

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, DC

Before the Honorable _____
Administrative Law Judge

In the Matter of

CERTAIN GRAPHICS PROCESSORS AND
PRODUCTS CONTAINING THE SAME

Investigation No. 337-TA-____

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

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TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	THE PARTIES.....	3
	A. Complainant.....	3
	B. Respondents	5
	1. ASUSTeK Computer Inc.	5
	2. ASUS Computer International.....	6
	3. EVGA Corporation	6
	4. Gigabyte Technology Co., Ltd.....	6
	5. G.B.T. Inc.	7
	6. Micro-Star International Co., Ltd.	7
	7. MSI Computer Corp.	8
	8. Nintendo Co., Ltd.	8
	9. Nintendo of America Inc.	8
	10. Nvidia.....	9
	11. PNY Technologies Inc.....	9
	12. Zotac International (MCO) Ltd.....	9
	13. Zotac USA Inc.	10
III.	THE ASSERTED PATENTS	10
	A. The '355 Patent	11
	1. Foreign Counterparts to the '355 Patent	11
	B. The '800 Patent	11
	1. Foreign Counterparts to the '800 Patent	12
	C. The '156 Patent	12
	1. Foreign Counterparts to the '156 Patent	13
	D. The '659 Patent	13
	1. Foreign Counterparts to the '659 Patent	13
	E. Licensees to the Asserted Patents	14
IV.	NON-TECHNICAL DESCRIPTION OF THE PATENTED TECHNOLOGY	14
	A. The '355 Patent – Graphics Processing with Transcendental Function Generator.....	14
	B. The '800 Patent – Tile Relative Origin for Plane Equations	15
	C. The '156 Patent – Sequencer with Async SIMD Array.....	16
	D. The '659 Patent – Shader with Global and Instruction Caches	17
V.	UNFAIR ACTS OF THE RESPONDENTS	18
	A. Infringement.....	18
	B. Specific Instance of Sale and Importation	22
	1. Asus.....	22
	2. EVGA	22
	3. Gigabyte.....	23
	4. MSI	23
	5. Nintendo.....	24

6.	Nvidia.....	24
7.	PNY.....	25
8.	Zotac	25
VI.	HARMONIZED TARIFF SCHEDULE INFORMATION	26
VII.	RELATED LITIGATION	27
VIII.	DOMESTIC INDUSTRY RELATING TO THE ASSERTED PATENTS	28
A.	Intel’s Purchase of ZiiLabs’ U.K. Subsidiary and Licensing of ZiiLabs’ Patents	28
B.	A Domestic Industry Relating to the Asserted Patents Exists Due to Intel’s U.S. Activities	29
1.	Intel’s Graphics Processors.....	29
2.	Intel’s Foundry Services	30
3.	Intel’s Current Microprocessors	31
4.	Intel’s Domestic Industry	33
a.	Intel’s Significant Investment in Plant and Equipment	34
b.	Intel’s Significant Employment of Labor and Capital	39
c.	Intel’s Substantial Investment in the Exploitation of the Asserted Patents	41
C.	Intel’s Practice of the Asserted Patents.....	42
IX.	RELIEF	43

EXHIBIT LIST

- Exhibit 1 U.S. Patent No. 6,181,355
- Exhibit 2 U.S. Patent No. 6,900,800
- Exhibit 3 U.S. Patent No. 8,144,156
- Exhibit 4 U.S. Patent No. 8,643,659
- Exhibit 5 Assignment Record for U.S. Patent No. 6,181,355
- Exhibit 6 Assignment Record for U.S. Patent No. 6,900,800
- Exhibit 7 Assignment Record for U.S. Patent No. 8,144,156
- Exhibit 8 Assignment Record for U.S. Patent No. 8,643,659
- Exhibit 9 (Confidential) License Rights in the Asserted Patents
- Exhibit 10 Claim Chart Comparing '355 Patent to Asus GeForce GTX 1050 TI OC Edition Graphics Card
- Exhibit 11 Claim Chart Comparing '800 Patent to Asus GeForce GTX 1050 TI OC Edition Graphics Card
- Exhibit 12 Claim Chart Comparing '156 Patent to Asus GeForce GTX 1050 TI OC Edition Graphics Card
- Exhibit 13 Claim Chart Comparing '659 Patent to Asus GeForce GTX 1050 TI OC Edition Graphics Card
- Exhibit 14 Claim Chart Comparing '355 Patent to Asus MS74 Laptop
- Exhibit 15 Claim Chart Comparing '800 Patent to Asus MS74 Laptop
- Exhibit 16 Claim Chart Comparing '156 Patent to Asus MS74 Laptop
- Exhibit 17 Claim Chart Comparing '659 Patent to Asus MS74 Laptop
- Exhibit 18 Claim Chart Comparing '355 Patent to EVGA GeForce GTX 1050 TI Graphics Card
- Exhibit 19 Claim Chart Comparing '800 Patent to EVGA GeForce GTX 1050 TI Graphics Card
- Exhibit 20 Claim Chart Comparing '156 Patent to EVGA GeForce GTX 1050 TI Graphics Card
- Exhibit 21 Claim Chart Comparing '659 Patent to EVGA GeForce GTX 1050 TI Graphics Card
- Exhibit 22 Claim Chart Comparing '355 Patent to EVGA SC15 1060 Laptop
- Exhibit 23 Claim Chart Comparing '800 Patent to EVGA SC15 1060 Laptop
- Exhibit 24 Claim Chart Comparing '156 Patent to EVGA SC15 1060 Laptop
- Exhibit 25 Claim Chart Comparing '659 Patent to EVGA SC15 1060 Laptop
- Exhibit 26 Claim Chart Comparing '355 Patent to Gigabyte GTX 1050 Graphics Card
- Exhibit 27 Claim Chart Comparing '800 Patent to Gigabyte GTX 1050 Graphics Card
- Exhibit 28 Claim Chart Comparing '156 Patent to Gigabyte GTX 1050 Graphics Card
- Exhibit 29 Claim Chart Comparing '659 Patent to Gigabyte GTX 1050 Graphics Card
- Exhibit 30 Claim Chart Comparing '355 Patent to Gigabyte Aero Notebook
- Exhibit 31 Claim Chart Comparing '800 Patent to Gigabyte Aero Notebook
- Exhibit 32 Claim Chart Comparing '156 Patent to Gigabyte Aero Notebook
- Exhibit 33 Claim Chart Comparing '659 Patent to Gigabyte Aero Notebook
- Exhibit 34 Claim Chart Comparing '355 Patent to MSI GeForce GTX1050 Gaming X Graphics Card
- Exhibit 35 Claim Chart Comparing '800 Patent to MSI GeForce GTX1050 Gaming X Graphics Card

