Controlling Propagation Delay Time." The '602 Patent is generally directed to a data strobe buffer circuit.

104. SEC was assigned the '602 Patent and continues to hold all rights, title, and interest in the '602 Patent. A true and correct copy of the '602 Patent is attached hereto as Exhibit D.

105. NVIDIA has directly infringed and continues to directly infringe one or more of the claims of the '602 Patent by making, using, offering to sell, selling, or importing its infringing devices, including but not limited to the NVIDIA Tegra 250 processor and NVIDIA Tegra 4 processor.

106. Velocity has directly infringed and continues to directly infringe one or more of the claims of the '602 Patent by making, using, offering to sell, selling, or importing its infringing devices, including but not limited to the Cruz Tablet L510 incorporating the NVIDIA Tegra 250 processor.

107. NVIDIA and Velocity indirectly infringe the '602 Patent by inducing infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(b), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, customers,

importers, resellers, and/or end-use customers by, for example, the manufacture, offer for sale, sale, importation, or use of infringing devices.

108. NVIDIA and Velocity have induced and continue to induce infringement of the '602 Patent by intending that others infringe the '602 patent by making, using, importing, offering for sale, or selling in the United States products covered by one or more claims of the '602 Patent including, but not limited to, the products listed above.

109. NVIDIA and Velocity provide the identified products to others, such as manufacturers, customers, resellers, and end-use consumers who, in turn, make, use, import into, offer for sale, or sell in the United States products that infringe one or more claims of the '602 Patent.

110. NVIDIA and Velocity designed the infringing products such that they would each infringe one or more claims of the '602 Patent if made, used, sold, offered for sale, or imported into the United States.

111. NVIDIA provides the infringing products, and reference designs for the infringing products, to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '602 Patent. Through its manufacture (either directly, or through contract manufacturing facilities) and/or sale of the infringing products, NVIDIA specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '602 Patent.

112. Velocity provides the infringing products to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '602 Patent.

Through its manufacture, testing, use, and/or sale of the infringing products, Velocity specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '602 Patent.

113. NVIDIA specifically intends for others, such as OEMs, manufacturers, importers, resellers, customers, and end users, to directly infringe one or more claims of the '602 Patent in the United States. For example, NVIDIA advertised its “NVIDIA Authorized Board Partner Program ensures an exceptional customer experience when purchasing graphics cards and motherboards manufactured by partners that make use of NVIDIA’s latest technologies.” *NVIDIA PartnerForce Info*, NVIDIA, http://www.nvidia.com/object/pf_boardpartners.html. NVIDIA claims that its “NVIDIA Authorized Board Partners offer the latest technologies from NVIDIA” and lists six Authorized Board Partners in the United States, six in Canada, and none in any other countries. *Id.* NVIDIA also lists ten distributors in the United States (including “pre and post sales technical support”) and seven in Canada but none in any other country. *See id.*

114. NVIDIA also provides marketing materials and templates, including retail display items, web banners, copy blocks, logos, product shots, email and web page templates, to members of the “NVIDIA PartnerForce Program” which includes value-added resellers, system builders, etailers and retailers inducing them to offer to sell and sell NVIDIA products that infringe the '602 Patent in the United States. *See id.*

115. NVIDIA and Velocity also provide OEMs, manufacturers, importers, resellers, customers, and end users instructions, user guides, and technical specifications. When OEMs, manufacturers, importers, resellers, customers, and end users follow such instructions, user guides, and/or other design documentation, they directly infringe one or more claims of the '602

Patent. NVIDIA and Velocity know that by providing such instructions, user guides, and/or other design documentation, OEMs, manufacturers, importers, resellers, customers, and end users follow those instructions, user guides, and other design documentation, and directly infringe one or more claims of the '602 Patent. NVIDIA and Velocity thus know that their actions actively induce infringement.

116. NVIDIA and Velocity also specifically target the United States market for the products listed above and actively induce OEMs, manufacturers, importers, resellers, customers, and end users to directly infringe one or more claims of the '602 Patent in the United States.

117. NVIDIA and Velocity indirectly infringe the '602 Patent by contributing to infringement by others, such as OEMs, manufacturers, customers, importers, resellers, and end-use customers, in accordance with 35 U.S.C. § 271(c) in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, customers, importers, resellers, and/or end-use customers by, for example, the manufacture, offer for sale, sale, importation, or use of infringing devices.

