UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, DC

In the Matter of	
CERTAIN CONSUMER ELECTRONICS AND DISPLAY DEVICES WITH GRAPHICS PROCESSING AND GRAPHICS PROCESSING UNITS THEREIN	**Investigation No. 337-TA-_____**

COMPLAINT UNDER SECTION 337 OF
THE TARIFF ACT OF 1930, AS AMENDED

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5	Certified copy of U.S. Patent No. 6,697,063
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I. INTRODUCTION

1. This is a case to remedy the unlawful importation of certain consumer electronics and display devices with graphics processing and graphics processing units (GPUs) that infringe United States patents owned by Complainant NVIDIA Corporation ("NVIDIA"). NVIDIA, the inventor of the graphics processing unit ("GPU"), is a pioneer in, and the largest company in the world dedicated to, visual computing. The proposed Respondents are Qualcomm, Inc. ("Qualcomm") and Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Semiconductor, Inc. (collectively "Samsung") (altogether "Respondents").

2. NVIDIA has developed significant GPU innovations for visual computing enjoyed by consumers everywhere. These visual computing technologies are vital to the commercial success of the more than one billion smartphones and tablet computers sold annually. The rich graphics capabilities of these devices, which consumers have come to demand in modern smartphones and tablets, are enabled and brought to life through the GPU and NVIDIA's inventions.

3. Qualcomm and Samsung's mobile products are built upon these technologies. Qualcomm supplies mobile processors ("Snapdragon") to Samsung that use NVIDIA's innovative GPU technologies. Samsung's consumer products – such as mobile phones and tablet computers – are powered by Qualcomm's processors as well as other processors, including Samsung's own mobile processors ("Exynos"), which also use NVIDIA's technologies without authorization. This investigation seeks to stop Respondents from their wholesale infringement of NVIDIA's important visual computing technologies by preventing the sale for importation, importation, and sale after importation of (1) Qualcomm processors and chipsets with graphics

processing capabilities, which are used in Samsung products, and (2) Samsung products that incorporate such Qualcomm processors and chipsets, and Samsung products that incorporate other processors and chipsets with graphics processing capabilities, all of which infringe NVIDIA's patents.

II. SUMMARY OF ALLEGATIONS

4. Complainant NVIDIA Corporation ("NVIDIA" or "Complainant") respectfully requests that the United States International Trade Commission ("ITC" or "Commission") commence an investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, to remedy the unlawful importation into the United States, the sale for importation into the United States, and/or the sale within the United States after importation by the owner, importer, or consignee of certain consumer electronics and display devices with graphics processing and graphics processing units (GPUs), and the processors and chipsets used in those devices that contain GPUs, which infringe valid and enforceable United States patents owned by NVIDIA (collectively "Accused Products").

5. Respondents have engaged in unlawful acts under Section 337, including the unlawful importation into the United States, the sale for importation into the United States, and/or the sale within the United States after importation of certain consumer electronics and display devices with graphics processing and graphics processing units (GPUs), and/or the processors and chipsets used in those devices that contain GPUs, which infringe one or more claims of United States Patent Nos. 6,198,488 ("the '488 Patent"), 6,992,667 ("the '667 Patent"), 7,038,685 ("the '685 Patent"), 7,015,913 ("the '913 Patent"), 6,697,063 ("the '063 Patent"), 7,209,140 ("the '140 Patent") and 6,690,372 ("the '372 Patent") (collectively the "Asserted

Patents"). Examples of the Accused Products include Samsung mobile phones and tablet computers that use Qualcomm's Snapdragon processors or Samsung's own Exynos processors.

6. Samsung's Accused Products use processors that incorporate three different types of graphics processing architectures, which are known commercially as Adreno, Mali and PowerVR. Adreno GPUs are used in Qualcomm's processors and chipsets. Other processors and chipsets used in Samsung's Accused Products, including Samsung's Exynos processors, use Mali GPUs or PowerVR GPUs. Products using any one of these three types of GPUs infringe the Asserted Patents.

7. In particular, the Accused Products infringe claims 1, 19 and 20 of the '488 Patent; claims 1-29 of the '667 Patent; claims 1-5, 7-19, 21-23, 25-30, 34-36, 38, 41-43 of the '685 Patent; claims 5-8, 10, 12-20 and 24-27 of the '913 Patent; claims 7, 8, 11-13, 16-21, 23, 24, 28 and 29 of the '063 Patent; claims 1-7, 8-10, 12 and 14 of the '140 Patent; and claims 1-6, 9-16 and 19-25 of the '372 Patent (collectively, the "Asserted Claims" of the Asserted Patents).

8. True, correct, and certified copies of the Asserted Patents are attached as Exhibit Nos. 1-7, respectively. True, correct, and certified copies of the prosecution file histories of the Asserted Patents are attached as Appendices A-G, respectively.

9. NVIDIA owns the entire right, title, and interest in each of the Asserted Patents. True, correct, and certified copies of the assignment records for the Asserted Patents are attached as Exhibit Nos. 8-14, respectively.

10. An industry as required by 19 U.S.C. § 1337(a)(2) and (3) exists and is in the process of being further established in the United States relating to the articles protected by the Asserted Patents. This industry is supported by significant investment in plant and equipment, significant employment of labor and capital, and substantial investment in the exploitation of the

articles protected by the Asserted Patents, both by NVIDIA and its licensees to the Asserted Patents, including Intel.

11. NVIDIA requests that, after an investigation, the Commission issue (a) a limited exclusion order pursuant to Section 337(d) prohibiting the entry into the United States of all Accused Products, including Samsung products containing Qualcomm and other processors and chipsets with graphics processing capabilities that are covered by one or more claims of the Asserted Patents, and (b) cease and desist orders pursuant to Section 337(f) to preclude Respondents, their subsidiaries, related companies and agents from engaging in unfair acts including, but not limited to, the importation, selling for importation, marketing, advertising, testing, evaluating, demonstrating, warehousing inventory for distribution, offering for sale, selling, selling after importation, distributing, using, licensing, providing technical support for and/or otherwise transferring such Accused Products in the United States and engaging in any other commercial activity related to such Accused Products in the United States.

III. COMPLAINANT

12. NVIDIA is a Delaware corporation with its principal place of business at 2701 San Tomas Expressway, Santa Clara, California 95050. NVIDIA has offices and research facilities in 14 different states throughout the United States, including Alabama, Massachusetts, North Carolina, Oregon, Texas, and Washington. The Form 10-K of NVIDIA for the fiscal year ended January 26, 2014 is attached as Exhibit 15. NVIDIA's Annual Report 2014 is attached as Exhibit 16. Additional background information describing the business of NVIDIA is attached as Exhibit 17-19.

13. NVIDIA is the largest company in the world dedicated to visual computing and a recognized pioneer of innovation in advanced graphics processing. Founded in 1993 by three

engineers in the heart of Silicon Valley, NVIDIA has grown to nearly 9,000 employees while inventing revolutionary graphics and computing technologies that are used to power the world's largest supercomputers (including the fastest supercomputer in the United States at the Oak Ridge Laboratory), life-saving medical imaging equipment, the creation of Hollywood's most stunning visual effects (for which the company has earned an Emmy award) – even exploring the surface of Mars on the Mars Rover. But NVIDIA has also brought the same innovations into the lives of consumers, who benefit from NVIDIA's patented technology in their use of smartphones, tablets, personal computers, video games, smart cameras, smart televisions, appliances and other consumer products.

14. NVIDIA itself has shipped more than 1 billion GPUs since 1999 and has spent more than $6 billion in R&D over many years developing perhaps the most significant graphics-focused intellectual property portfolio in the world. That portfolio is currently comprised of approximately 7,000 patents and applications worldwide.

15. As a part of this substantial investment, NVIDIA invented the GPU and released it to the public in 1999 as the "GeForce 256." The GeForce 256 was the first single-chip processor that integrated the entire 3D graphics pipeline (transformation, lighting, setup and rendering), allowing 3D graphics to be performed wholly on a graphics card with four times the processing power of a high-end CPU. In 2001, NVIDIA introduced the first fully programmable GPU, the GeForce 3, to the consumer market. The GeForce 3 enabled programmers and applications to execute custom visual effects and provide more sophisticated graphics to users, by using programmable pixel and vertex shaders in the rendering pipeline. A related processor, the NV2A, was used in Microsoft's original Xbox, which set a new standard for video game console features and performance.

16. In 2006, NVIDIA introduced the GeForce 8800, the world's first GPU with a fully unified architecture that also supported Microsoft's DirectX 10 programming interface. The largest and fastest commercial GPU at the time, the GeForce 8800 did more than redefine the PC gaming experience – it was the first GPU that could also be used for general high performance computing.

17. NVIDIA continues to lead the world in new advances in graphics processing today. NVIDIA's most recent mobile processor, the Tegra K1, features the first 192-core GPU and is based on the same Kepler architecture that drives the fastest supercomputer in the United States. The Tegra K1 "super chip" is the market's most advanced mobile processor and it is redefining mobile computing by, for the first time in history, bringing to mobile devices the same level of visual computing as desktop computing. For example, the Tegra K1 is the first mobile chip to support CUDA GPU computing and DirectX 11, and the new 64-bit Tegra K1 is the world's first 64-bit ARM processor for Android, allowing future mobile devices to offer PC-class performance for standard applications.

18. All of this innovation requires extraordinary investment. NVIDIA has invested billions of dollars in its innovations that have revolutionized the visual computing industry. Approximately 3,800 people in the U.S. (about 85% of NVIDIA's U.S. workforce) are dedicated to research and development related to product lines that practice the Asserted Patents. NVIDIA's innovation has also resulted in the aforementioned intellectual property portfolio of approximately 7,000 patents and patent applications around the world, which is the largest collected body of work in computer graphics.

IV. PROPOSED RESPONDENTS

19. Qualcomm and Samsung are not GPU pioneers or innovators in graphics technology. Qualcomm dominates the global market for smartphone applications processors, with a market share exceeding 50%, and is also a leader in tablet application processors. Samsung leads the global market in sales of smartphones, selling about twice as many as its nearest competitor, and is also a global leader in the sales of tablet computers, nearly tripling its market share over the past two years. Many of Samsung's smartphones and tablet computers are powered by mobile processors supplied by Qualcomm, which use GPUs commercially known as "Adreno." Other smartphones and tablets sold by Samsung use GPUs commercially known as "Mali" or "PowerVR." All of these products infringe the Asserted Patents. The market success of Qualcomm and Samsung in these areas is built on the back of NVIDIA's pioneering graphics technology, and Qualcomm and Samsung continue to release new products using NVIDIA's technology.

20. Qualcomm and Samsung readily understand the current and growing importance of visual computing and the graphics technology upon which it is built. In 2008, nearly a decade after NVIDIA released the first GPU, Qualcomm entered the market for mobile chipsets with graphics processing capabilities not through its own research and development, but by acquiring 3D graphics technologies from Advanced Micro Devices. Qualcomm renamed the graphics cores it acquired "Adreno" and subsequently released its first mobile processor with an Adreno GPU in the last quarter of 2008 (the "Adreno 200"). Qualcomm has since released its Adreno 300 and 400 series of GPUs, which are incorporated in later generations of its Snapdragon mobile processors.

21. Qualcomm understands the importance of the GPU to today's mobile devices. Qualcomm's marketing information on its accused Snapdragon processors states,

> Games, animations, UIs and apps have become an important part of mobile experiences, and that's why the all-in-one design of Snapdragon processors come with the Adreno™ graphics processing unit (GPU) built in. The GPU significantly accelerates the rendering of complex geometries to meet a level of graphics performance required by today's most complex and realistic mobile games, user interfaces, web browsers and other advanced graphics applications ….

Exhibit 20.