- Exhibit 36 Claim Chart Comparing '156 Patent to MSI GeForce GTX1050 Gaming X Graphics Card
- Exhibit 37 Claim Chart Comparing '659 Patent to MSI GeForce GTX1050 Gaming X Graphics Card
- Exhibit 38 Claim Chart Comparing '355 Patent to MSI GL62M Laptop
- Exhibit 39 Claim Chart Comparing '800 Patent to MSI GL62M Laptop
- Exhibit 40 Claim Chart Comparing '156 Patent to MSI GL62M Laptop
- Exhibit 41 Claim Chart Comparing '659 Patent to MSI GL62M Laptop
- Exhibit 42 Claim Chart Comparing '355 Patent to Nintendo Switch
- Exhibit 43 Claim Chart Comparing '800 Patent to Nintendo Switch
- Exhibit 44 Claim Chart Comparing '156 Patent to Nintendo Switch
- Exhibit 45 Claim Chart Comparing '659 Patent to Nintendo Switch
- Exhibit 46 Claim Chart Comparing '355 Patent to Nvidia GeForce GTX 1080 Graphics Card
- Exhibit 47 Claim Chart Comparing '800 Patent to Nvidia GeForce GTX 1080 Graphics Card
- Exhibit 48 Claim Chart Comparing '156 Patent to Nvidia GeForce GTX 1080 Graphics Card
- Exhibit 49 Claim Chart Comparing '659 Patent to Nvidia GeForce GTX 1080 Graphics Card
- Exhibit 50 Claim Chart Comparing '355 Patent to Nvidia Shield 4K HDR Android TV
- Exhibit 51 Claim Chart Comparing '800 Patent to Nvidia Shield 4K HDR Android TV
- Exhibit 52 Claim Chart Comparing '156 Patent to Nvidia Shield 4K HDR Android TV
- Exhibit 53 Claim Chart Comparing '659 Patent to Nvidia Shield 4K HDR Android TV
- Exhibit 54 Claim Chart Comparing '355 Patent to PNY GeForce GTX 1050 TI Graphics Card
- Exhibit 55 Claim Chart Comparing '800 Patent to PNY GeForce GTX 1050 TI Graphics Card
- Exhibit 56 Claim Chart Comparing '156 Patent to PNY GeForce GTX 1050 TI Graphics Card
- Exhibit 57 Claim Chart Comparing '659 Patent to PNY GeForce GTX 1050 TI Graphics Card
- Exhibit 58 Claim Chart Comparing '355 Patent to Zotac GeForce GTX 1080 TI Graphics Card
- Exhibit 59 Claim Chart Comparing '800 Patent to Zotac GeForce GTX 1080 TI Graphics Card
- Exhibit 60 Claim Chart Comparing '156 Patent to Zotac GeForce GTX 1080 TI Graphics Card
- Exhibit 61 Claim Chart Comparing '659 Patent to Zotac GeForce GTX 1080 TI Graphics Card
- Exhibit 62 Claim Chart Comparing '355 Patent to Zotac VR GO
- Exhibit 63 Claim Chart Comparing '800 Patent to Zotac VR GO
- Exhibit 64 Claim Chart Comparing '156 Patent to Zotac VR GO
- Exhibit 65 Claim Chart Comparing '659 Patent to Zotac VR GO
- Exhibit 66 Receipt for Asus GeForce GTX 1050 TI OC Edition Graphics Card
- Exhibit 67 Photographs of Asus GeForce GTX 1050 TI OC Edition Graphics Card
- Exhibit 68 Receipt for Asus MS74 Laptop
- Exhibit 69 Photographs of Asus MS74 Laptop
- Exhibit 70 Receipt for EVGA GeForce GTX 1050 TI Graphics Card
- Exhibit 71 Photographs of EVGA GeForce GTX 1050 TI Graphics Card