118. For example, NVIDIA's and Velocity's infringing products identified above allow for controlling propagation delay time of a semiconductor memory. When the infringing products are used as intended in the products of NVIDIA's and Velocity's OEMs, manufacturers, customers, importers, resellers, and end-use customers, the infringing products must necessarily control propagation delay time of a semiconductor memory in an infringing manner. The infringing products cannot operate in an acceptable manner without controlling propagation delay time of a semiconductor memory as claimed in the '602 Patent.

119. From the facts set forth above, it is evident that NVIDIA and Velocity knew or should have known that the ability to control propagation delay time of a semiconductor memory

in the infringing products is especially made or especially adapted to operate in the products of NVIDIA's and Velocity's OEMs, manufacturers, importers, resellers, customers, and end users and is not a staple article or commodity of commerce and that its infringing use is required for operation of the infringing products. Any other use would be unusual, far-fetched, illusory, impractical, occasional, aberrant, or experimental.

120. NVIDIA's and Velocity's infringing products, with the ability to control propagation delay time of a semiconductor memory, are each a material part of the invention of the '602 Patent and are especially made or adapted to infringe one or more claims of the '602 Patent. Because the manufacturing, offering for sale, sales, and use of the infringing products necessarily infringe one or more claims of the '602 Patent, NVIDIA's and Velocity's sales of its infringing products have no substantial non-infringing uses.

121. Accordingly, NVIDIA and Velocity offer to sell, or sell a component, material, or apparatus for use in practicing one or more claims of the '602 Patent knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

FIFTH CLAIM FOR RELIEF
INFRINGEMENT OF U.S. PATENT NO. 8,252,675
(AGAINST NVIDIA AND VELOCITY)

122. Each of the above listed paragraphs is incorporated herein by reference, and adopted, as if fully set forth again.

123. The '675 Patent was filed on November 9, 2010, issued on August 28, 2012, and is entitled "Methods Of Forming CMOS Transistors With High Conductivity Gate Electrodes." The '675 Patent is generally directed to methods of manufacturing a metal-oxide-semiconductor ("MOS") transistor.

124. SEC was assigned the '675 Patent and continues to hold all rights, title, and interest in the '675 Patent. A true and correct copy of the '675 Patent is attached hereto as Exhibit E.

125. NVIDIA has directly infringed and continues to directly infringe one or more of the claims of the '675 Patent by importing, offering to sell, selling, or using products made by processes that infringe the '675 Patent, including but not limited to the NVIDIA GK107 Graphic Processor and the NVIDIA GeForce GTX 980 graphics card.

126. Velocity has directly infringed and continues to directly infringe one or more of the claims of the '675 Patent by making, using, offering to sell, selling, or importing its infringing devices, including but not limited to workstations incorporating the NVIDIA GK107 Graphic Processor, such as the Edge Z40.

127. NVIDIA and Velocity indirectly infringe the '675 Patent by inducing infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(b), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, customers, importers, resellers, and/or end-use customers by, for example, the manufacture, offer for sale, sale, importation, or use of infringing devices.

128. NVIDIA and Velocity have induced and continue to induce infringement of the '675 Patent by intending that others infringe the '675 Patent by making, using, importing, offering for sale, or selling in the United States products covered by one or more claims of the '675 Patent including, but not limited to, the products listed above.

129. NVIDIA and Velocity provide the identified products to others, such as manufacturers, customers, resellers, and end-use consumers who, in turn, make, use, import into,

offer for sale, or sell in the United States products that infringe one or more claims of the '675 Patent.

130. NVIDIA provides the infringing products, and reference designs for the infringing products, to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '675 Patent. Through its manufacture (either directly, or through contract manufacturing facilities) and/or importation or sale of the infringing products, NVIDIA specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '675 Patent.

131. Velocity provides the infringing products to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '675 Patent. Through its manufacture, testing, use, and/or sale of the infringing products, Velocity specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '675 Patent.