22. Instead of developing its own graphics processing technology, Samsung purchases and uses Qualcomm's infringing processors and GPUs, as well as other processors and GPUs that infringe the claims of the Asserted Patents. Yet Samsung refuses to enter into licenses that would appropriately compensate NVIDIA for its use of the important graphics technologies protected by the NVIDIA patent portfolio. Since August 2012, NVIDIA has attempted to reach an appropriate license with Samsung, which would enable Samsung to properly use NVIDIA's IP within its products. But Samsung has negotiated based on delay and by pointing the infringement finger at its chipset suppliers, such as Qualcomm, or third parties that supply GPU technology to Samsung, while continuing to reap enormous profits from the Samsung-branded products shipped into the United States and elsewhere. Samsung refuses to enter into a license with NVIDIA, while it continues to reap enormous profits from the sale of Samsung-branded products shipped into the United States, which harms the important domestic industry that is based on NVIDIA's patented graphics technologies.

23. Upon information and belief, Respondent Qualcomm Inc. is a corporation organized and existing under the laws of Delaware with its principal place of business located at 5775 Morehouse Drive, San Diego, California 92121. Qualcomm, itself and through its subsidiaries, designs, develops, manufactures, has manufactured and/or sells mobile processors

with Adreno GPUs that infringe the Asserted Patents and are used in Samsung's infringing products.

24. Upon information and belief, Qualcomm has its mobile processors manufactured and assembled by third parties at manufacturing facilities located outside the United States, which include, but are not limited to, processors for mobile devices that are marketed under the brand name Snapdragon. Qualcomm is involved in the sale before importation, importation and/or sale after importation of Accused Products, by activities that include but are not limited to, designing, developing, manufacturing, having manufactured, and/or selling to Samsung certain Snapdragon processors that embody and practice the claims of the Asserted Patents, and/or that induce or contribute to infringement, without the authorization of NVIDIA. Qualcomm's Snapdragon processors are sold to Samsung for importation into the United States and are incorporated into Accused Products such as smartphones and table computers that are imported into the United States and sold in the United States after importation. *See* Exh. 20-22.

25. Upon information and belief, Respondent Samsung Electronics Co., Ltd. is a foreign corporation organized and existing under the laws of South Korea, with its principal place of business located at 1320-10 Seocho 2-dong, Seocho-gu, Seoul 137-965, South Korea. Samsung Electronics Co., Ltd. designs, develops, manufactures, and sells consumer electronics that infringe the Asserted Patents. Upon information and belief, such Accused Products are manufactured outside of the United States and include, but are not limited to, mobile phones and tablet computers that incorporate Qualcomm processors and other processors (such as Samsung's Exynos processors) that use NVIDIA's graphics processing technologies. Samsung Electronics Co., Ltd. imports into the United States, sells for importation into the United States, and/or sells

within the United States after importation certain Accused Products, without the authorization of NVIDIA. *See* Exhibit 23.

26. Upon information and belief, Respondent Samsung Electronics Co., Ltd. is the parent corporation of Respondents Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Semiconductor, Inc., each of which are responsible for specific activities within the United States related to the operations of Respondent Samsung Electronics Co., Ltd. and the sale, marketing and support of Accused Products imported into the United States. *See id.*

27. Upon information and belief, Respondent Samsung Electronics America, Inc. is a wholly-owned subsidiary of Respondent Samsung Electronics Co., Ltd. Samsung Electronics America, Inc. is a corporation organized and existing under the laws of the State of New York, with its principal place of business located at 85 Challenger Road, Ridgefield Park, New Jersey 07660. Upon information and belief, Respondent Samsung Electronics America, Inc. is the managing entity that oversees the North American operations of Respondents Samsung Telecommunications America LLC and Samsung Semiconductor, Inc. Upon information and belief, Samsung Electronics America, Inc. imports into the United States and sells after importation certain Accused Products, which include, but are not limited to, mobile phones and tablet computers that incorporate Qualcomm processors and other processors (such as Samsung's Exynos processors) that use NVIDIA's graphics processing technologies, without the authorization of NVIDIA. *See* Exhibit 24.

28. Upon information and belief, Respondent Samsung Telecommunications America LLC is a subsidiary of Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. Upon information and belief, Samsung Telecommunications America, LLC is a limited liability

company organized and existing under the laws of the state of Delaware, with its principal place of business located at 1301 Lookout Drive, Richardson, Texas 75802. Upon information and belief, Respondent Samsung Telecommunications America, LLC imports into the United States and sells after importation certain Accused Products, including personal and business communications products such as mobile phones and tablet computers, that incorporate Qualcomm or Samsung processors that use NVIDIA's graphics processing technologies, without the authorization of NVIDIA. *See* Exhibit 25.

29. Upon information and belief, Respondent Samsung Semiconductor, Inc. is a subsidiary of Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. Samsung Semiconductor, Inc. is a corporation organized and existing under the laws of the State of California, with its principal place of business located at 3655 North First Street, San Jose, California 95134. Upon information and belief, Respondent Samsung Semiconductor Inc. is involved in the sale before importation, importation and/or sale after importation of Accused Products into the United States, including but not limited to, developing, manufacturing, and incorporating into Accused Products certain processors (such as Samsung's Exynos processors) that embody and practice the claims of the Asserted Patents, without the authorization of NVIDIA. *See* Exhibit 26

V. THE ACCUSED PRODUCTS AT ISSUE

30. The technology at issue involves graphics processing. The Accused Products include graphics processing units ("GPUs"), specialized circuits that render images for a display screen. The Accused Products using these GPUs utilize various patented technologies covered by the Asserted Patents, such as graphics processing on a single semiconductor platform, multithreaded graphics processing, unified shader architectures, programmable graphics

processing, and early visibility testing in the graphics pipeline. The GPUs currently used in the Accused Products are referred to commercially as Adreno, Mali and PowerVR. Processors incorporating these GPUs include Qualcomm's Snapdragon processors and Samsung's Exynos processors. Such processors and products using those processors, such as mobile phones and tablet computers, infringe the Asserted Patents.

31. Qualcomm designs, develops, manufactures, has manufactured, imports, sells for importation into the United States and/or sells within the United States after importation, processors that infringe the Asserted Patents that are used in Samsung's products. These processors include Qualcomm's Snapdragon processors using Adreno GPUs, which processors include but are not limited to, the Snapdragon S4 (using the Adreno 225), Snapdragon 400 (using the Adreno 305), Snapdragon 600 (using the Adreno 320), Snapdragon 800 and 801 (using the Adreno 330), and Snapdragon 805 (using the Adreno 420).

32. Samsung designs, develops, manufactures, imports, sells for importation into the United States and/or sells within the United States after importation, products that infringe the Asserted Patents. The Accused Products include, but are not limited to, mobile products such as mobile phones (including the Galaxy Note 4, Galaxy Note Edge, Galaxy S5, Galaxy Note 3, and Galaxy S4) and tablet computers (including the Galaxy Tab S, Galaxy Note Pro, and Galaxy Tab 2).

33. Each of the Accused Products meets each and every limitation of at least one claim of one or more of the Asserted Patents. The products identified herein are merely illustrative of the types and classes of infringing products that Samsung and Qualcomm manufacture and import into the United States, sell for importation into the United States, and/or sell within the United States after importation in violation of Section 337. This identification of

specific models or types of products is not intended to limit the scope of the investigation. The Commission's investigation and any remedy should extend to all such infringing products of Qualcomm and Samsung.

VI. THE ASSERTED PATENTS AND NON-TECHNICAL DESCRIPTION OF THE ASSERTED PATENTS

A. The '488 Patent

1. Identification of the Patent and Ownership By Complainant

34. On March 6, 2001, the United States Patent Office duly, regularly, and legally issued United States Patent No. 6,198,488 ("the '488 Patent"), entitled *Transform, Lighting and Rasterization System Embodied on a Single Semiconductor Platform*, naming John Erik Lindholm, Simon Moy, Kevin Dawallu, Mingjian Yang, John Montrym, David B. Kirk, Paolo E. Sabella, Matthew N. Papakipos, Douglas A. Voorhies and Nicholas J. Foskett as inventors. A true, correct, and certified copy of the '488 patent is attached hereto as Exhibit 1 and incorporated herein by reference.

35. NVIDIA is the assignee and owner of all right, title and interest in and to the '488 Patent, which is valid, enforceable, and is currently in full force and effect. Messrs. Lindholm, *et al.* assigned to NVIDIA all right, title and interest in and to the '488 Patent. A true, correct, and certified copy of each of the assignments of the '488 Patent, reflecting the chain of title and identifying its ownership, is attached hereto as Exhibit 8.

36. The '488 Patent has 5 independent claims and 21 dependent claims. NVIDIA asserts that at least claims 1, 19 and 20 are infringed by the Accused Products.

37. Pursuant to Commission Rule 210.12, the original of the Complaint is accompanied by: (1) a true, correct, and certified copy of the '488 Patent (Exhibit 1); (2) a true, correct, and certified copy and three additional copies of the prosecution history of the '488

patent (Appendix A); (3) four copies of each reference cited therein (Appendix H); and (4) a true, correct, and certified copy of each of the recorded assignments of the ’488 Patent (Exhibit 8).

2. Nontechnical Description Of The Patented Inventions

38. The ’488 Patent generally discloses a graphics pipeline system on a single semiconductor platform that is used for graphics processing and multithreaded parallel processing of graphics data.

39. Pursuant to Commission Rule 210.12(a)(9)(v), a non-technical description of the inventions of the ’488 Patent is as follows: The ’488 Patent discloses a graphics pipeline system for graphics processing, the components of which are positioned on a single semiconductor platform. The operations performed on the single semiconductor platform include transforming graphics data from object space to screen space, performing lighting operations on the data, rendering the data, and executing multiple threads of instructions in parallel on a plurality of logic units while transforming or lighting the data.

40. This nontechnical description does not limit or interpret the claims of the ’488 Patent.

3. Foreign Counterparts To The ’488 Patent

41. The following is a list of foreign counterparts to the ’488 Patent:

Jurisdiction	App. No.	Filing Date	Status	Patent No.	Issue Date
Canada	2392370	12/5/200	Granted	239270	10/5/2010
European Patent Office	00983961.4	12/5/2000	Inactive	EP1238371	6/8/2011
Germany	00983961.4	12/5/2000	Granted	DE60046052.5	6/8/2011
Great Britain	00983961.4	12/5/2000	Granted	EP1238371	6/8/2011

Jurisdiction	App. No.	Filing Date	Status	Patent No.	Issue Date
Japan	2007067392	12/5/2000	Granted	4608510	10/15/2010
Japan	2001542053	12/5/2000	Granted	4306995	5/15/2009

42. To the best of Complainant's present knowledge, information and belief, there are no other foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the '488 Patent.

B. The '667 Patent

1. Identification of the Patent and Ownership By Complainant

43. On January 31, 2006, the United States Patent Office duly, regularly, and legally issued United States Patent No. 6,992,667 ("the '667 Patent"), entitled *Single Semiconductor Graphics Platform System and Method with Skinning, Swizzling and Masking Capabilities*, naming John Erik Lindholm, Simon Moy, Kevin Dawallu, Mingjian Yang, John Montrym, David B. Kirk, Paolo E. Sabella, Matthew N. Papakipos, Douglas A. Voorhies and Nicholas J. Foskett as inventors. A true, correct, and certified copy of the '667 Patent is attached hereto as Exhibit 2 and incorporated herein by reference.

44. NVIDIA is the assignee and owner of all right, title and interest in and to the '667 Patent, which is valid, enforceable, and is currently in full force and effect. Messrs. Lindholm, *et al.* assigned to NVIDIA all right, title and interest in and to the '667 Patent. A true, correct, and certified copy of each of the assignments of the '667 Patent, reflecting the chain of title and identifying its ownership, is attached hereto as Exhibit 9.