- Exhibit 72 Receipt for EVGA SC15 1060 Laptop
- Exhibit 73 Photographs of EVGA SC15 1060 Laptop
- Exhibit 74 Receipt for Gigabyte GTX 1050 Graphics Card
- Exhibit 75 Photographs of Gigabyte GTX 1050 Graphics Card
- Exhibit 76 Receipt for Gigabyte Aero Notebook
- Exhibit 77 Photographs of Gigabyte Aero Notebook
- Exhibit 78 Receipt for MSI GeForce GTX1050 Gaming X Graphics Card
- Exhibit 79 Photographs of MSI GeForce GTX1050 Gaming X Graphics Card
- Exhibit 80 Receipt for MSI GL62M Laptop
- Exhibit 81 Photographs of MSI GL62M Laptop
- Exhibit 82 Receipt for Nintendo Switch
- Exhibit 83 Photographs of Nintendo Switch
- Exhibit 84 Receipt for Nvidia GeForce GTX 1080 Graphics Card and Nvidia Shield 4K HDR Android TV
- Exhibit 85 Photographs of Nvidia GeForce GTX 1080 Graphics Card
- Exhibit 86 Purchase Order for Nvidia GeForce GTX 1080 Graphics Card and Nvidia Shield 4K HDR Android TV
- Exhibit 87 Photographs of Nvidia Shield 4K HDR Android TV
- Exhibit 88 Receipt for PNY GeForce GTX 1050 TI Graphics Card
- Exhibit 89 Photographs of PNY GeForce GTX 1050 TI Graphics Card
- Exhibit 90 Receipt for Zotac GeForce GTX 1080 TI Graphics Card
- Exhibit 91 Photographs of Zotac GeForce GTX 1080 TI Graphics Card
- Exhibit 92 Receipt for Zotac VR GO
- Exhibit 93 Photographs of Zotac VR GO
- Exhibit 94 August 5, 2016 Notice Letters to Asus
- Exhibit 95 December 22, 2017 Notice Letter to EVGA
- Exhibit 96 December 22, 2017 Notice Letters to Gigabyte
- Exhibit 97 August 5, 2016 Notice Letters to MSI
- Exhibit 98 August 5, 2016 Notice Letters to Nintendo
- Exhibit 99 August 7, 2013 Notice Letter to Nvidia with November 8, 2016 Update
- Exhibit 100 December 22, 2017 Notice Letter to PNY
- Exhibit 101 December 22, 2017 Notice Letters to Zotac
- Exhibit 102 (Confidential) December 1999 Patent License Agreement Between 3DLabs Inc., Ltd. and Intel Corporation
- Exhibit 103 (Confidential) November 2012 Patent License Agreement by and among Intel Corporation and ZiiLabs Inc., Ltd.
- Exhibit 104 Claim Chart Comparing '355 Patent to Intel Domestic Industry Product
- Exhibit 105 Claim Chart Comparing '800 Patent to Intel Domestic Industry Product
- Exhibit 106 Claim Chart Comparing '156 Patent to Intel Domestic Industry Product
- Exhibit 107 Claim Chart Comparing '659 Patent to Intel Domestic Industry Product
- Exhibit 108 2015 SEC Form 10-K for Intel Corporation
- Exhibit 109 2016 SEC Form 10-K for Intel Corporation
- Exhibit 110 https://en.wikipedia.org/wiki/Intel_HD_and_Iris_Graphics
- Exhibit 111 <http://www.intel.com/content/www/us/en/architecture-and-technology/visual-technology/graphics-overview.html>
- Exhibit 112 https://en.wikipedia.org/wiki/List_of_Intel_graphics_processing_units

- Exhibit 113 <http://www.bloomberg.com/news/articles/2016-06-09/how-intel-makes-a-chip>
- Exhibit 114 <http://www.intel.com/content/www/us/en/architecture-and-technology/global-manufacturing.html>
- Exhibit 115 <http://www.intel.com/content/www/us/en/silicon-innovations/intel-14nm-technology.html>
- Exhibit 116 <http://ark.intel.com>
- Exhibit 117 <http://www.tomshardware.co.uk/intel-fab42-14nm-cpu-factory.news-37599.html>
- Exhibit 118 https://en.wikipedia.org/wiki/List_of_Intel_manufacturing_sites
- Exhibit 119 <http://www.intel.com/pressroom/kits/manufacturing/Fab32/index.htm>
- Exhibit 120 <https://advance.lexis.com/api/permalink/2def7590-b134-46a2-993d-d030b9d74e8c/?context=1000516>
- Exhibit 121 <https://nwlaborpress.org/2010/1105/11-5-10Intel.html>
- Exhibit 122 <http://www.computerworld.com/article/2561162/computer-hardware/inside-intel-s-d1d-fab---through-the-looking-glass.html>
- Exhibit 123 http://www.oregonlive.com/silicon-forest/index.ssf/2015/04/deal_for_new_lithography_tools.html
- Exhibit 124 List of 14nm Intel Platforms Launched as of December 2017
- Exhibit 125 List of All Intel Platforms Launched as of December 2017
- Exhibit 126 Intel Product Specification Comparison for Intel Atom Processor C Series
- Exhibit 127 Intel Product Specification Comparison for Intel Atom Processor X Series
- Exhibit 128 Intel Product Specification Comparison for Intel Celeron Processor 3000 Series
- Exhibit 129 Intel Product Specification Comparison for Intel Celeron Processor G Series
- Exhibit 130 Intel Product Specification Comparison for Intel Celeron Processor J Series
- Exhibit 131 Intel Product Specification Comparison for Intel Celeron Processor N Series
- Exhibit 132 Intel Product Specification Comparison for 5th Generation Intel Core i3 Processors
- Exhibit 133 Intel Product Specification Comparison for 6th Generation Intel Core i3 Processors
- Exhibit 134 Intel Product Specification Comparison for 7th Generation Intel Core i3 Processors
- Exhibit 135 Intel Product Specification Comparison for 8th Generation Intel Core i3 Processors
- Exhibit 136 Intel Product Specification Comparison for 5th Generation Intel Core i5 Processors
- Exhibit 137 Intel Product Specification Comparison for 6th Generation Intel Core i5 Processors
- Exhibit 138 Intel Product Specification Comparison for 7th Generation Intel Core i5 Processors
- Exhibit 139 Intel Product Specification Comparison for 8th Generation Intel Core i5 Processors
- Exhibit 140 Intel Product Specification Comparison for 5th Generation Intel Core i7 Processors
- Exhibit 141 Intel Product Specification Comparison for 6th Generation Intel Core i7 Processors
- Exhibit 142 Intel Product Specification Comparison for 7th Generation Intel Core i7 Processors