132. NVIDIA specifically intends for others, such as OEMs, manufacturers, importers, resellers, customers, and end users, to directly infringe one or more claims of the '675 Patent in the United States. For example, NVIDIA advertised its "NVIDIA Authorized Board Partner Program ensures an exceptional customer experience when purchasing graphics cards and motherboards manufactured by partners that make use of NVIDIA's latest technologies." *NVIDIA PartnerForce Info*, NVIDIA, http://www.nvidia.com/object/pf_boardpartners.html. NVIDIA claims that its "NVIDIA Authorized Board Partners offer the latest technologies from NVIDIA" and lists six Authorized Board Partners in the United States, six in Canada, and none

in any other countries. *Id.* NVIDIA also lists ten distributors in the United States (including “pre and post sales technical support”) and seven in Canada but none in any other country. *See id.*

133. NVIDIA also provides marketing materials and templates, including retail display items, web banners, copy blocks, logos, product shots, email and web page templates, to members of the “NVIDIA PartnerForce Program” which includes value-added resellers, system builders, etailers and retailers inducing them to offer to sell and sell NVIDIA products that infringe the ’675 Patent in the United States. *See id.*

134. NVIDIA and Velocity also provide OEMs, manufacturers, importers, resellers, customers, and end users instructions, user guides, and technical specifications. When OEMs, manufacturers, importers, resellers, customers, and end users follow such instructions, user guides, and/or other design documentation, they directly infringe one or more claims of the ’675 Patent. NVIDIA and Velocity know that by providing such instructions, user guides, and/or other design documentation, OEMs, manufacturers, importers, resellers, customers, and end users follow those instructions, user guides, and other design documentation, and directly infringe one or more claims of the ’675 Patent. NVIDIA and Velocity thus know that their actions actively induce infringement.

135. NVIDIA and Velocity also specifically target the United States market for the products listed above and actively induce OEMs, manufacturers, importers, resellers, customers, and end users to directly infringe one or more claims of the ’675 Patent in the United States.

136. Samsung has no adequate remedy at law for NVIDIA’s and Velocity’s infringement of the ’675 Patent and is suffering irreparable harm, requiring permanent injunctive relief.

SIXTH CLAIM FOR RELIEF
INFRINGEMENT OF U.S. PATENT NO. 6,804,724
(AGAINST NVIDIA AND VELOCITY)

137. Each of the above listed paragraphs is incorporated herein by reference, and adopted, as if fully set forth again.

138. The '724 Patent was filed on April 29, 1999, issued on October 12, 2004, and is entitled "Analog/Digital Display Adapter And A Computer System Having The Same." The '724 Patent is generally directed to a computer systems having dual and triple display functions that support analog displays and digital displays.

139. SEC was assigned the '724 Patent and continues to hold all rights, title, and interest in the '724 Patent. A true and correct copy of the '724 Patent is attached hereto as Exhibit F.

140. NVIDIA has directly infringed and continues to directly infringe one or more of the claims of the '724 Patent by making, using, offering to sell, selling, or importing its infringing devices, including but not limited to the NVIDIA GeForce GTX 770 graphics card.

141. Velocity sells in this District, among other devices, computers that may be incorporated with graphics cards containing NVIDIA GPUs. For example, Velocity sells the NoteMagix M17 laptop computer with a "NVIDIA GeForce GTX 860M" video card with "Switchable GPU using NVIDIA Optimus Technology."

142. Velocity has directly infringed and continues to directly infringe one or more of the claims of the '724 Patent by making, using, offering to sell, selling, or importing its infringing devices, including but not limited to the NoteMagix M17 laptop computer containing the NVIDIA GeForce GTX 860M.

143. NVIDIA and Velocity indirectly infringe the '724 Patent by inducing infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(b), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, customers, importers, resellers, and/or end-use customers by, for example, the manufacture, offer for sale, sale, importation, or use of infringing devices.

144. NVIDIA and Velocity have induced and continue to induce infringement of the '724 Patent by intending that others infringe the '724 patent by making, using, importing, offering for sale, or selling in the United States products covered by one or more claims of the '724 Patent including, but not limited to, the products listed above.

145. NVIDIA and Velocity provide the identified products to others, such as manufacturers, customers, resellers, and end-use consumers who, in turn, make, use, import into, offer for sale, or sell in the United States products that infringe one or more claims of the '724 Patent.

146. NVIDIA and Velocity designed the infringing products such that they would each infringe one or more claims of the '724 Patent if made, used, sold, offered for sale, or imported into the United States.