45. The '667 Patent has 7 independent claims and 22 dependent claims. NVIDIA asserts that at least claims 1-29 are infringed by Accused Products.

46. Pursuant to Commission Rule 210.12, the original of the Complaint is accompanied by: (1) a true, correct, and certified copy of the ’667 Patent (Exhibit 2); (2) a true, correct, and certified copy and three additional copies of the prosecution history of the ’667 Patent (Appendix B); (3) four copies of each reference cited therein (Appendix I); and (4) a true, correct, and certified copy of each of the recorded assignments of the ’667 Patent (Exhibit 9).

2. Nontechnical Description Of The Patented Invention

47. The ’667 Patent generally discloses a graphics pipeline system on a single semiconductor platform that is used for graphics processing with skinning, swizzling, and masking capabilities.

48. Pursuant to Commission Rule 210.12(a)(9)(v), a non-technical description of the inventions of the ’667 Patent is as follows: The ’667 Patent discloses a graphics pipeline system for graphics processing on a single semiconductor platform. The system transforms, lights, and rasterizes graphics data and is adapted to operate in conjunction with a central processing unit. The system is further capable of performing skinning, swizzling, and masking operations involving the graphics data.

49. This nontechnical description does not limit or interpret the claims of the ’667 Patent.

3. Foreign Counterparts To The ’667 Patent

50. To the best of Complainant’s present knowledge, information and belief, there are no foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the ’667 Patent, other than those identified *supra* as corresponding to the ’488 Patent.

C. The ’685 Patent

1. Identification of the Patent and Ownership By Complainant

51. On May 2, 2006, the United States Patent Office duly, regularly, and legally issued United States Patent No. 7,038,685 (“the ’685 Patent”), entitled *Programmable Graphics Processor for Multithreaded Execution of Programs*, naming John Erik Lindholm as the inventor. A true, correct, and certified copy of the ’685 Patent is attached hereto as Exhibit 3 and incorporated herein by reference.

52. NVIDIA is the assignee and owner of all right, title and interest in and to the ’685 Patent, which is valid, enforceable, and is currently in full force and effect. Mr. Lindholm assigned to NVIDIA all right, title and interest in and to the ’685 Patent. A true, correct, and certified copy of each of the assignments of the ’685 Patent, reflecting the chain of title and identifying its ownership, is attached hereto as Exhibit 10.

53. The ’685 Patent has 7 independent claims and 38 dependent claims. NVIDIA asserts that at least claims 1-5, 7-19, 21-23, 25-30, 34-36, 38, 41-43 are infringed by Accused Products.

54. Pursuant to Commission Rule 210.12, the original of the Complaint is accompanied by: (1) a true, correct, and certified copy of the ’685 Patent (Exhibit 3); (2) a true, correct, and certified copy and three additional copies of the prosecution history of the ’685 Patent (Appendix C); (3) four copies of each reference cited therein (Appendix J); and (4) a true, correct, and certified copy of each of the recorded assignments of the ’685 Patent (Exhibit 10).

2. Nontechnical Description Of The Patented Invention

55. The ’685 Patent generally relates to multi-threaded execution of program instructions for processing different types of samples, such as pixel and vertex data, in a unified shader architecture.

56. Pursuant to Commission Rule 210.12(a)(9)(v), a non-technical description of the inventions of the ’685 Patent is as follows: The ’685 Patent discloses a unified approach for computer graphics sample processing. Various kinds of computer graphics samples, such as vertex samples and pixel samples, are processed in a graphics processor with at least one multi-threaded programmable computation unit capable of processing different sample types. The graphics processor includes a thread control unit capable of assigning samples to available threads based on a priority among the sample types. The thread control unit is also capable of dynamically balancing the number of samples assigned to the threads. The graphics processor is also able to process more than one sample type simultaneously.

57. This nontechnical description does not limit or interpret the claims of the ’685 Patent.

3. Foreign Counterparts To The ’685 Patent

58. To the best of Complainant’s present knowledge, information and belief, there are no foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the ’685 Patent.

D. The ’913 Patent

1. Identification of the Patent and Ownership By Complainant

59. On March 21, 2006, the United States Patent Office duly, regularly, and legally issued United States Patent No. 7,015,913 (“the ’913 Patent”), entitled *Method and Apparatus for Multithreaded Processing of Data in a Programmable Graphics Processor*, naming John Erik Lindholm, Rul M. Bastos and Harold Robert Feldman Zatz as the inventors. A true, correct, and certified copy of the ’913 Patent is attached hereto as Exhibit 4 and incorporated herein by reference.

60. NVIDIA is the assignee and owner of all right, title and interest in and to the ’913 Patent, which is valid, enforceable, and is currently in full force and effect. Messrs. Lindholm, Bastos and Zatz assigned to NVIDIA all right, title and interest in and to the ’913 Patent. A true, correct, and certified copy of each of the assignments of the ’913 Patent, reflecting the chain of title and identifying its ownership, is attached hereto as Exhibit 11.

61. The ’913 Patent has 5 independent claims and 28 dependent claims. NVIDIA asserts that at least claims 5-8, 10, 12-20 and 24-27 are infringed by Accused Products.

62. Pursuant to Commission Rule 210.12, the original of the Complaint is accompanied by: (1) a true, correct, and certified copy of the ’913 Patent (Exhibit 4); (2) a true, correct, and certified copy and three additional copies of the prosecution history of the ’913 Patent (Appendix D); (3) four copies of each reference cited therein (Appendix K); and (4) a true, correct, and certified copy of each of the recorded assignments of the ’913 Patent (Exhibit 11).

2. Nontechnical Description Of The Patented Invention

63. The ’913 Patent generally relates to scheduling multi-threaded processing of samples of graphics data, such as vertex and pixel samples, in an order independent of the order in which they are received.

64. Pursuant to Commission Rule 210.12(a)(9)(v), a non-technical description of the inventions of the ’913 Patent is as follows: The ’913 Patent discloses an approach for computer graphics sample processing. Various kinds of computer graphics samples, such as vertex samples and pixel samples, are processed in a graphics processor with at least one multi-threaded processing unit. The multi-threaded processing unit is capable of processing samples in an order independent of the order in which the samples were received. For example, instructions in a

second thread may be scheduled for execution while instructions in a first thread are stalled waiting for source data.

65. This nontechnical description does not limit or interpret the claims of the ’913 Patent.

3. Foreign Counterparts To The ’913 Patent

66. To the best of Complainant’s present knowledge, information and belief, there are no foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the ’913 Patent.

E. The ’063 Patent

1. Identification of the Patent and Ownership By Complainant

67. On February 24, 2004, the United States Patent Office duly, regularly, and legally issued United States Patent No. 6,697,063 (“the ’063 Patent”), entitled *Rendering Pipeline*, naming Ming Benjamin Zhu as the inventor. A true, correct, and certified copy of the ’063 Patent is attached hereto as Exhibit 5 and incorporated herein by reference.

68. NVIDIA is the assignee and owner of all right, title and interest in and to the ’063 Patent, which is valid, enforceable, and currently in full force and effect. Mr. Zhu originally assigned to GigaPixel Corporation all right, title and interest in and to the ’063 Patent. Thereafter, 3DFX Interactive, Inc. and GigaPixel Corporation assigned to NVIDIA U.S. Investment Company all right, title and interest in and to the ’063 Patent. NVIDIA U.S. Investment Company assigned all right, title and interest in and to the ’063 Patent to NVIDIA. A true, correct, and certified copy of each of the assignments of the ’063 Patent, reflecting the chain of title and identifying its ownership, is attached hereto as Exhibit 12.

69. The ’063 Patent has 5 independent claims and 24 dependent claims. NVIDIA asserts that at least claims 7, 8, 11-13, 16-21, 23, 24, 28 and 29 are infringed by Accused Products.

70. Pursuant to Commission Rule 210.12, the original of the Complaint is accompanied by: (1) a true, correct, and certified copy of the ’063 Patent (Exhibit 5); (2) a true, correct, and certified copy and three additional copies of the prosecution history of the ’063 Patent (Appendix E); (3) four copies of each reference cited therein (Appendix L); and (4) a true, correct, and certified copy of each of the recorded assignments of the ’063 Patent (Exhibit 12).

2. Nontechnical Description Of The Patented Invention

71. The ’063 Patent discloses a pipeline system that renders computer graphics primitives for use in computer display systems. The ’063 Patent describes an integrated circuit that includes a graphics rendering pipeline that also can include a screen space tiler, a memory interface, a scan/z engine, a rasterizer, and a shader.

72. Pursuant to Commission Rule 210.12(a)(9)(v), a non-technical description of the inventions of the ’063 Patent is as follows: The ’063 Patent describes a rendering computer graphics pipeline system that can use screen space tiling (SST) to reduce the memory bandwidth consumed by the rendering system. The computer graphics pipeline system disclosed in the ’063 Patent performs SST efficiently, while avoiding the breaking up of primitives. The ‘063 Patent also describes a rendering pipeline design that efficiently renders visible fragments by decoupling the scan/conversion depth buffer processing from certain rasterization and shading processes. A “scan/z engine” resolves visibility and allows the rest of the rendering pipeline to shade only visible fragments.

73. This nontechnical description does not limit or interpret the claims of the ’063 Patent.

3. Foreign Counterparts To The ’063 Patent

74. To the best of Complainant’s present knowledge, information and belief, there are no foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the ’063 Patent.

F. The ’140 Patent

1. Identification of the Patent and Ownership By Complainant

75. On April 24, 2007, the United States Patent Office duly, regularly, and legally issued United States Patent No. 7,209,140 (“the ’140 Patent”), entitled *System, Method and Article of Manufacture for a Programmable Vertex Processing Model with Instruction Set*, naming John Erik Lindholm, David B. Kirk, Henry P. Moreton and Simon Moy as the inventors. A true, correct, and certified copy of the ’140 Patent is attached hereto as Exhibit 6 and incorporated herein by reference.

76. NVIDIA is the assignee and owner of all right, title and interest in and to the ’140 Patent, which is valid, enforceable, and is currently in full force and effect. Messrs. Lindholm, Kirk, Moreton and Moy assigned to NVIDIA all right, title and interest in and to the ’140 Patent. A true, correct, and certified copy of each of the assignments of the ’140 Patent, reflecting the chain of title and identifying its ownership, is attached hereto as Exhibit 13.

77. The ’140 Patent has 7 independent claims and 7 dependent claims. NVIDIA asserts that at least claims 1-7, 8-10, 12 and 14 are infringed by Accused Products.

78. Pursuant to Commission Rule 210.12, the original of the Complaint is accompanied by: (1) a true, correct, and certified copy of the ’140 Patent (Exhibit 6); (2) a true, correct, and certified copy and three additional copies of the prosecution history of the ’140 Patent (Appendix F); (3) four copies of each reference cited therein (Appendix M); and (4) a

true, correct, and certified copy of each of the recorded assignments of the ’140 Patent (Exhibit 13).

2. Nontechnical Description Of The Patented Invention

79. The ’140 Patent discloses a method and system for performing programmable graphics calculations in a hardware graphics accelerator.

80. Pursuant to Commission Rule 210.12(a)(9)(v), a non-technical description of the inventions of the ’140 Patent is as follows: The ’140 patent relates to programmable graphics operations in a hardware graphics accelerator. For example, in a system with a central processing unit and a hardware graphics accelerator, the hardware graphics accelerator is used to perform programmable operations on graphics data. The programmable operations are performed utilizing instructions from a predetermined instruction set.

81. This nontechnical description does not limit or interpret the claims of the ’140 Patent.

3. Foreign Counterparts To The ’140 Patent

82. To the best of Complainant’s present knowledge, information and belief, there are no foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the ’140 Patent.