- Exhibit 143 Intel Product Specification Comparison for 8th Generation Intel Core i7 Processors
- Exhibit 144 Intel Product Specification Comparison for 5th Generation Intel Core M Processors
- Exhibit 145 Intel Product Specification Comparison for 6th Generation Intel Core M Processors
- Exhibit 146 Intel Product Specification Comparison for 7th Generation Intel Core M Processors
- Exhibit 147 Intel Product Specification Comparison for Intel Core X-series Processors
- Exhibit 148 Intel Product Specification Comparison for Intel Pentium Processor 3000 Series
- Exhibit 149 Intel Product Specification Comparison for Intel Pentium Processor 4000 Series
- Exhibit 150 Intel Product Specification Comparison for Intel Pentium Processor D Series
- Exhibit 151 Intel Product Specification Comparison for Intel Pentium Processor G Series
- Exhibit 152 Intel Product Specification Comparison for Intel Pentium Processor J Series
- Exhibit 153 Intel Product Specification Comparison for Intel Pentium Processor N Series
- Exhibit 154 Intel Product Specification Comparison for Intel Xeon Scalable Processors
- Exhibit 155 Intel Product Specification Comparison for Intel Xeon Processor E3 v4 Family
- Exhibit 156 Intel Product Specification Comparison for Intel Xeon Processor E3 v5 Family
- Exhibit 157 Intel Product Specification Comparison for Intel Xeon Processor E3 v6 Family
- Exhibit 158 Intel Product Specification Comparison for Intel Xeon Processor E5 v4 Family
- Exhibit 159 Intel Product Specification Comparison for Intel Xeon Processor E7 v4 Family
- Exhibit 160 Intel Product Specification Comparison for Intel Xeon Phi x200 Product Family
- Exhibit 161 Intel Product Specification Comparison for Intel Xeon Processor D Family
- Exhibit 162 Intel Product Specification Comparison for Intel Xeon Processor W Family
- Exhibit 163 Intel Product Specification Comparison for Intel Atom Processor E Series
- Exhibit 164 Intel Product Specification Comparison for Intel Atom Processor N Series
- Exhibit 165 Intel Product Specification Comparison for Intel Atom Processor S Series
- Exhibit 166 Intel Product Specification Comparison for Intel Atom Processor Z Series
- Exhibit 167 Intel Product Specification Comparison for Intel Celeron Processor 1000 Series
- Exhibit 168 Intel Product Specification Comparison for Intel Celeron Processor 2000 Series
- Exhibit 169 Intel Product Specification Comparison for 4th Generation Intel Core i3 Processors
- Exhibit 170 Intel Product Specification Comparison for 4th Generation Intel Core i5 Processors
- Exhibit 171 Intel Product Specification Comparison for 4th Generation Intel Core i7 Processors
- Exhibit 172 Intel Product Specification Comparison for Intel Itanium Processor 9500 Series
- Exhibit 173 Intel Product Specification Comparison for Intel Itanium Processor 9700 Series
- Exhibit 174 Intel Product Specification Comparison for Intel Pentium Processor 1000 Series
- Exhibit 175 Intel Product Specification Comparison for Intel Pentium Processor 2000 Series
- Exhibit 176 Intel Product Specification Comparison for Legacy Intel Pentium Processor
- Exhibit 177 Intel Product Specification Comparison for Intel Quark Microcontroller D1000 Series
- Exhibit 178 Intel Product Specification Comparison for Intel Quark Microcontroller D2000 Series

- Exhibit 179 Intel Product Specification Comparison for Intel Quark SE C1000 Microcontroller Series
- Exhibit 180 Intel Product Specification Comparison for Intel Quark SoC X1000 Series
- Exhibit 181 Intel Product Specification Comparison for Intel Xeon Processor E3 Family
- Exhibit 182 Intel Product Specification Comparison for Intel Xeon Processor E3 v2 Family
- Exhibit 183 Intel Product Specification Comparison for Intel Xeon Processor E3 v3 Family
- Exhibit 184 Intel Product Specification Comparison for Intel Xeon Processor E5 v2 Family
- Exhibit 185 Intel Product Specification Comparison for Intel Xeon Processor E5 v3 Family
- Exhibit 186 Intel Product Specification Comparison for Intel Xeon Processor E7 v2 Family
- Exhibit 187 Intel Product Specification Comparison for Intel Xeon Processor E7 v3 Family
- Exhibit 188 Intel Product Specification Comparison for Legacy Intel Xeon Processors
- Exhibit 189 Intel Product Specification Comparison for Legacy Intel Atom Processors
- Exhibit 190 Intel Product Specification Comparison for Legacy Intel Celeron Processors
- Exhibit 191 Intel Product Specification Comparison for Legacy Intel Core Processors

APPENDICES

Appendix A	U.S. Patent No. 6,181,355 Prosecution History
Appendix B	U.S. Patent No. 6,181,355 Technical References
Appendix C	U.S. Patent No. 6,900,800 Prosecution History
Appendix D	U.S. Patent No. 6,900,800 Technical References
Appendix E	U.S. Patent No. 8,144,156 Prosecution History
Appendix F	U.S. Patent No. 8,144,156 Technical References
Appendix G	U.S. Patent No. 8,643,659 Prosecution History
Appendix H	U.S. Patent No. 8,643,659 Technical References

I. INTRODUCTION

1. Complainant ZiiLabs Inc., Ltd. (“ZiiLabs”) files this complaint pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 (“Section 337”). ZiiLabs respectfully requests that the United States International Trade Commission (the “Commission”) institute an investigation relating to the unlawful importation, sale for importation, and/or sale after importation into the United States, of certain graphics processors and products containing the same.