147. NVIDIA provides the infringing products, and reference designs for the infringing products, to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '724 Patent. Through its manufacture (either directly, or through contract manufacturing facilities) and/or sale of the infringing products, NVIDIA

specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '724 Patent.

148. Velocity provides the infringing products to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '724 Patent. Through its manufacture, testing, use, and/or sale of the infringing products, Velocity specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '724 Patent.

149. NVIDIA specifically intends for others, such as OEMs, manufacturers, importers, resellers, customers, and end users, to directly infringe one or more claims of the '724 Patent in the United States. For example, NVIDIA advertised its “NVIDIA Authorized Board Partner Program ensures an exceptional customer experience when purchasing graphics cards and motherboards manufactured by partners that make use of NVIDIA’s latest technologies.” *NVIDIA PartnerForce Info*, NVIDIA, http://www.nvidia.com/object/pf_boardpartners.html. NVIDIA claims that its “NVIDIA Authorized Board Partners offer the latest technologies from NVIDIA” and lists six Authorized Board Partners in the United States, six in Canada, and none in any other countries. *Id.* NVIDIA also lists ten distributors in the United States (including “pre and post sales technical support”) and seven in Canada but none in any other country. *See id.*

150. NVIDIA also provides marketing materials and templates, including retail display items, web banners, copy blocks, logos, product shots, email and web page templates, to members of the “NVIDIA PartnerForce Program” which includes value-added resellers, system

builders, etailers and retailers inducing them to offer to sell and sell NVIDIA products that infringe the '724 Patent in the United States. *See id.*

151. NVIDIA and Velocity also provide OEMs, manufacturers, importers, resellers, customers, and end users instructions, user guides, and technical specifications. When OEMs, manufacturers, importers, resellers, customers, and end users follow such instructions, user guides, and/or other design documentation, they directly infringe one or more claims of the '724 Patent. NVIDIA and Velocity know that by providing such instructions, user guides, and/or other design documentation, OEMs, manufacturers, importers, resellers, customers, and end users follow those instructions, user guides, and other design documentation, and directly infringe one or more claims of the '724 Patent. NVIDIA and Velocity thus know that their actions actively induce infringement.

152. NVIDIA and Velocity also specifically target the United States market for its products listed above and actively induce OEMs, manufacturers, importers, resellers, customers, and end users to directly infringe one or more claims of the '724 Patent in the United States.

153. NVIDIA and Velocity indirectly infringe the '724 Patent by contributing to infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(c), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, importers, resellers, customers, and end users of the infringing products.

154. For example, NVIDIA's and Velocity's infringing products identified above allow for the display of data on a monitor according to a specific method. When the infringing products are used as intended in the products of their OEMs, manufacturers, importers, resellers, customers, and end users, the infringing products must necessarily display the data on a monitor

in an infringing manner. The infringing products cannot operate in an acceptable manner without displaying the data as claimed in the '724 Patent.

155. From the facts set forth above, it is evident that NVIDIA and Velocity knew or should have known that the ability to display the data as claimed in the infringing products is especially made or especially adapted to operate in the products of NVIDIA's and Velocity's OEMs, manufacturers, importers, resellers, customers, and end users and is not a staple article or commodity of commerce and that its infringing use is required for operation of the infringing products. Any other use would be unusual, far-fetched, illusory, impractical, occasional, aberrant, or experimental.

156. NVIDIA's and Velocity's infringing products, with the ability to display the data as claimed, are each a material part of the invention of the '724 Patent and are especially made or adapted to infringe one or more claims of the '724 Patent. Because the manufacturing, offering for sale, sales, and use of the infringing products necessarily infringe one or more claims of the '724 Patent, NVIDIA's and Velocity's sales of its infringing products have no substantial non-infringing uses.

157. Accordingly, NVIDIA and Velocity offer to sell, or sell a component, material, or apparatus for use in practicing one or more claims of the '724 Patent knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

158. Samsung has no adequate remedy at law and is suffering irreparable harm for NVIDIA's and Velocity's infringement of the '724 Patent, requiring permanent injunctive relief.

SEVENTH CLAIM FOR RELIEF
INFRINGEMENT OF U.S. PATENT NO. 7,073,054
(AGAINST VELOCITY)

159. Each of the above listed paragraphs is incorporated herein by reference, and adopted, as if fully set forth again.

160. The '054 Patent was filed on August 16, 2002, issued on July 4, 2006, and is entitled "Computer System And Method For Booting Up The Same." The '054 Patent is generally directed to a computer system with a hard disk drive and non-volatile memory and a method for reducing the booting time of the computer.