G. The ’372 Patent

1. Identification of the Patent and Ownership By Complainant

83. On February 10, 2004, the United States Patent Office duly, regularly, and legally issued United States Patent No. 6,690,372 (“the ’372 Patent”), entitled *System, Method and Article of Manufacturer for Shadow Mapping*, naming Walter E. Donovan and Liang Peng as the inventors. A true, correct, and certified copy of the ’372 Patent is attached hereto as Exhibit 7 and incorporated herein by reference.

84. NVIDIA is the assignee and owner of all right, title and interest in and to the ’372 Patent, which is valid, enforceable, and is currently in full force and effect. Messrs. Donovan and Peng assigned to NVIDIA all right, title and interest in and to the ’372 Patent. A true, correct, and certified copy of each of the assignments of the ’372 Patent, reflecting the chain of title and identifying its ownership, is attached hereto as Exhibit 14.

85. The ’372 Patent has 11 independent claims and 14 dependent claims. NVIDIA asserts that at least claims 1-6, 9-16 and 19-25 are infringed by Accused Products.

86. Pursuant to Commission Rule 210.12, the original of the Complaint is accompanied by: (1) a true, correct, and certified copy of the ’372 Patent (Exhibit 7); (2) a true, correct, and certified copy and three additional copies of the prosecution history of the ’ 372 Patent (Appendix G); (3) four copies of each reference cited therein (Appendix N); and (4) a true, correct, and certified copy of each of the recorded assignments of the ’372 Patent (Exhibit 14).

2. Nontechnical Description Of The Patented Invention

87. The ’372 Patent discloses a method and system for performing programmable shading calculations in a graphics pipeline.

88. Pursuant to Commission Rule 210.12(a)(9)(v), a non-technical description of the inventions of the ’372 Patent is as follows: The ’372 patent relates to graphics operations of a programmable shader in a graphics pipeline. In particular, shading calculation may be performed through a shader program, including successive operations on a fragment’s color or texture-related operations in which the output of the first shading calculation is saved for use by the second shading calculation and where the calculations include decoupled variables.

89. This nontechnical description does not limit or interpret the claims of the ’372 Patent.

3. Foreign Counterparts To The ’372 Patent

90. To the best of Complainant’s present knowledge, information and belief, there are no other foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the ’372 Patent.

VII. UNFAIR ACTS OF PROPOSED RESPONDENTS – PATENT INFRINGEMENT AND IMPORTATION

91. Respondents unlawfully import into the United States, sell for importation into the United States, and/or sell within the United States after importation, the Accused Products, of which Respondents are the owner, importer or consignee. The aforesaid acts of Respondents constitute acts of infringement. The Accused Products infringe at least claims 1, 19 and 20 of the ’488 Patent; claims 1-29 of the ’667 Patent; claims 1-5, 7-19, 21-23, 25-30, 34-36, 38, 41-43 of the ’685 Patent; claims 5-8, 10, 12-20 and 24-27 of the ’913 Patent; claims 7, 8, 11-13, 16-21, 23, 24, 28 and 29 of the ’063 Patent; claims 1-7, 8-10, 12 and 14 of the ’140 Patent; and claims 1-6, 9-16 and 19-25 of the ’372 Patent (collectively, the “Asserted Claims” of the “Asserted Patents”). Discovery may reveal that Respondents infringe additional claims of the Asserted Patents.

92. Examples of the Accused Products include, but are not limited to, Qualcomm processors that use GPUs referred to commercially as Adreno, which are incorporated into Samsung products. The infringing Qualcomm processors include, but are not limited to, the Snapdragon S4 (using the Adreno 225), Snapdragon 400 (using the Adreno 305), Snapdragon 600 (using the Adreno 320), Snapdragon 800 and 801 (using the Adreno 330), and Snapdragon 805 (using the Adreno 420).

93. Examples of the Accused Products further include, but are not limited to, Samsung products that incorporate processors with GPUs that are referred to commercially as

Adreno, Mali and PowerVR. Processors incorporating these GPUs include Samsung's Exynos processors and Qualcomm's Snapdragon processors. Examples of such Samsung products include, but are not limited to, mobile phones (including the Galaxy Note 4, Galaxy Note Edge, Galaxy S5, Galaxy Note 3, and Galaxy S4) and tablet computers (including the Galaxy Tab S, Galaxy Note Pro, and Galaxy Tab 2).

94. This identification of specific models or types of products is not intended to limit the scope of the investigation. The Commission's investigation and any remedy should extend to all infringing products. Claim charts accompanying this Complaint set forth the analysis of infringement by at least one exemplary Accused Product for each asserted independent claim for each of the Asserted Patents.

95. Pursuant to §210.12(a)(9)(viii), a chart that applies independent claims 1, 19 and 20 of the '488 Patent to representative accused articles that use the Qualcomm Snapdragon S4, 400, 600 or 800 series of processors, such as the Samsung Galaxy Note 4, Galaxy Note Edge, Galaxy S5, Galaxy Note 3 (LTE), Galaxy S4, and Galaxy S III smartphones and the Samsung Note Pro LTE, Galaxy Tab 4, and Galaxy Tab 3 tablet computers, is attached to the Complaint as Exhibit 27. Documents referenced in this claim chart are attached as Exhibits 76, 77 and 80. A chart that applies independent claims 1, 19 and 20 of the '488 Patent to representative accused articles that use the Samsung Exynos 5 Octa (5420) processor (which uses a Mali-T628 GPU), such as the Samsung Galaxy Note 3 smartphone and the Samsung Galaxy Tab S 10.5 and Galaxy Tab Pro 12.2 tablet computers, is attached to the Complaint as Exhibit 28. Documents referenced in this claim chart are attached as Exhibits 78 and 80.

96. Pursuant to §210.12(a)(9)(viii), a chart that applies independent claims 1, 7, 10, 17, 20, 26 and 29 of the '667 Patent to representative accused articles that use the Qualcomm

Snapdragon S4, 400, 600 or 800 series of processors, such as the Samsung Galaxy Note 4, Galaxy Note Edge, Galaxy S5, Galaxy Note 3 (LTE), Galaxy S4, and Galaxy S III smartphones and the Samsung Note Pro LTE, Galaxy Tab 4, and Galaxy Tab 3 tablet computers, is attached to the Complaint as Exhibit 29. Documents referenced in this claim chart are attached as Exhibits 76, 77 and 80. A chart that applies independent claims 1, 7, 10, 17, 20, 26 and 29 of the '667 Patent to representative accused articles that use the Samsung Exynos 5 Octa (5420) processor (which uses a Mali-T628 GPU), such as the Samsung Galaxy Note 3 smartphone and the Samsung Galaxy Tab S 10.5 and Galaxy Tab Pro 12.2 tablet computers, is attached to the Complaint as Exhibit 30. Documents referenced in this claim chart are attached as Exhibits 78 and 80.

97. Pursuant to §210.12(a)(9)(viii), a chart that applies independent claims 1, 15, 23, 25, 36, 41 and 43 of the '685 Patent to representative accused articles that use the Qualcomm Snapdragon S4, 400, 600 or 800 series of processors, such as the Samsung Galaxy Note 4, Galaxy Note Edge, Galaxy S5, Galaxy Note 3 (LTE), Galaxy S4, and Galaxy S III smartphones and the Samsung Note Pro LTE, Galaxy Tab 4, and Galaxy Tab 3 tablet computers, is attached to the Complaint as Exhibit 31. Documents referenced in this claim chart are attached as Exhibits 76, 77 and 80. A chart that applies independent claims 1, 15, 23, 25, 36, 41 and 43 of the '685 Patent to representative accused articles that use the Samsung Exynos 5 Octa (5420) processor (which uses a Mali-T628 GPU), such as the Samsung Galaxy Note 3 smartphone and the Samsung Galaxy Tab S 10.5 and Galaxy Tab Pro 12.2 tablet computers, is attached to the Complaint as Exhibit 32. Documents referenced in this claim chart are attached as Exhibits 78 and 80.

98. Pursuant to §210.12(a)(9)(viii), a chart that applies independent claims 5, 17 and 20 of the ’913 Patent to representative accused articles that use the Qualcomm Snapdragon S4, 400, 600 or 800 series of processors, such as the Galaxy Note 4, Galaxy Note Edge, Samsung Galaxy S5, Galaxy Note 3 (LTE), Galaxy S4, and Galaxy S III smartphones and the Samsung Note Pro LTE, Galaxy Tab 4, and Galaxy Tab 3 tablet computers, is attached to the Complaint as Exhibit 33. Documents referenced in this claim chart are attached as Exhibits 76, 77 and 80. A chart that applies independent claims 5, 17 and 20 of the ’913 Patent to representative accused articles that use the Samsung Exynos 5 Octa (5420) processor (which uses a Mali-T628 GPU), such as the Samsung Galaxy Note 3 smartphone and the Samsung Galaxy Tab S 10.5 and Galaxy Tab Pro 12.2 tablet computers, is attached to the Complaint as Exhibit 34. Documents referenced in this claim chart are attached as Exhibits 78 and 80.

99. Pursuant to §210.12(a)(9)(viii), a chart that applies independent claims 7, 13, 18 and 21 of the ’063 Patent to representative accused articles that use the Qualcomm Snapdragon S4, 400, 600 or 800 series of processors, such as the Samsung Galaxy Note 4, Galaxy Note Edge, Galaxy S5, Galaxy Note 3 (LTE), Galaxy S4, and Galaxy S III smartphones and the Samsung Note Pro LTE, Galaxy Tab 4, and Galaxy Tab 3 tablet computers, is attached to the Complaint as Exhibit 35. Documents referenced in this claim chart are attached as Exhibits 76, 77 and 80. A chart that applies independent claims 7, 13 and 21 of the ’063 Patent to representative accused articles that use processors including the Samsung Exynos 3110 (which uses a PowerVR SGX540 GPU), or an Exynos 5410 processor (which uses a PowerVR SGX544 GPU), such as the Galaxy S4 I9500, Illusion Android and Infuse 4G smartphones, and Galaxy Tab 2 tablet computers, is attached to the Complaint as Exhibit 36. Documents referenced in this claim chart are attached as Exhibits 79-80.

100. Pursuant to §210.12(a)(9)(viii), a chart that applies independent claims 1, 5, 6, 7, 12 and 14 of the ’140 Patent to representative accused articles that use the Qualcomm Snapdragon S4, 400, 600 or 800 series of processors, such as the Samsung Galaxy Note 4, Galaxy Note Edge, Galaxy S5, Galaxy Note 3 (LTE), Galaxy S4, and Galaxy S III smartphones and the Samsung Note Pro LTE, Galaxy Tab 4, and Galaxy Tab 3 tablet computers, is attached to the Complaint as Exhibit 37. Documents referenced in this claim chart are attached as Exhibits 76, 77 and 80. A chart that applies independent claims 1, 5, 6, 7, 12 and 14 of the ’140 Patent to representative accused articles that use processors including the Samsung Exynos 3110 (which uses a PowerVR SGX540 GPU), or an Exynos 5410 processor (which uses a PowerVR SGX544 GPU), such as the Galaxy S4 I9500, Illusion Android and Infuse 4G smartphones, and Galaxy Tab 2 tablet computers, is attached to the Complaint as Exhibit 38. Documents referenced in this claim chart are attached as Exhibits 79-80.