2. The Respondents are ASUSTeK Computer Inc., ASUS Computer International, EVGA Corporation, Gigabyte Technology Co., Ltd., G.B.T. Inc., Micro-Star International Co., Ltd., MSI Computer Corp., Nintendo Co., Ltd., Nintendo of America Inc., Nvidia Corporation, PNY Technologies Inc., Zotac International (MCO) Ltd., and Zotac USA Inc. (all individually or collectively, “Respondent(s)”).

3. Respondents, on information and belief, have violated and continue to violate Section 337 through the importation, sale for importation, and/or the sale after importation into the United States of certain graphics processors and products containing the same that directly infringe, literally or under the doctrine of equivalents, ZiiLabs’ United States Patent No. 6,181,355 (Exhibit 1, the “355 Patent”), United States Patent No. 6,900,800 (Exhibit 2, the “800 Patent”), United States Patent No. 8,144,156 (Exhibit 3, the “156 Patent”), and United States Patent No. 8,643,659 (Exhibit 4, the “659 Patent”) (individually or collectively, the “Asserted Patent(s)”) to the detriment of the industry that exists in the United States relating to the Asserted Patents.

4. In addition to their direct infringement, Respondents, on information and belief, have also violated and continue to violate Section 337 through the importation, sale for importation, and/or the sale after importation into the United States of certain graphics

processors and products containing the same that indirectly infringe, literally or under the doctrine of equivalents, by induced or contributory infringement, the Asserted Patents to the detriment of the industry that exists in the United States relating to the Asserted Patents. Respondents have knowledge of the Asserted Patents and ZiiLabs' infringement allegations at least as of the filing of this Complaint and the related district court complaints, and earlier based on notice letters from ZiiLabs, and have continued to provide their graphics processors and products containing the same to the marketplace in a manner that indirectly infringes ZiiLabs' Asserted Patents. ZiiLabs will also serve a public copy of this Complaint on each Respondent on the day it is filed.

5. ZiiLabs asserts that each Respondent infringes all of the following claims:

Asserted Patent	Asserted Claims
'355	1-11
'800	1, 2, 6, 7, 11-19
'156	1-16
'659	1-10, 15-20

6. To remedy Respondents' continuing and unlawful violation of Section 337, ZiiLabs seeks as permanent relief a limited exclusion order, pursuant to 19 U.S.C. § 1337(d), barring from entry into the United States all Respondents' graphics processors and products containing the same that infringe one or more of the claims of the Asserted Patents. ZiiLabs also seeks cease and desist orders pursuant to 19 U.S.C. § 1337(f) prohibiting Respondents from engaging in the importation, sale for importation, and/or sale after importation into the United States of graphics processors and products containing the same that infringe one or more claims of the Asserted Patents. Further, ZiiLabs requests that the Commission impose a bond upon Respondents' importation of infringing graphics processors and products containing the same

during the 60-day Presidential review period, pursuant to 19 U.S.C. § 1337(j), to prevent further injury to the domestic industry relating to the Asserted Patents.

II. THE PARTIES

A. Complainant

7. Complainant ZiiLabs is a Bermuda corporation with its registered office at Clarendon House, 2 Church Street, Hamilton, HM11 Bermuda. ZiiLabs is a wholly-owned subsidiary of Creative Technology Asia Limited (“CTA”), a Hong Kong company. CTA is a wholly-owned subsidiary of Creative Technology Ltd. (“Creative”), a publicly traded Singapore company.

8. ZiiLabs is the assignee and owner of the Asserted Patents. (See Exhibits 5-8.)

9. ZiiLabs traces its roots to a company called benchMark Technologies (BMT), founded in 1983. In 1988, BMT was sold to DuPont, which renamed BMT as Dupont Pixel. In 1994, one of the founders of BMT led a management buyout of DuPont Pixel, and formed 3DLabs Inc. Ltd. (“3DLabs”).

10. At the time of its formation, 3DLabs focused on the creation of a 3D graphics chip for personal computers (“PCs”) and was an early pioneer in the graphics processing industry. 3DLabs was a leading supplier of high-performance integrated hardware and software graphics accelerator solutions for 2D and 3D professional graphics applications. It was a pioneer in bringing 3D graphics to personal computers and its products were used in professional graphics applications for PCs and Windows NT-based PC workstations.

11. 3DLabs introduced the GLINT 300SX, the world’s first merchant OpenGL¹ graphics processing unit (“GPU”), in 1995.

¹“OpenGL is the premier environment for developing portable, interactive 2D and 3D graphics applications. Since its introduction in 1992, OpenGL has become the industry’s most

12. In 1996 3DLabs launched the Permedia GPU, a full featured, lower cost 3D graphics processor designed to provide high performance interactive 3D graphics for mainstream consumer PCs using the Windows 95 operating system.