161. SEC was assigned the '054 Patent and continues to hold all rights, title, and interest in the '054 Patent. A true and correct copy of the '054 Patent is attached hereto as Exhibit G.

162. Velocity sells in this District, among other devices, computers that include a hybrid hard disk drive incorporating a solid state cache. For example, Velocity sells the NoteMagix M15 laptop computer with an optional "750gb 7200rpm Mobile Hard Drive with 8gb SSD Cache."

163. Velocity has directly infringed and continues to directly infringe one or more of the claims of the '054 Patent by making, using, offering to sell, selling, or importing its infringing devices, including but not limited to the NoteMagix M15 laptop computer containing the hard drive listed above.

164. Velocity indirectly infringes the '054 Patent by inducing infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(b), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, customers, importers, resellers,

and/or end-use customers by, for example, the manufacture, offer for sale, sale, importation, or use of infringing devices.

165. Velocity has induced and continues to induce infringement of the '054 Patent by intending that others infringe the '054 patent by making, using, importing, offering for sale, or selling in the United States products covered by one or more claims of the '054 Patent including, but not limited to, the products listed above.

166. Velocity provides the identified products to others, such as manufacturers, customers, resellers, and end-use consumers who, in turn, make, use, import into, offer for sale, or sell in the United States products that infringe one or more claims of the '054 Patent.

167. Velocity designed the infringing products such that they would each infringe one or more claims of the '054 Patent if made, used, sold, offered for sale, or imported into the United States.

168. Velocity provides the infringing products to others, such as OEMs, manufacturers, importers, resellers, customers, and end users, who, in turn, offer for sale, sell, import into, or use these infringing products to infringe one or more claims of the '054 Patent. Through its manufacture, testing, use, and/or sale of the infringing products, Velocity specifically intends that OEMs, manufacturers, importers, resellers, customers, and end users will infringe one or more claims of the '054 Patent.

169. Velocity also provides OEMs, manufacturers, importers, resellers, customers, and end users instructions, user guides, and technical specifications. When OEMs, manufacturers, importers, resellers, customers, and end users follow such instructions, user guides, and/or other design documentation, they directly infringe one or more claims of the '054 Patent. Velocity knows that by providing such instructions, user guides, and/or other design documentation,

OEMs, manufacturers, importers, resellers, customers, and end users follow those instructions, user guides, and other design documentation, and directly infringe one or more claims of the '054 Patent. Velocity thus knows that its actions actively induce infringement.

170. Velocity also specifically targets the United States market for its products listed above and actively induces OEMs, manufacturers, importers, resellers, customers, and end users to directly infringe one or more claims of the '054 Patent in the United States.

171. Velocity products have been sold at nearly every major electronics retailer in North America including Best Buy, Circuit City, RadioShack, Costco, Sears, Target, and many others. *See Company History, Velocity*, <http://www.velocitymicro.com/velocity-story.php>. Velocity introduces products and services that infringe the Asserted Patents intending that they would be sold in this Judicial District and elsewhere in the United States.

172. Velocity indirectly infringes the '054 Patent by contributing to infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(c), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, importers, resellers, customers, and end users of the infringing products.

173. For example, Velocity's infringing products identified above allow for controlling the hard drive to reduce the booting time of a computer. When the infringing products are used as intended in the products of its OEMs, manufacturers, importers, resellers, customers, and end users, the infringing products must necessarily control the hard drive in an infringing manner. The infringing products cannot operate in an acceptable manner without controlling the hard drive as claimed in the '054 Patent.

174. From the facts set forth above, it is evident that Velocity knew or should have known that the ability to control the hard drive to reduce the booting time in the infringing products is especially made or especially adapted to operate in the products of Velocity's OEMs, manufacturers, importers, resellers, customers, and end users and is not a staple article or commodity of commerce and that its infringing use is required for operation of the infringing products. Any other use would be unusual, far-fetched, illusory, impractical, occasional, aberrant, or experimental.