101. Pursuant to §210.12(a)(9)(viii), a chart that applies independent claims 1, 9, 10, 11, 19, 20 and 21 of the ’372 Patent to representative accused articles that use the Qualcomm Snapdragon S4, 400, 600 or 800 series of processors, such as the Samsung Galaxy Note 4, Galaxy Note Edge, Galaxy S5, Galaxy Note 3 (LTE), Galaxy S4, and Galaxy S III smartphones and the Samsung Note Pro LTE, Galaxy Tab 4, and Galaxy Tab 3 tablet computers, is attached to the Complaint as Exhibit 39. Documents referenced in this claim chart are attached as Exhibits 76, 77 and 80. A chart that applies independent claims 1, 9, 10, 11, 19, 20 and 21 of the ’372 Patent to representative accused articles that use processors including the Samsung Exynos 3110 (which uses a PowerVR SGX540 GPU), or an Exynos 5410 processor (which uses a PowerVR SGX544 GPU), such as the Galaxy S4 I9500, Illusion Android and Infuse 4G smartphones, and

Galaxy Tab 2 tablet computers, is attached to the Complaint as Exhibit 40. Documents referenced in this claim chart are attached as Exhibits 79-80.

102. Upon information and belief, Respondents also test, evaluate, demonstrate, use, and operate the Accused Products in the United States, which constitute independent acts of direct infringement. Upon information and belief, Respondents test, evaluate, demonstrate, use, and operate the Accused Products both prior to and subsequent to their importation into the United States.

103. Respondents also indirectly infringe the Asserted Claims of the Asserted Patents by inducing and/or contributing to infringement of the Asserted Claims. For example, Respondents induce infringement and/or contributorily infringe when third parties, such as customers and consumers, and/or Respondents' employees, use the accused processors and the accused consumer products such as mobile phones and tablet computers.

104. Qualcomm and Samsung have had knowledge of some or all of the Asserted Patents since before this Complaint was filed. Samsung knew of at least the '488, '667, and '063 Patents since at least August 7, 2012, and at least the '685 and '913 patents since at least January 15, 2014, through discussions with NVIDIA. Upon information and belief, Qualcomm knew of the same patents at least through discussions with Samsung. At a minimum, Qualcomm and Samsung will have knowledge of all the Asserted Patents, their infringement of the Asserted Patents, and infringement of the Asserted Patents by the Accused Products, upon service of this Complaint (without confidential exhibits) upon Qualcomm and Samsung at the addresses referenced herein, concurrently with this filing.

105. Respondents contribute to the infringement of the Asserted Claims by, among other things, offering to sell, selling for importation, selling within the United States after

importation, and/or importing into the United States the Accused Products. Upon information and belief, Respondents know the Accused Products, and/or hardware and software components of the Accused Products that constitute material parts of the claimed inventions, are especially made or adapted for use in infringing the Asserted Claims and are not staple articles or commodities of commerce suitable for substantial non-infringing use. Simply turning on and using the Accused Products, for their intended purposes or otherwise, practices claims of the Asserted Patents, as does the execution of applications stored in the Accused Products.

106. Respondents actively induce others to infringe the Asserted Claims by encouraging and facilitating others to perform actions known by Respondents to infringe, including but not limited to the use of the Accused Products. Simply turning on and using the Accused Products, for their intended purposes or otherwise, practices claims of the Asserted Patents. Respondents know or should know that their actions will induce infringement, specifically intend to induce infringement, and have knowledge that the induced acts constitute patent infringement. For example, on information and belief, Respondents encourage, train, instruct, and provide support and technical assistance to their direct and indirect customers, potential customers and end users to make infringing use of the Accused Products, such as by publishing and providing technical materials and promotional literature describing and instructing in the infringing use of the Accused Products.

VIII. SPECIFIC INSTANCES OF UNLAWFUL IMPORTATION AND SALE

107. Upon information and belief, Qualcomm designs, evaluates, develops, tests, and manufactures or has manufactured Accused Products outside of the United States and is importing into the United States, selling for importation into the United States, and/or selling within the United States after importation, Accused Products. Upon information and belief,

Qualcomm sells Accused Products to Samsung knowing, or having reason to know, that the Accused Products will be subsequently imported into the United States.

108. Upon information and belief, Samsung designs, evaluates, develops, tests and manufactures or has manufactured Accused Products outside of the United States and is importing into the United States, selling for importation into the United States, and/or selling within the United States after importation, Accused Products. Upon information and belief, Samsung offers Accused Products for sale directly to customers in the United States and also sells Accused Products to distributors or retailers knowing or having reason to know that the Accused Products will be resold within the United States.

109. The specific instances of importation of infringing Accused Products set forth below are representative examples of Samsung's unlawful importation, sale for importation, and/or sales within the United States after importation of infringing products. The specific instances of importation of infringing Accused Products set forth below are also representative examples of Qualcomm's unlawful sale of its infringing processors for importation into the United States.

110. NVIDIA has obtained in the United States certain representative Samsung Accused Products that use accused processors and have been imported into the United States. For example, NVIDIA obtained the Samsung Galaxy Note® 3 smartphone (Model No. SM-N900AZWEATT). A copy of the sales receipt for the Samsung Galaxy Note® 3, purchased online and picked-up at the Best Buy store at 3171 N. George Bush Fwy, Garland, TX 75040, on August 13, 2014, is attached to this Complaint as Exhibit 41. As shown in the photographs included in Exhibit 41, the outside packaging of the Samsung Galaxy Note® 3 is marked "Phone Made in Korea," and the physical casing of the Samsung Galaxy Note® 3, within the battery

compartment, is marked “Made in Korea.” Other pages within Exhibit 41 show that Samsung and various retailers offer the Samsung Galaxy Note® 3 for sale through the internet and at various locations in the United States. Another page within Exhibit 41 shows that the physical housing of the Samsung Galaxy Note® 3 bears a sticker that reads “QUALCOMM® 4G.” Other pages within Exhibit 41 show that the Samsung Galaxy Note® 3 contains a Qualcomm Snapdragon 800 processor.

111. NVIDIA also obtained the Samsung Galaxy S® III smartphone (Model No. SGH-I747MBBATT). A copy of the sales receipt for the Samsung Galaxy S® III, purchased online on August 12, 2014, and picked-up from the Best Buy store at 2063 Town East Mall, Ste. 2220, Mesquite, TX 75150, is attached to this Complaint as Exhibit 42. As shown in the photographs included in Exhibit 42, the outside packaging of the Samsung Galaxy S® III is marked “Phone Made in Korea,” and the physical casing of the Samsung Galaxy S® III, within the battery compartment, is marked “Made in Korea.” Other pages within Exhibit 42 show that Samsung and various retailers offer the Samsung Galaxy S® III for sale through the internet and at various locations in the United States. Another page within Exhibit 42 shows that the physical housing of the Samsung Galaxy S® III bears a sticker that reads “QUALCOMM® 4G.” Other pages within Exhibit 42 show that the Samsung Galaxy S® III contains a Qualcomm Snapdragon S4 Plus processor.

112. NVIDIA also obtained the Samsung Galaxy S® 4 smartphone (Model No. SGH-I337ZKAATT). A copy of the sales receipt for the Samsung Galaxy S® 4, purchased online on August 12, 2014, and picked-up from the Best Buy store at 2063 Town East Mall, Ste. 2220, Mesquite, TX 75150, is attached to this Complaint as Exhibit 43. As shown in the photographs included in Exhibit 43, the outside packaging of the Samsung Galaxy S® 4 is marked “Phone

Made in Korea," and the physical casing of the Samsung Galaxy S® 4, within the battery compartment, is marked "Made in Korea." Other pages within Exhibit 43 show that Samsung and various retailers offer the Samsung Galaxy S® 4 for sale through the internet and at various locations in the United States. Another page within Exhibit 43 shows that the physical housing of the Samsung Galaxy S® 4 bears a sticker that reads "QUALCOMM® 4G." Other pages within Exhibit 43 show that the Samsung Galaxy S® 4 contains a Qualcomm Snapdragon 600 processor.

113. NVIDIA also obtained the Samsung Galaxy S® 5 smartphone (Model No. SM-G900AZWAATT). A copy of the sales receipt for the Samsung Galaxy S® 5, purchased online and picked-up at the Best Buy store at 9378 N. Central Expy, Dallas, TX 75231, is attached to this Complaint as Exhibit 44. As shown in the photographs included in Exhibit 44, the outside packaging of the Samsung Galaxy S® 5 is marked "Phone Made in Korea," and the physical casing of the Samsung Galaxy S® 5, within the battery compartment, is marked "Made in Korea." Other pages within Exhibit 44 show that Samsung and various retailers offer the Samsung Galaxy S® 5 for sale through the internet and at various locations in the United States. Another page within Exhibit 44 shows that the physical housing of the Samsung Galaxy S® 5 bears a sticker that reads "QUALCOMM® 4G." Other pages within Exhibit 44 show that the Samsung Galaxy S® 5 contains a Qualcomm Snapdragon 801 processor.

114. NVIDIA also obtained the Samsung Galaxy Note® Pro 12.2 32GB tablet (Model No. SM-P905VZKAVZW). A copy of the sales receipt for the Samsung Galaxy Note® Pro 12.2 32GB, purchased online on August 12, 2014, and picked-up from the Best Buy store at 9378 N. Central Expy, Dallas, TX 75231, is attached to this Complaint as Exhibit 45. As shown in the photographs included in Exhibit 45, the outside packaging of the Samsung Galaxy Note® Pro

12.2 32GB is marked “Made in China,” and the physical casing of the Samsung Galaxy Note® Pro 12.2 32GB is also marked “Made in China.” Other pages within Exhibit 45 show that Samsung and various retailers offer the Samsung Galaxy Note® Pro 12.2 32GB for sale through the internet and at various locations in the United States. Other pages within Exhibit 45 show that the Samsung Galaxy Note® Pro 12.2 32GB contains a Qualcomm Snapdragon 800 processor.

115. NVIDIA has also obtained the Samsung Galaxy Note® 3 smartphone (Model No. N9000 White). A copy of the sales receipt for the Samsung Galaxy Note 3, purchased online on August 20, 2014, and delivered to 2001 Ross Avenue, Ste 400, Dallas, TX 75201, is attached to this Complaint as Exhibit 46. As shown in the photographs included in Exhibit 46, the outside packaging of the Samsung Galaxy Note 3 is marked “Made in Vietnam,” and the physical casing of the phone, inside the battery compartment, is marked “Made in Vietnam.”

116. NVIDIA has also obtained the Samsung Galaxy Tab® S 10.5 tablet (Model No. SM-T800NZWAXAR). A copy of the sales receipt for the Samsung Galaxy Tab® S 10.5, purchased online on August 20, 2014 and picked-up the Best Buy store located at 9378 N Central Expy, Dallas, TX 75231, is attached to this Complaint as Exhibit 47. As shown in the photographs included in Exhibit 47, the outside packaging of the Samsung Galaxy Tab® S 10.5 is marked “Made in Vietnam by Samsung,” and the physical casing of the Samsung Galaxy Tab® S 10.5 is also marked “Made in Vietnam by Samsung.” Other pages within Exhibit 47 show that Samsung and various retailers offer the Samsung Galaxy Tab® S 10.5 for sale through the internet and at various locations in the United States.

117. NVIDIA has also obtained the Samsung Galaxy Tab® Pro 12.2 32GB (Wi-Fi) tablet (Model No. SM-T9000ZWAXAR). A copy of the sales receipt for the Samsung Galaxy

Tab® Pro 12.2 32GB (Wi-Fi), purchased online on August 20, 2014 and picked-up the Best Buy store located at 9378 N Central Expy, Dallas, TX 75231, is attached to this Complaint as Exhibit 48. As shown in the photographs included in Exhibit 48, the outside packaging of the Samsung Galaxy Tab® Pro 12.2 32GB (Wi-Fi) is marked "Made in Vietnam by Samsung," and the physical casing of the Samsung Galaxy Tab® Pro 12.2 32GB (Wi-Fi) is also marked "Made in Vietnam by Samsung." Other pages within Exhibit 48 show that Samsung and various retailers offer the Samsung Galaxy Tab® Pro 12.2 32GB (Wi-Fi) for sale through the internet and at various locations in the United States.