13. 3DLabs' GPUs were designed into board and system level designs and/or incorporated into PCs by companies such as Abit Computer Corp., Accel Graphics, Inc., Acer, Asus, Biostar Microtech, Britek Electronics, Canopus, Carrera, Compaq, Creative, Datapath, Dell, Densan, Diamond Multimedia Systems Inc., Digital, Elite Group, ELSA, Inc., First International, Fujitsu Ltd., Force Inc., Gainward, Gateway 2000, Gigabyte Technology, GVC Media Technology, Hercules, HP, IBM, I-O Date, Joytech, Leadtek, Lung Hwa Electronics, MaxVision, Melco Inc., Micron, Micro-Labs, MSI, MicroStep Inc., NEC Corp., NeTpower, Newer Technology, Omnicomp, Prolink, Siemens, Soyo, STB Systems, Inc., Symmetric, Tri Star Computer, and Umax.

14. From its inception, 3DLabs marketed and sold its 3D graphics technology through merchant processor sales primarily to PC and graphics board original equipment manufacturers ("OEMs") and licensed its embeddable graphics processor cores to technology partners in exchange for royalties. In July of 1998, 3DLabs acquired Dynamic Pictures Inc., then a leading supplier of 2D/3D graphics boards for high-end PC graphics applications in the Windows NT-based PC workstation market, as part of 3DLabs' strategic decision to enter the vertically integrated board business for the PC workstations market.

widely used and supported 2D and 3D graphics application programming interface (API), bringing thousands of applications to a wide variety of computer platforms." (See <https://www.opengl.org/about/>.) 3DLabs was a founding member of the Khronos Group, which drives the OpenGL standard, and initiated the OpenGL ES 1.0 standard, which was ratified in 2003.

15. In December 1999, 3DLabs and Intel Corporation (“Intel”) entered into a Patent License Agreement, pursuant to which Intel acquired license rights to some of the Asserted Patents. (See Confidential Exhibit 102.)

16. In 2000, 3DLabs acquired certain assets of Intergraph Corporation (“Intergraph”), including the application that matured into the asserted ’355 Patent.

17. In 2002, 3DLabs was acquired by Creative, one of 3DLabs’ original investors.

18. In January of 2009, 3DLabs was rebranded as ZiiLabs, in part to signify a broadened focus on mobile processors, platforms, and software. ZiiLabs began providing media processors, including those based on ZiiLabs’ StemCell architecture, for use in portable consumer electronics products.

19. In November of 2012, Intel acquired certain engineering resources and assets related to the U.K. subsidiary of ZiiLabs. In a related transaction, Intel and ZiiLabs also entered into a Patent License Agreement pursuant to which Intel acquired license rights to additional ZiiLabs Patents, including the Asserted Patents not licensed under December 1999 Patent License Agreement. (See Confidential Exhibit 103.) Thus, Intel is a licensee under all four Asserted Patents.

B. Respondents

20. With regard to Respondents, ZiiLabs alleges the following upon information and belief:

1. ASUSTeK Computer Inc.

21. ASUSTeK Computer, Inc. is a foreign corporation organized and existing under the laws of Taiwan, with its principal place of business at No. 15, Li-Te Rd., Beitou District, Taipei 112, Taiwan. ASUSTeK Computer, Inc. is in the business of developing, making, offering for sale, selling, importing, and supporting graphics processors and products containing

the same including, without limitation, graphics cards, motherboards, desktops, notebooks, laptops, all-in-ones, and computer tablets that are manufactured outside of the United States. ASUSTeK Computer, Inc. is the parent corporation of Respondent ASUS Computer International.

2. ASUS Computer International

22. ASUS Computer International is a corporation organized and existing under the laws of the state of California, with its principal place of business located at 800 Corporate Way, Fremont, California 94539. Respondent ASUS Computer International is a subsidiary of or otherwise controlled by Respondent ASUSTeK Computer Inc. ASUS Computer International is in the business of developing, making, offering for sale, selling, importing, and supporting graphics processors and products containing the same including, without limitation, graphics cards, motherboards, desktops, notebooks, laptops, all-in-ones, and computer tablets that are manufactured outside of the United States. ASUS Computer International manages the North American operations, which includes operations within the United States, of Respondent ASUSTeK Computer Inc. ASUSTeK Computer Inc. and ASUS Computer International are referred to collectively as "ASUS."

3. EVGA Corporation

23. EVGA Corporation is corporation organized and existing under the laws of the state of California, with its principal place of business located at 408 Saturn Street, Brea, California 92821. EVGA Corporation is in the business of developing, making, offering for sale, selling, importing, and supporting graphics processors and products containing the same including, without limitation, graphics cards and laptops that are manufactured outside of the United States. Respondent EVGA Corporation is referred to as "EVGA."

4. Gigabyte Technology Co., Ltd.

24. Gigabyte Technology Co., Ltd. is a foreign corporation organized and existing under the laws of Taiwan, with its principal place of business located at No. 6, Baoqiang Rd., Xindian District, New Taipei City 231, Taiwan. Gigabyte Technology Co., Ltd. is in the business of developing, making, offering for sale, selling, importing, and supporting graphics processors and products containing the same including, without limitation, graphics cards, desktops, and laptops that are manufactured outside of the United States. Gigabyte Technology Co., Ltd. is the parent corporation of Respondent G.B.T. Inc.