175. Velocity's infringing products, with the ability to control the hard drive to reduce the booting time, are each a material part of the invention of the '054 Patent and are especially made or adapted to infringe one or more claims of the '054 Patent. Because the manufacturing, offering for sale, sales, and use of the infringing products necessarily infringe one or more claims of the '054 Patent, Velocity's sales of its infringing products have no substantial non-infringing uses.

176. Accordingly, Velocity offers to sell, or sells a component, material, or apparatus for use in practicing one or more claims of the '054 Patent knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

177. Samsung has no adequate remedy at law and is suffering irreparable harm for Velocity's infringement of the '054 Patent, requiring permanent injunctive relief.

EIGHTH CLAIM FOR RELIEF
INFRINGEMENT OF U.S. PATENT NO. 5,777,854
(AGAINST VELOCITY)

178. Each of the above listed paragraphs is incorporated herein by reference, and adopted, as if fully set forth again.

179. The '854 Patent was filed on May 30, 1997, issued on July 7, 1998, and is entitled "Integrated Flexible Contacts Grounding System For A Computer System Chassis." The '854 Patent is generally directed to a chassis for housing electronic devices with a plurality of flexible contacts between a base and cover of the chassis.

180. SEC was assigned the '854 Patent and continues to hold all rights, title, and interest in the '854 Patent. A true and correct copy of the '854 Patent is attached hereto as Exhibit H.

181. Velocity has directly infringed and continues to directly infringe one or more of the claims of the '854 Patent by making, using, offering to sell, selling, or importing its infringing devices, including but not limited to the Velocity Vector Z25. The Velocity Vector Z25 incorporates the "SX" desktop computer chassis.

182. Velocity indirectly infringes the '854 Patent by inducing infringement by others, such as OEMs, manufacturers, importers, resellers, customers, and end users, in accordance with 35 U.S.C. § 271(b), in this District and elsewhere in the United States. Direct infringement is the result of activities performed by the OEMs, manufacturers, customers, importers, resellers, and/or end-use customers by, for example, the manufacture, offer for sale, sale, importation, or use of infringing devices.

183. Velocity has induced and continues to induce infringement of the '854 Patent by intending that others infringe the '854 patent by making, using, importing, offering for sale, or selling in the United States products covered by one or more claims of the '854 Patent including, but not limited to, the products listed above.

184. Velocity provides the identified products to others, such as resellers who, in turn, offer for sale, or sell in the United States products that infringe one or more claims of the '854 Patent.

185. Velocity designed the infringing products such that they would each infringe one or more claims of the '854 Patent if made, used, sold, offered for sale, or imported into the United States.

186. Velocity products have been sold at nearly every major electronics retailer in North America including Best Buy, Circuit City, RadioShack, Costco, Sears, Target, and many others. *See Company History, Velocity*, <http://www.velocitymicro.com/velocity-story.php>. Velocity introduces products and services that infringe the Asserted Patents intending that they would be sold in this Judicial District and elsewhere in the United States.

187. Samsung has no adequate remedy at law and is suffering irreparable harm for Velocity's infringement of the '854 Patent, requiring permanent injunctive relief.

NINTH CLAIM FOR RELIEF
FALSE ADVERTISING (AGAINST NVIDIA)
(Va. Code §§ 18.2-216 and 59.1-68.3)

188. Each of the above listed paragraphs is incorporated herein by reference, and adopted, as if fully set forth again.

189. Samsung sells in the United States and in this District, among other devices, mobile computing devices that use the Android operating system.

190. NVIDIA sells in the United States and in this District, among other devices, mobile computing devices under the Shield brand. These devices further include the NVIDIA Shield Tablet. The NVIDIA Shield Tablet also uses the Android operating system and competes directly with Samsung's mobile computing devices.

191. NVIDIA advertises through its website, with intent to sell to the public or otherwise increase public consumption of the NVIDIA Shield Tablet, that the NVIDIA Shield Tablet has the “world’s fastest mobile processor.” *See NVIDIA Shield*, <http://shield.nvidia.com/gaming-tablet/>. A copy of the advertisement is attached hereto as Exhibit I. The NVIDIA Shield Tablet contains an NVIDIA Tegra K1 SOC.