118. NVIDIA has also obtained the Samsung Galaxy Tab® 2 10.1 (Wi-Fi) 16GB (Model No. GT-P5113TSYXAR). A copy of the sales receipt for the Samsung Galaxy Tab® 2 10.1 (Wi-Fi) 16GB, purchased online on August 20, 2014 and delivered to 2001 Ross Ave., Ste. 400, Dallas, TX 75201, is attached to this Complaint as Exhibit 49. As shown in the photographs included in Exhibit 49, the outside packaging of the Samsung Galaxy Tab® 2 10.1 (Wi-Fi) 16GB is marked "Made in China by Samsung," and the physical casing of the Samsung Galaxy Tab® 2 10.1 (Wi-Fi) 16GB is also marked "Made in China by Samsung." Other pages within Exhibit 49 show that Samsung and various retailers offer the Samsung Galaxy Tab® 2 10.1 (Wi-Fi) 16GB for sale through the internet and at various locations in the United States.

119. NVIDIA has also obtained the Samsung Galaxy S4 16GB (Model No. GT-I9500). A copy of the sales receipt for the Samsung Galaxy S4 16GB, purchased online on September 2, 2014, and delivered to 2001 Ross Avenue, Ste 400, Dallas, TX 75201, is attached to this Complaint as Exhibit 50. As shown in the photographs included in Exhibit 50, the outside packaging of the Samsung Galaxy S4 16GB is marked "Made in China," and the physical casing

of the Samsung Galaxy S4 16GB, inside the battery compartment, is also marked "Made in China."

120. NVIDIA has also obtained the Samsung Galaxy Tab® 2 7.0 (Wi-Fi) 8GB (Model No. GT-P3113TSYXAR). A copy of the sales receipt for the Samsung Galaxy Tab® 2 7.0 (Wi-Fi) 8GB, purchased online on August 21, 2014, and delivered to 2001 Ross Avenue, Ste 400, Dallas, TX 75201, is attached to this Complaint as Exhibit 51. As shown in the photographs included in Exhibit 51, the outside packaging of the Samsung Galaxy Tab® 2 7.0 (Wi-Fi) 8GB is marked "Made in Vietnam by Samsung," and the physical casing of the Samsung Galaxy Tab® 2 7.0 (Wi-Fi) 8GB is also marked "Made in Vietnam by Samsung." Other pages within Exhibit 51 show that Samsung and various retailers offer the Samsung Galaxy Tab® 2 7.0 (Wi-Fi) 8GB for sale through the internet and at various locations in the United States.

121. NVIDIA has also obtained the Samsung Infuse 4G (Model No. SGH-I997). A copy of the sales receipt for the Samsung Infuse 4G, purchased online on August 20, 2014, and delivered to 2001 Ross Avenue, Ste 400, Dallas, TX 75201, is attached to this Complaint as Exhibit 52. As shown in the photographs included in Exhibit 52, the outside packaging of the Samsung Infuse 4G is marked "Made in Korea," and the physical casing of the Samsung Infuse 4G, inside the battery compartment, is also marked "Made in Korea." Other pages within Exhibit 52 show that Samsung and various retailers offer the Samsung Infuse 4G for sale through the internet and at various locations in the United States.

122. NVIDIA has also obtained the Samsung Illusion Prepaid Smartphone (Model No. SCH-I110ZPP). A copy of the sales receipt for the Samsung Illusion Prepaid Smartphone, purchased online and picked-up on August 21, 2014, at the Fry's Electronics store located at 12710 Executive Drive, Dallas, TX 75238, is attached to this Complaint as Exhibit 53. As

shown in the photographs included in Exhibit 53, the outside packaging of the Samsung Illusion Prepaid Smartphone is marked "Phone Made in China," and the physical casing of the Samsung Illusion Prepaid Smartphone, within the battery compartment, is also marked "Made in China." Other pages within Exhibit 53 show that Samsung and various retailers offer the Samsung Illusion smartphone for sale through the internet and at various locations in the United States.

123. NVIDIA believes that further discovery likely will reveal other specific acts of Respondents' importation, and sale after importation, of Accused Products that infringe the Asserted Patents, including, but not limited to, additional models of Accused Products.

IX. HARMONIZED TARIFF SCHEDULE INFORMATION

124. The accused products are believed to fall within at least the following classifications of the Harmonized Tariff Schedules ("HTS") of the United States: 8542.31, 8517.12, 8517.18, and 8471.30.01. These HTS numbers are illustrative only and are not exhaustive of the products accused of infringement in this Complaint. These HTS numbers are not intended to limit the scope of the Investigation.

X. COMPLAINANT SATISFIES THE DOMESTIC INDUSTRY REQUIREMENT

125. NVIDIA is an American success story and a quintessential domestic industry. Founded 20 years ago in the heart of Silicon Valley, NVIDIA currently employs nearly 9,000 people, has shipped more than one billion GPUs, and generated more than $4.1 billion in revenues in its fiscal year ended January 26, 2014. *See* Exhibit 15.

126. A domestic industry exists in the United States because NVIDIA and its licensees, including Intel, have made significant investments in plant and equipment, significant employment of labor or capital, and substantial investment in the exploitation of the Asserted Patents, including through its engineering and research and development efforts directed to the

GeForce, Tegra, Quadro and Tesla product lines, all of which practice and embody the Asserted Patents (the "NVIDIA Representative Domestic Industry Products").

127. For example, as of January 26, 2014, NVIDIA's domestic facilities used for research and development and manufacturing tasks associated with the NVIDIA Representative Domestic Industry Products comprise almost 1.3 million square feet and had a gross book value of approximately $600 million. Confidential Exhibit 54. In fiscal year 2014, NVIDIA made capital expenditures of approximately $72 million in equipment at the facilities used for the NVIDIA Representative Domestic Industry Products. *Id.* As of January 26, 2014, approximately 3,800 of NVIDIA's employees in the United States participated in research and development and manufacturing tasks associated with the NVIDIA Representative Domestic Industry Products. *Id.* In fiscal year 2014, NVIDIA spent more than $940 million on research and development and manufacturing costs related to the NVIDIA Representative Domestic Industry Products in the United States. *Id.* As a result of these investments, sales of the NVIDIA Representative Domestic Industry Products generated revenues in excess of $3.6 billion in fiscal year 2014. *Id.*

128. Supported by NVIDIA's immense investments in research and development, NVIDIA's employees have realized the vision of its founder, Jen-Hsun Huang, to revolutionize computing and propel NVIDIA to become the leading computer graphics company in the world. NVIDIA invented the first GPU and released it to the public in 1999 as the GeForce 256. Since then, NVIDIA's innovation has powered the world's largest and most powerful supercomputers, life-saving CT scanners, and scientific research into some complex issues as global climate change and the search for a cure for cancer. But NVIDIA has also brought the same technology

to consumers, which can be found in such consumer products as smart phones, tablets, personal computers, video games, and automobiles.

129. Accordingly, a domestic industry relating to articles protected by the Asserted Patents, as required by 19 U.S.C. § 1337(a)(2) and defined by 19 U.S.C. § 1337 (a)(3), exists in the United States and is in the process of being further established and expanded.

130. In addition, NVIDIA is in the process of expanding and further establishing a domestic industry relating to the articles protected by the Asserted Patents. NVIDIA has made significant investments in plant and equipment, significant employment of labor or capital, and substantial investment in the exploitation of the Asserted Patents, including engineering and research and development, to develop new products that will practice at least one claim from each of the Asserted Patents upon completion of development and commercialization. These articles will further expand the domestic industry in the future.

A. Technical Prong as to the NVIDIA Representative Domestic Industry Products

131. NVIDIA researches, designs, develops, and sells graphics processing products. Of the NVIDIA graphics processing products that have been the subject of NVIDIA's significant and substantial investments in the United States, as described herein, most practice the inventions of the '488, '667, '685, '913, '063, '140, and '372 Patents, including but not limited to, the NVIDIA Representative Domestic Industry Products. One or more of the GeForce, Tegra, Quadro and Tesla product lines practice at least one claim of each of the '488, '667, '685, '913, '063, '140, and '372 Patents.

132. For purposes of showing that NVIDIA satisfies the domestic industry requirement, NVIDIA has selected representative products for each of the Asserted Patents, as set forth below. A photograph of a representative Shield Tablet is attached to this Complaint as

Exhibit 55; a photograph of a representative Tegra processor, the Tegra K1, which is used by the Shield Tablet, is attached to this Complaint as Exhibit 56; a photograph of a representative GeForce GTX Titan Z (using two GK110 GPUs), is attached to this Complaint as Exhibit 57; and a photograph of a representative GeForce GTX 750 Ti is attached to this Complaint as Exhibit 58.

133. The NVIDIA Representative Domestic Industry Products are also integrated into other consumer products, including the types of consumer electronics at issue in this investigation. For example, NVIDIA's Tegra 4, released in 2013, was chosen by numerous companies to power their mobile products, including Microsoft for its Surface 2 tablet. Exhibit 59. Tegra 4 was also used in smartphones and tablets sold by Acer, ASUS, Hewlett Packard, Toshiba, Vizio and ZTE, among others.

134. NVIDIA's new Tegra K1 mobile processor is so powerful it is being used in products other than smartphones and tablets. Acer is using NVIDIA's new Tegra K1 processor in its Chromebook personal computer, and the Tegra K1 is also used in Lenovo's Terminator S9, a 50 inch 4K Smart TV. Exhibit 59. The Tegra K1 also powers Google's new Project Tango Development Kit, a tablet computer that will enable users to track and map 3D environments by making over a quarter million 3D measurements every second, giving mobile devices a human-scale understanding of space and motion. *Id.* The HTC Nexus 9, expected in the third quarter of 2014, is also expected to use the Tegra K1. *Id.*

135. Exhibit 60 is a claim chart demonstrating that each and every limitation of at least exemplary claim 1 of the '488 Patent is met by representative domestic industry products based on the Kepler architecture, such as the GeForce GTX Titan Z (using two GK110 GPUs), the Shield tablet, and the Tegra K1 processor used in the Shield tablet. Documents referenced in this

claim chart are attached as Exhibit 81. The ’488 Patent is practiced by at least the GeForce, Quadro, Tesla and Tegra product lines.

136. Exhibit 61 is a claim chart demonstrating that each and every limitation of at least exemplary claim 10 of the ’667 Patent is met by representative domestic industry products based on the Kepler architecture, such as the GeForce GTX Titan Z (using two GK110 GPUs), the Shield tablet, and the Tegra K1 processor used in the Shield tablet. Documents referenced in this claim chart are attached as Exhibit 81. The ’667 Patent is practiced by at least the GeForce, Quadro, Tesla and Tegra product lines.

137. Exhibit 62 is a claim chart demonstrating that each and every limitation of at least exemplary claim 15 of the ’685 Patent is met by representative domestic industry products based on the Kepler architecture, such as the GeForce GTX Titan Z (using two GK110 GPUs), the Shield tablet, and the Tegra K1 processor used in the Shield tablet. Documents referenced in this claim chart are attached as Exhibit 81. The ’685 Patent is practiced by at least the GeForce, Quadro, Tesla and Tegra product lines.

138. Exhibit 63 is a claim chart demonstrating that each and every limitation of at least exemplary claim 5 of the ’913 Patent is met by representative domestic industry products based on the Kepler architecture, such as the GeForce GTX Titan Z (using two GK110 GPUs), the Shield tablet, and the Tegra K1 processor used in the Shield tablet. Documents referenced in this claim chart are attached as Exhibit 81. The ’913 Patent is practiced by at least the GeForce, Quadro, Tesla and Tegra product lines.