5. G.B.T. Inc.

25. G.B.T. Inc. is a corporation organized and existing under the laws of the state of California, with its principal place of business located at 17358 Railroad St., City of Industry, California 91748. Respondent G.B.T. Inc. is a subsidiary of or otherwise controlled by Respondent Gigabyte Technology Co., Ltd. G.B.T. Inc. is in the business of developing, making, offering for sale, selling, importing, and supporting graphics processors and products containing the same including, without limitation, graphics cards, desktops, and laptops that are manufactured outside of the United States. Gigabyte Technology Co., Ltd. and G.B.T. Inc. are referred to collectively as "Gigabyte."

6. Micro-Star International Co., Ltd.

26. Micro-Star International Co., Ltd. is a foreign corporation organized and existing under the laws of Taiwan, with its principal place of business at No. 69, Lide St., Zhonghe District, New Taipei City 235, Taiwan. Micro-Star International Co., Ltd. is in the business of developing, making, offering for sale, selling, importing, and supporting graphics processors and products containing the same including, without limitation, graphics cards, desktops, notebooks, laptops, all-in-ones, and mobile workstations that are manufactured outside of the United States. Micro-Star International Co., Ltd. is the parent corporation of Respondent MSI Computer Corp.

7. MSI Computer Corp.

27. MSI Computer Corp. is a corporation organized and existing under the laws of the state of California, with its principal place of business located at 901 Canada Court, City of Industry, California 91748. Respondent MSI Computer Corp. is a subsidiary of or otherwise controlled by Respondent Micro-Star International Co., Ltd. MSI Computer Corp. is in the business of selling and supporting graphics processors and products containing the same including, without limitation, computers and other electronic devices that are manufactured outside of the United States. Micro-Star International Co., Ltd. and MSI Computer Corp. are referred to collectively as "MSI."

8. Nintendo Co., Ltd.

28. Nintendo Co., Ltd. is a foreign corporation organized and existing under the laws of Japan, with its principal place of business at 11-1 Hokotate-cho, Kamitoba, Minami-ku, Kyoto 601-8501, Japan. Nintendo Co., Ltd. is in the business of developing, making, offering for sale, selling, importing, and supporting graphics processors and products containing the same including, without limitation, gaming consoles that are manufactured outside of the United States. Nintendo Co., Ltd. is the parent corporation of Respondent Nintendo of America Inc.

9. Nintendo of America Inc.

29. Nintendo of America Inc. is a corporation organized and existing under the laws of the state of Washington, with its principal place of business located at 4600 150th Ave. NE, Redmond, Washington 98052. Respondent Nintendo of America Inc. is a subsidiary of or otherwise controlled by Respondent Nintendo Co., Ltd. Nintendo of America Inc. is in the business of selling and supporting graphics processors and products containing the same including, without limitation, gaming consoles that are manufactured outside of the United

States. Respondent Nintendo Co., Ltd. and Nintendo of America Inc. are referred to collectively as “Nintendo.”

10. Nvidia

30. Nvidia Corporation is corporation organized and existing under the laws of the state of Delaware, with its principal place of business located at 2788 San Tomas Expressway, Santa Clara, California 95051. Nvidia Corporation is in the business of developing, making, offering for sale, selling, importing, and supporting graphics processors and products containing the same including, without limitation, discrete GPUs, virtual GPUs, processors, graphics cards, artificial intelligence modules/platforms, virtual desktops, virtual workstations, laptops, PC gaming systems, streaming media players, and data centers, that are manufactured outside of the United States. Respondent Nvidia Corporation is referred to as “Nvidia.”

11. PNY Technologies Inc.

31. PNY Technologies Inc. is corporation organized and existing under the laws of the state of Delaware, with its principal place of business located at 100 Jefferson Road, Parsippany, New Jersey 07054. PNY Technologies Inc. is in the business of developing, making, offering for sale, selling, importing, and supporting graphics processors and products containing the same including, without limitation, Nvidia GPU solutions, graphics cards, and mobile workstations that are manufactured outside of the United States. Respondent PNY Technologies Inc. is referred to as “PNY.”

12. Zotac International (MCO) Ltd.

32. Zotac International (MCO) Ltd. is a foreign corporation organized and existing under the laws of Macau, with its principal place of business located at Rua de Pequim No. 202A – 246, Macau Finance Centre, 16 Andar L, Macau, Macau. Zotac International (MCO) Ltd. is in the business of developing, making, offering for sale, selling, importing, and supporting graphics

processors and products containing the same including, without limitation, graphics cards and portable computers that are manufactured outside of the United States. Zotac International (MCO) Ltd. is the parent corporation of Respondent Zotac USA Inc.

13. Zotac USA Inc.

33. Zotac USA Inc. is a corporation organized and existing under the laws of the state of Nevada, with its principal place of business located at 1220 Highland Avenue, Suite 930, Duarte California 91009. Respondent Zotac USA Inc. is a subsidiary of or otherwise controlled by Respondent Zotac International (MCO) Ltd. Zotac USA Inc. is in the business of developing, making, offering for sale, selling, importing, and supporting graphics processors and products containing the same including, without limitation, graphics cards and portable computers that are manufactured outside of the United States. Zotac International (MCO) Ltd. and Zotac USA Inc. are referred to collectively as “Zotac.”

III. THE ASSERTED PATENTS

34. The '355 Patent, titled “Graphics Processing with Transcendental Function Generator” (Exhibit 1), is properly assigned to ZiiLabs, as shown in the certified copy of the assignment records, attached as Exhibit 5.

35. The '800 Patent, titled “Tile Relative Origin for Plane Equations” (Exhibit 2), is properly assigned to ZiiLabs, as shown in the copy of the assignment records, attached as Exhibit 6.