192. NVIDIA’s claim that the NVIDIA Shield Tablet has the world’s fastest mobile processor is a false and misleading statement of fact. Rather, standard benchmarking tools such as Primate Labs’ Geekbench 3 benchmark reveal that the NVIDIA Tegra K1 SOC is not the world’s fastest mobile processor. The Samsung Exynos 5433 SOC, as used in the Samsung Galaxy Note 4 mobile computing device, scores higher in both the single-core and multi-core Geekbench 3 benchmark tests than the NVIDIA Tegra K1 SOC used in the NVIDIA Shield Tablet. Moreover, the Samsung Exynos 5433 SOC is not the only SOC that is faster than the NVIDIA Tegra K1 SOC. The Apple A8X SOC, used in the Apple iPad Air 2 tablet, also scores higher in both the single-core and multi-core Geekbench 3 benchmark tests than the NVIDIA Tegra K1 SOC.

193. NVIDIA’s claim is thus false, defamatory, deceptive, and likely to confuse consumers. Furthermore, this claim is designed to influence consumers to not do business with Samsung and to do business with NVIDIA instead.

194. NVIDIA’s actions described above constitute false and misleading advertising in violation of Virginia Code § 18.2.-216. Samsung has suffered and is continuing to suffer monetary, economic, and reputational losses as a result thereof and seeks damages under Va. Code § 59.1-68.3.

195. NVIDIA's actions, as described above, are intended to wrongfully divert sales and business from Samsung to NVIDIA.

196. NVIDIA's advertisement, as described above, contains a false representation which is untrue, deceptive, and misleading.

197. NVIDIA has made and distributed this advertisement via its website to consumers in Virginia and in this District.

198. NVIDIA's conduct has caused damage to Samsung's business, reputation, and goodwill, and Samsung seeks monetary damages in an amount to be determined at trial. Samsung is further entitled to recover attorneys' fees under Virginia Code § 59.1-68.3.

JURY DEMAND

199. Samsung demands a trial by jury on all issues.

PRAYER FOR RELIEF

WHEREFORE, Samsung respectfully requests entry of a judgment in its favor against Defendants as follows:

i) A declaration that Defendants have directly and/or indirectly infringed the '158, '938, '902, '602, '675, '724, '054, and '854 Patents;

ii) An award of damages arising out of Defendants' infringement of the Asserted Patents sufficient to compensate Samsung, including enhanced damages pursuant to 35 U.S.C. § 284, as well as any prejudgment and post-judgment interest, in an amount according to proof;

iii) An award of enhanced damages pursuant to 35 U.S.C. § 284 for NVIDIA's willful infringement of the '158, '938, and '902 Patents;

iv) An Order permanently enjoining Defendants and their respective officers, agents, employees, and those acting in privity with them, from further infringement, including

contributory infringement and/or inducing infringement, of the '158, '902, '675, '724, '054, and '854 Patents;

v) An award of damages arising out of NVIDIA's false advertising in violation of Va. Code § 18.2-216, pursuant to Va. Code § 59.1-68.3;

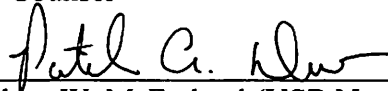
vi) An award of attorneys' fees pursuant to 35 U.S.C. § 285, Virginia Code § 59.1-68.3, and as otherwise permitted by law; and

vii) An award of any such other costs and further relief as the Court may deem just and proper.

Respectfully submitted,

SAMSUNG ELECTRONICS CO., LTD.
SAMSUNG ELECTRONICS AMERICA, INC.

By Counsel



Robert W. McFarland (VSB No. 24021)
Sarah K. McConaughy (VSB No. 80674)
McGuireWoods LLP
101 W. Main Street, Suite 9000
Norfolk, Virginia 23510
Telephone: (757) 640-3716
Facsimile: (757) 640-3966
E-mail: rmcfarland@mcguirewoods.com
E-mail: smcconaughey@mcguirewoods.com

Sean F. Murphy (VSB No. 28415)
Patrick A. Darno (VSB No. 83792)
McGuireWoods LLP
1750 Tysons Boulevard
Suite 1800
Tysons corner, VA 22102-4215
Telephone: (703) 712-5000
Facsimile: (703) 712-5050
E-mail: sfmurphy@mcguirewoods.com
E-mail: pdarno@mcguirewoods.com

*Attorneys for PLAINTIFFS Samsung Electronics
Co., Ltd. and Samsung Electronics America, Inc.*