139. Exhibit 64 is a claim chart demonstrating that each and every limitation of at least exemplary claim 21 of the ’063 Patent is met by representative domestic industry products based on the Maxwell architecture, such as the GeForce GTX Ti. Documents referenced in this claim

chart are attached as Exhibits 81-82. The ’063 Patent is practiced by at least the GeForce, Quadro, Tesla and Tegra product lines.

140. Exhibit 65 is a claim chart demonstrating that each and every limitation of at least exemplary claim 14 of the ’140 Patent is met by representative domestic industry products based on the Kepler architecture, such as the GeForce GTX Titan Z (using two GK110 GPUs), the Shield tablet, and the Tegra K1 processor used in the Shield tablet. Documents referenced in this claim chart are attached as Exhibits 80-81. The ’140 Patent is practiced by at least the GeForce, Quadro, Tesla and Tegra product lines.

141. Exhibit 66 is a claim chart demonstrating that each and every limitation of at least exemplary claim 21 of the ’372 Patent is met by representative domestic industry products based on the Kepler architecture, such as the GeForce GTX Titan Z (using two GK110 GPUs), the Shield tablet, and the Tegra K1 processor used in the Shield tablet. Documents referenced in this claim chart are attached as Exhibits 80-81. The ’372 Patent is practiced by at least the GeForce, Quadro, Tesla and Tegra product lines.

B. Technical Prong as to the Intel Representative Domestic Industry Products

142. All of the Asserted Patents are also practiced by licensees of NVIDIA, including but not limited to Intel. Intel manufactures products that practice at least one claim of each of at least the ’488, ’667, ’685, ’913, ’063, ’140, and ’372 Patents, which products include, but are not limited to, the Atom Z2420, Z2460, Z2480, Z2520, Z2560, Z2580 and Z2760 series of microprocessors, which are part of Intel’s Medfield and Clover Trail platforms and incorporate PowerVR Series 5 GPUs; the Atom Z3460, Z3480, Z3530, Z3560 and Z3580 series of microprocessors, which are part of Intel’s Merrifield and Moorefield platforms and incorporate PowerVR Series 6 GPUs; and other Atom microprocessors using PowerVR GPUs (the “Intel Representative Domestic Industry Products”).

143. Beginning in 2008, Intel introduced the Atom family of low-power microprocessors designed primarily for mobile devices, including smartphones and personal computers. The Atom processor line incorporates PowerVR SGX graphics cores. The same PowerVR SGX graphics cores are also used in many of Samsung's Accused Products. For purposes of demonstrating that NVIDIA satisfies the domestic industry requirement, NVIDIA has selected a representative product, the Atom Z2580, which was released in February 2013 and incorporates the PowerVR SGX 544. Exhibit 83. The Atom Z2580 microprocessor is incorporated into tablet computers manufactured and/or sold by numerous companies including ASUS, Lenovo, ZTE and Dell. Exh. 84.

144. Copies of NVIDIA's license agreements with Intel are attached hereto as Confidential Exhibit 67.

145. Exhibit 69 is a claim chart demonstrating that each and every limitation of at least exemplary claim 1 of the '488 Patent is met by representative domestic industry products, such as the Atom Z2580. Documents referenced in this claim chart are attached as Exhibit 79.

146. Exhibit 70 is a claim chart demonstrating that each and every limitation of at least exemplary claim 10 of the '667 Patent is met by representative domestic industry products, such as the Atom Z2580. Documents referenced in this claim chart are attached as Exhibit 79.

147. Exhibit 71 is a claim chart demonstrating that each and every limitation of at least exemplary claim 15 of the '685 Patent is met by representative domestic industry products, such as the Atom Z2580. Documents referenced in this claim chart are attached as Exhibit 79.

148. Exhibit 72 is a claim chart demonstrating that each and every limitation of at least exemplary claim 5 of the '913 Patent is met by representative domestic industry products, such as the Atom Z2580. Documents referenced in this claim chart are attached as Exhibit 79.

149. Exhibit 73 is a claim chart demonstrating that each and every limitation of at least exemplary claim 21 of the ’063 Patent is met by representative domestic industry products, such as the Atom Z2580. Documents referenced in this claim chart are attached as Exhibit 79.

150. Exhibit 74 is a claim chart demonstrating that each and every limitation of at least exemplary claim 14 of the ’140 Patent is met by representative domestic industry products, such as the Atom Z2580. Documents referenced in this claim chart are attached as Exhibits 79-80.

151. Exhibit 75 is a claim chart demonstrating that each and every limitation of at least exemplary claim 21 of the ’372 Patent is met by representative domestic industry products, such as the Atom Z2580. Documents referenced in this claim chart are attached as Exhibits 79-80.

C. Economic Prong as to the NVIDIA Representative Domestic Industry Products

152. NVIDIA conducts significant domestic industry activities in the United States relating to its products practicing the Asserted Patents. These activities include NVIDIA’s significant investment in plant and equipment, significant employment of labor or capital, and substantial investment in the exploitation of the Asserted Patents.

153. NVIDIA has made and continues to make significant investment in facilities, property and equipment in the United States dedicated to research and development and manufacturing costs for products covered by the Asserted Patents. The facilities, property and equipment used in connection with these activities are located at NVIDIA’s headquarters, in Santa Clara, California, as well as additional locations in Alabama, Colorado, Florida, Massachusetts, Missouri, North Carolina, Oregon, South Carolina, Texas, Utah, Virginia and Washington. NVIDIA’s domestic facilities used for research and development and manufacturing tasks associated with the NVIDIA Representative Domestic Industry Products comprised almost 1.3 million square feet and had a gross book value of approximately $600

million as of January 26, 2014. Confidential Exhibit 54. In fiscal year 2014, NVIDIA invested approximately $72 million in capital expenditures allocable to the NVIDIA Representative Domestic Industry Products. *Id.* NVIDIA's investment in facilities and equipment is set forth in the Declaration of Michael J. Byron, Confidential Exhibit 54, particularly as it relates to the NVIDIA Representative Domestic Industry Products.

154. NVIDIA has employed and continues to employ several thousand employees in the above-mentioned facilities in the U.S. that devote substantial man-hours towards research and development and manufacturing for products covered by the Asserted Patents. Approximately 3,800 of NVIDIA's employees in the United States participate in research and development and manufacturing tasks associated with the NVIDIA Representative Domestic Industry Products. *Id.* NVIDIA also employs capital resources with respect to products covered by the Asserted Patents. Confidential Exhibit 54 describes this labor and capital investment, which exceeded $940 million in fiscal year 2014 in relation to the NVIDIA Representative Domestic Industry Products.

155. NVIDIA has also invested substantially in the exploitation of the Asserted Patents through the activities described above. In fiscal year 2014, NVIDIA spent more than $940 million on research and development of the NVIDIA Representative Domestic Industry Products in the United States. *Id.* Confidential Exhibit 54 describes this investment.

D. Economic Prong as to the Intel Representative Domestic Industry Products

156. Intel is licensed by NVIDIA under the Asserted Patents and also conducts significant domestic industry activities in the United States relating to products practicing the Asserted Patents. As part of a cross-licensing agreement, Intel agreed to pay NVIDIA a total of $1.5 billion over five years for the use of NVIDIA's patents and its state-of-the-art GPU technology. *See* Exhibit 67. Intel's domestic industry activities include Intel's significant

investment in plant and equipment, significant employment of labor or capital, and substantial investment in the exploitation of the Asserted Patents.

157. In January 2011, it was publicly announced that NVIDIA and Intel had entered into a cross-license pursuant to which Intel would pay NVIDIA an aggregate of $1.5 billion in licensing fees payable in five annual installments, beginning in 2011, which cross-license includes the Asserted Patents. *See Id.*

158. Intel has made and continues to make significant investment in plant and equipment in the United States, and to the employment of labor and capital at those facilities, dedicated to manufacturing, engineering, research and development, testing, quality management, product support, and repair services for products covered by the Asserted Patents. Intel is the world's largest semiconductor company. Exhibit 85 at p. 39. Intel reported net revenues of about $52.7 billion in 2013. Exhibit 86 at p. 27. As of December 28, 2013, Intel had 107,600 employees worldwide, approximately 51 percent of whom were located in the United States. *Id.* at 12.

159. Intel's total R&D expenditures were $10.6 billion in 2013, $10.1 billion in 2012, and $8.4 billion in 2011, which range from designing and developing new products and manufacturing processes to researching future technologies and products. *Id.* at 11-12. Over three-fourths of Intel's research and development occurs in the United States, including at major R&D facilities in Oregon, Arizona, Massachusetts, Texas, Colorado, Washington, California, and South Carolina. Exhibit 85 at p. 14. In 2012, Intel was the No. 1 investor in R&D among U.S. publicly traded companies and the 5th largest capital investor in the U.S. *Id.* at p. 2. In 2013, Intel invested over $8.9 billion in capital in the United States, and historically, about three-fourths of Intel's microprocessor manufacturing is done in the United States at facilities in

Arizona, Oregon, New Mexico, and Massachusetts. *Id.* at p. 39. Intel's latest technologies for microprocessor fabrication, assembly and test are developed and implemented in Oregon and Arizona. *Id.* at 40. In the years 2002-2011, Intel spent more than $68 billion on its operations, manufacturing and R&D in the United States. *Id.* at p. 27. As of December 28, 2013, Intel had over $23.6 billion in net property, plant and equipment in the United States, as compared to over $7.8 billion in net property, plant and equipment outside of the United States. Exhibit 86 at p. 106. As of December 28, 2013, Intel's major facilities in the United States consisted of 32.2 million square feet, as compared to 22.7 million square feet in other countries. *Id.* at 24.

160. Intel's operations have a substantial impact on the U.S. economy. A recent study by Price, Waterhouse, Coopers estimates Intel's total impact on U.S. GDP at $408.5 billion from 2008-2012. Exhibit 85 at p. 14. For example, more than 7,300 of Intel's total suppliers are based in the United States, and in 2013, Intel spent almost $3 billion on goods and services purchased from U.S. small businesses. *Id.* at p. 2. Intel has a substantial multiplier effect on job growth and U.S. GDP. For every Intel job in the U.S., an additional 13 American jobs are supported, resulting in a total of 774,600 jobs. *Id.* Intel's direct impact on U.S. GDP in 2012 was $26 billion. *Id.* When the multiplier effect throughout Intel's supply chain and distribution channels is taken into account, the impact on U.S. GDP in 2012 alone was more than $96 billion. *Id.*

161. As of June of 2011, Intel had already manufactured and shipped more than 100 million Atom microprocessors. Exhibit 87. Intel's Atom microprocessors and chipsets generated $352 million in revenues just in the second quarter of fiscal year 2011. Exhibit 88.

162. The Intel Representative Domestic Industry Products are representative Intel products that incorporate the PowerVR SGX Series 5 architecture. The same PowerVR SGX

Series 5 architecture is also used in certain of Samsung's Accused Products. The Intel Representative Domestic Industry Products practice at least one claim of each of the '488, '667, '685, '913, '063, '140, and '372 Patents. Exhibits 69-75. The Intel Representative Domestic Industry Products are encompassed within the scope of NVIDIA's licenses to Intel, which are attached hereto as Confidential Exhibit 67. The Intel Representative Domestic Industry Products are further described in the table below.