36. The '156 Patent, titled “Sequencer with Async SIMD Array” (Exhibit 3), is properly assigned to ZiiLabs, as shown in the certified copy of the assignment records, attached as Exhibit 7.

37. The '659 Patent, titled "Shader with Global and Instruction Caches" (Exhibit 4), is properly assigned to ZiiLabs, as shown in the certified copy of the assignment records, attached as Exhibit 8.

A. The '355 Patent

38. Pursuant to Commission Rules 210.12(a)(9)(i)-(ii), a certified copy of the '355 Patent and a certified copy of the assignment records for the '355 Patent are attached hereto as Exhibits 1 and 5, respectively. Appendix A, pursuant to Commission Rule 210.12(c)(1), contains one certified copy of the U.S. Patent and Trademark Office prosecution history for the '355 Patent plus three additional copies thereof. Appendix B, pursuant to Commission Rule 210.12(c)(2), contains four copies of each patent and the applicable pages of each technical reference mentioned in the prosecution history of the '355 Patent.

39. The '355 Patent was filed on July 15, 1999, claiming priority to U.S. Provisional Patent Application No. 60/093,185, which was filed on July 17, 1998. The '355 Patent issued on January 30, 2001.

40. The '355 Patent has eighteen (18) claims, including six (6) independent claims (claims 1, 7, 11, 12, 15 and 18) and twelve (12) dependent claims. ZiiLabs is asserting claims 1-11 of the '355 Patent.

1. Foreign Counterparts to the '355 Patent

41. ZiiLabs, pursuant to Commission Rule 210.12(a)(9)(v), is not aware of any foreign patents or patent applications related to the asserted '355 Patent.

B. The '800 Patent

42. A copy of the '800 Patent and a copy of the assignment records for the '800 Patent are attached hereto as Exhibits 2 and 6, respectively. Appendix C contains one copy of the U.S. Patent and Trademark Office prosecution history for the '800 Patent plus three

additional copies thereof.² Appendix D, pursuant to Commission Rule 210.12(c)(2), contains four copies of each patent and the applicable pages of each technical reference mentioned in the prosecution history of the '800 Patent.

43. The '800 Patent was filed on February 27, 2002, claiming priority to U.S. Provisional Patent Application No. 60/271,851, which was filed on February 27, 2001. The '800 Patent issued on May 31, 2005.

44. The '800 Patent has twenty-two (22) claims, including eight (8) independent claims (claims 1, 3, 4, 5, 11, 15, 20 and 21) and fourteen (14) dependent claims. ZiiLabs is asserting claims 1, 2, 6, 7, and 11-19 of the '800 Patent.

1. Foreign Counterparts to the '800 Patent

45. ZiiLabs, pursuant to Commission Rule 210.12(a)(9)(v), is not aware of any foreign patents or patent applications related to the asserted '800 Patent.

C. The '156 Patent

46. Pursuant to Commission Rules 210.12(a)(9)(i)-(ii), a certified copy of the '156 Patent and a certified copy of the assignment records for the '156 Patent are attached hereto as Exhibits 3 and 7, respectively. Appendix E, pursuant to Commission Rule 210.12(c)(1), contains one certified copy of the U.S. Patent and Trademark Office prosecution history for the '156 Patent plus three additional copies thereof. Appendix F, pursuant to Commission Rule 210.12(c)(2), contains four copies of each patent and the applicable pages of each technical reference mentioned in the prosecution history of the '156 Patent.

² ZiiLabs has ordered certified copies of the '800 Patent and the assignment records and prosecution history for the '800 Patent, but has not received them yet. They will be provided promptly upon receipt pursuant to Commission Rules 210.12(a)(9)(i)-(ii) and 210.12(c)(1).

47. The '156 Patent was filed on September 28, 2004, claiming priority to U.S. Provisional Patent Application No. 60/533,736, which was filed on December 31, 2003. The '156 Patent issued on March 27, 2012.

48. The '156 Patent has twenty (20) claims, including four (4) independent claims (claims 1, 6, 11, and 16) and sixteen (16) dependent claims. ZiiLabs is asserting claims 1-16 of the '156 Patent.

1. Foreign Counterparts to the '156 Patent

49. ZiiLabs, pursuant to Commission Rule 210.12(a)(9)(v), is not aware of any foreign patents or patent applications related to the asserted '156 Patent.

D. The '659 Patent

50. Pursuant to Commission Rules 210.12(a)(9)(i)-(ii), a certified copy of the '659 Patent and a certified copy of the assignment records for the '659 Patent are attached hereto as Exhibits 4 and 8, respectively. Appendix G, pursuant to Commission Rule 210.12(c)(1), contains one certified copy of the U.S. Patent and Trademark Office prosecution history for the '659 Patent plus three additional copies thereof. Appendix H, pursuant to Commission Rule 210.12(c)(2), contains four copies of each patent and the applicable pages of each technical reference mentioned in the prosecution history of the '659 Patent.

51. The '659 Patent was filed on October 5, 2004, claiming priority to U.S. Provisional Patent Application No. 60/533,532, which was filed on December 31, 2003. The '659 Patent issued on February 4, 2014.

52. The '659 Patent has twenty (20) claims, including eight (8) independent claims (claims 1, 4, 6, 9, 11, 15, 17, and 19) and twelve (12) dependent claims. ZiiLabs is asserting claims 1-10 and 15-20 of the '659 Patent.

1. Foreign Counterparts to the '659 Patent