Intel Codename	**Representative Model Numbers**	**PowerVR GPU Core**	**Fab Process**	**Released**
Penwell (Medfield platform)	Atom Z2460	PowerVR SGX 540	32 nm	Q2 2012
Penwell (Medfield platform)	Atom Z2480	PowerVR SGX 540	32 nm	Q3 2012
Lexington (Medfield platform)	Atom Z2420	PowerVR SGX 540	32 nm	Q1 2013
Cloverview (Clover Trail platform)	Atom Z2760	PowerVR SGX 545	32 nm	Q3 2012
Cloverview (Clover Trail+ platform)	Atom Z2520	PowerVR SGX 544	32 nm	Q2 2013
Cloverview (Clover Trail+ platform)	Atom Z2560	PowerVR SGX 544	32 nm	Q2 2013
Cloverview (Clover Trail+ platform)	Atom Z2580	PowerVR SGX 544	32 nm	Q2 2013
Tangier (Merrifield platform)	Atom Z3460	PowerVR G6400	22 nm	Q1 2014
Tangier (Merrifield platform)	Atom Z3480	PowerVR G6400	22 nm	Q1 2014
Anniedale (Moorefield platform)	Atom Z3530	PowerVR G6430	22 nm	Q2 2014

Anniedale (Moorefield platform)	Atom Z3560	PowerVR G6430	22 nm	Q2 2014
Anniedale (Moorefield platform)	Atom Z3580	PowerVR G6430	22 nm	Q2 2014

See Exhibit 84.

163. On February 25, 2013, Intel officially launched its new dual core "Clover Trail+" Atom processor (Z2520, Z2560 and Z2580), which uses a 32nm architecture and began shipping consumer products in late 2013. Each processor includes the PowerVR SGX 544MP2 GPU. Exhibit 83. A year later, on February 24, 2014, Intel announced its first 22 nm smartphone system-on-chips, the dual-core "Merrifield" and quad-core "Moorefield" processors, with Merrifield launching in the first half of 2014 and Moorefield due to launch in the second half of the year. Exhibit 84. Intel's new mobile processors use PowerVR Series 6 GPUs and directly compete with Qualcomm's Snapdragon processors. *Id.*

164. Intel's processors are manufactured in semiconductor fabrication plants ("fabs") and are then sent to assembly and testing sites before being delivered to customers. As of December 28, 2013, Intel manufactured 46% of all of its microprocessors and chipsets within the United States. Exhibit 86. Intel's 32 nm microprocessors, including the Medfield and Clover Trail microprocessors, are manufactured primarily at its wafer fabrication facilities in New Mexico. Intel's 22 nm microprocessors, including the Merrifield and Moorefield microprocessors, are manufactured at its wafer fabrication facilities in Arizona and Oregon. *Id.*

165. Intel has invested billions of dollars in the aforementioned fabrication facilities in the United States. For example, beginning in February 2009, Intel spent about $7 billion over a two-year period to upgrade its manufacturing facilities in Oregon, Arizona and New Mexico to manufacture 32 nm chips, including the Medfield and Clover Trail microprocessors, which

practice the Asserted Patents. This investment in manufacturing the 32 nm products, including the domestic industry products, maintained about 7,000 high-wage, high-skilled jobs, while providing another 4,000 contract jobs for technicians and construction workers. Exhibit 92. The upgrades conducted at Intel's Arizona and Oregon facilities over the past several years, to manufacture 22 nm microprocessors (including the Merrifield and Moorefield microprocessors), cost between $6 billion and $8 billion, created as many as 8,000 construction jobs and between 800 and 1,000 permanent jobs at the facilities. Exhibit 89.

166. Rio Rancho, New Mexico. Fab 11X manufactures 45 nm and 32 nm processors and is Intel's only fabrication facility in New Mexico. Intel has had a major manufacturing presence in Rio Rancho since 1980. Originally opened in 2002, Fab 11X, which manufactures semiconductor products using Intel's 45nm and 32nm process technology, includes 400,000 square feet of clean room space, making it the largest clean room operated by Intel globally and one of the largest in the world. Exhibit 90. In 2007, Intel upgraded the facility to produce 45 nm chips, and made a $2.5 billion investment to upgrade the facility to produce Intel's 32 nm chips, including the Intel Representative Domestic Industry Products. *Id.* Intel's capital investments in its New Mexico facilities have averaged about $1 billion per year since 1995. *Id.*

167. Intel is currently the largest industrial employer in New Mexico. Intel employs about 3,500 people in New Mexico, with an annual economic impact to New Mexico of nearly $1 billion. Every 10 Intel jobs create 26 more jobs in the community, and Intel spends an average of $245 million annually with New Mexico businesses. *Id.* Intel's annual payroll at its New Mexico facilities is about $300 million. *Id.* Employees at Intel's New Mexico facilities manufacture and test technology products for mobile, desktop, server and workstation computing. *Id.*

168. Hillsboro, Oregon. The fabrication facility in Hillsboro, Oregon that produces the Intel Representative Domestic Industry Products is designated Fab D1C and manufactures 22 nm and 14 nm processors. Intel's operations in Oregon include six campuses that offer state-of-the-art wafer fabrication development, semiconductor research and manufacturing dedicated to Intel's chip designs and processes. These campuses comprise Intel's largest and most extensive site in the world. The company has nearly 17,000 employees in Oregon, making it the state's largest private employer, and Intel's 2012 payroll in Oregon was $2.2 billion. Exhibit 91.

169. Since 1974, when Intel acquired its first property in Oregon, Intel's capital investments in Oregon have exceeded $25 billion. *Id.* According to a 2012 study by ECONorthwest, Intel generates $5.4 billion in total income statewide – about 5.3% of all of the income generated in the state of Oregon – and 67,579 total jobs are attributable to Intel statewide. *Id.* Intel's total economic impact on Oregon exceeds $26 billion per year and accounts for 8.7% of the output of the Oregon economy. *Id.*

170. Chandler, Arizona. Intel established a presence in Arizona in 1979, and began operations in Chandler the following year. With about 11,700 employees, Intel Arizona is Intel's second largest site in the U.S., and Intel is the largest employer in Chandler, Arizona. Exhibit 89. Intel Arizona consists of two large campuses and several smaller office buildings, which are home to several business units focused on research and development, product design and validation labs. Since 1996, Intel has invested more than $20 billion in high-tech manufacturing capability in Arizona, and every year, Intel spends more than $450 million in research and development. *Id.* Intel Arizona's fabrication facilities are home to several business units focused on research and development, product design and development, and validation labs.

Intel's average annual economic impact to Arizona exceeds $2.4 billion per year, including more than 20,000 non-Intel jobs supported by Intel's presence in Arizona. *Id.*

171. The fabrication facility in Chandler that produces the Intel Representative Domestic Industry Products is Fab 32, which manufactures 22 nm and 14 nm processors. The Fab 32 structure measures about 1 million square feet with 320,000 square feet of clean room space. More than 1,000 employees operate the factory in such positions as process, automation and yield engineers and senior manufacturing technicians. Intel invested between $6 billion and $8 billion on upgrading its U.S. facilities (including Fab 32) to manufacturer its 22 nm microprocessors, which include the Intel Representative Domestic Industry Products. *Id.*

172. Substantial quantities of the Intel Representative Domestic Industry Products have been and continue to be incorporated into products sold all over the world. For example, Intel's Atom Z2760 processor, which uses a PowerVR SGX 545 GPU, has been used in tablet computers including the Acer ICONIA W510, ASUS VivoTab, Dell Latitude 10, Hewlett Packard ENVY x2, Lenovo ThinkPad 2, Samsung Smart PC and ZTE V98. Exhibit 84. Intel's latest Atom microprocessors being launched in 2014, Merrifield and Moorefield, will be used in mobile products manufactured by companies including ASUS, Dell, Lenovo and Foxconn, all of whom have committed to multi-year partnerships with Intel that include volume contracts. *Id.*

173. Intel has also invested substantially in the exploitation of the Asserted Patents through engineering, research and development activities in the United States, through the same investments described above among others.

174. During discovery in this investigation, NVIDIA will obtain and develop further evidence of Intel's significant investment in plant and equipment, significant employment of labor or capital, and substantial investment in the exploitation of the Asserted Patents.

XI. LICENSEES

175. NVIDIA has licensed the Asserted Patents. Pursuant to Rule 210.12 of the Commission's rules, Confidential Exhibit 68 provides a list of licensees.

XII. RELATED LITIGATION

176. NVIDIA is filing, contemporaneous with this Complaint, a Complaint in the U.S. District of Delaware against the Respondents asserting infringement of the Asserted Patents.

XIII. RELIEF REQUESTED

WHEREFORE, by reason of the foregoing, Complainant respectfully requests 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, with respect to violations based upon the unlawful importation into the United States, the sale for importation into the United States, and/or the sale within the United States after importation of certain consumer electronics and display devices that infringe, induce infringement and/or contribute to infringement of one or more claims of United States Patent Nos. 6,198,488, 6,992,667, 7,038,685, 7,015,913, 6,697,063, 7,209,140 and 6,690,372;

b. Schedule and conduct a hearing on said unlawful acts pursuant to Section 337(c) for the purposes of (i) receiving evidence and hearing argument concerning whether there has been a violation of Section 337, and (ii) following the hearing, determining that there has been a violation of Section 337;

c. Issue a limited exclusion order pursuant to 19 U.S.C. § 337(d), directed to products that are manufactured, imported, sold for importation or sold after importation by or on behalf of Respondents, their subsidiaries, related companies and agents, excluding from entry

into the United States certain consumer electronics and display devices that infringe, induce infringement and/or contribute to infringement of one or more claims of United States Patent Nos. 6,198,488, 6,992,667, 7,038,685, 7,015,913, 6,697,063, 7,209,140 and 6,690,372;

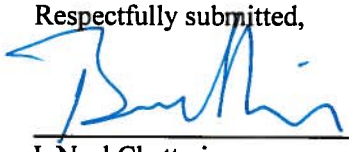
d. Issue permanent cease and desist orders pursuant to 19 U.S.C. § 337(f), prohibiting Respondents, their subsidiaries, related companies and agents from engaging in unfair acts including, but not limited to, the importation, selling for importation, marketing, advertising, testing, evaluating, demonstrating, warehousing inventory for distribution, offering for sale, selling, selling after importation, distributing, using, licensing, providing technical support for and/or otherwise transferring within the United States certain consumer electronics and display devices that infringe, induce infringement and/or contribute to infringement of one or more claims of United States Patent Nos. 6,198,488, 6,992,667, 7,038,685, 7,015,913, 6,697,063, 7,209,140 and 6,690,372, and engaging in any other commercial activity related to such products in the United States;

e. Impose a bond upon importation of infringing consumer electronics and display devices during the 60-day Presidential review period pursuant to 19 U.S.C. § 337(j); and

f. Grant such other and further relief as the Commission deems just and proper under the law, based on the facts determined by the investigation and the authority of the Commission.

Dated: September 4, 2014

Respectfully submitted,



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VERIFICATION OF COMPLAINT

I, David M. Shannon, declare, in accordance with 19 C.F.R. §§ 201.8, 210.4 and 210.12(a), under penalty of perjury, that the following statements are true:

1. I am the Executive Vice President, Chief Administrative Officer and Secretary of Complainant NVIDIA Corporation and am duly authorized to sign this Complaint on behalf of Complainant;

2. I have read the foregoing Complaint;

3. To the best of my knowledge, information, and belief, formed after an inquiry reasonable under the circumstances, the foregoing Complaint is well-founded in fact and is warranted by existing law or by a non-frivolous argument for the extension, modification, or reversal of existing law or the establishment of new law;

4. The allegations and other factual contentions have evidentiary support or, as specifically identified, are likely to have evidentiary support after a reasonable opportunity for further investigation or discovery; and

5. The foregoing Complaint is not being submitted for an improper purpose, such as to harass or to cause unnecessary delay or needless increase in the cost of the investigation.

Executed at Santa Clara, California on September 4, 2014

David M. Shannon