UNITED STATES INTERNATIONAL TRADE COMMISSION WASHINGTON DC

IN THE MATTER OF

CERTAIN INTEGRATED CIRCUITS, MOBILE DEVICES CONTAINING THE SAME, AND COMPONENTS THEREOF

Investigation No. 337-TA-____

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

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EXHIBIT LIST

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1 NO.	Certified Conv of U.S. Patent No. 8 775 833	Public	
2	Certified Copy of U.S. Patent No. 8 808 404	Public	
2	Certified Copy of U.S. Patent No. 10 040 080	Public	
<u> </u>	Certified Copy of U.S. Patent No. 10,705 588	Public	
 	Certified Assignment Records for U.S. Patent No. 8 775 833	Public	
6	Certified Assignment Records for U.S. Patent No. 8,898,494	Public	
7	Certified Assignment Records for U.S. Patent No. 10 0/9 080	Public	
8	Certified Assignment Records for U.S. Patent No. 10,049,000	Public	
0	"CPU Benchmarks AMD vs. Intel Market Share" (accessed August 22	Public	
2	2022) (cnubenchmark net)	I uone	
10	"IBM Cray lead Top 500 Supercomputer Rankings" (accessed August 22	Public	
10	2022) (Network World)	1 40110	
11	Intel 2021 Form 10-K	Public	
12	Intel 2020 Form 10-K	Public	
13	Intel 2019 Form 10-K	Public	
14	Domestic Industry Claim Chart for U.S. Patent No. 8,775,833	Public	
15	Domestic Industry Claim Chart for U.S. Patent No. 8,898,494	Public	
16	Domestic Industry Claim Chart for U.S. Patent No. 10,049,080	Public	
17	Domestic Industry Claim Chart for U.S. Patent No. 10,705,588	Public	
18	Samsung Tablets (accessed August 19, 2022) (samsung.com)	Public	
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20	Bloomberg's Company Profile for Samsung Electronics Co., Ltd. (accessed	Public	
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21	Samsung 2021 Business Report	Public	
22	Photographs of Samsung Galaxy S21 FE	Public	
23	"Qualcomm Details the Snapdragon 888: 3rd Gen 5G & Cortex-X1 on 5nm"	Public	
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24	"Samsung Foundry Update: 5nm SoCs in Production, HPC Shipments to	Public	
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25	Bloomberg's Company Profile for Samsung Electronics America, Inc.	Public	
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27	(accessed August 22, 2022) (The Muse)	Public	
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28C	Confidential List of Entities Having Certain Rights in the Asserted Patents	Confidential	
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20	Asserted Patents	1 40110	
29	Buy Galaxy Tab S7 & S7+ (accessed August 22, 2022) (samsung.com)	Public	
30	Samsung Galaxy Watch4 (accessed August 22, 2022) (samsung.com)	Public	

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No.		
31	Infringement Claim Chart for U.S. Patent No. 8,775,833	Public
32	Infringement Claim Chart for U.S. Patent No. 8,898,494	Public
33	Infringement Claim Chart for U.S. Patent No. 10,049,080	Public
34	Infringement Claim Chart for U.S. Patent No. 10,705,588	Public
35	Receipt for the Samsung Representative Article (i.e., the Samsung Galaxy	Public
	S21 FE 5G Smartphone) and the Qualcomm Representative Article	
260	incorporated therein (i.e., the Qualcomm Snapdragon 888 5G SoC)	
36C	Intel-Daedalus Patent Agreement (September 29, 2021)	Confidential
36	Public Version of Intel-Daedalus Patent Agreement (September 29, 2021)	Public
37	Intel Announces Next U.S. Site with Landmark Investment in Ohio (January	Public
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43	Intel Corporation (Argentina) (LinkedIn) (accessed April 26, 2022) (Intel.com)	Public
44	Intel Corporation (Rangladesh) (LinkedIn) (accessed April 26, 2022)	Public
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48	Intel Corporation (Finland) (LinkedIn) (accessed April 26, 2022)	Public
49	Intel Corporation (France) (LinkedIn) (accessed April 26, 2022)	Public
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52	Intel Corporation (Japan) (LinkedIn) (accessed April 26, 2022)	Public
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61	Intel in Arizona (accessed April 26, 2022) (intel.com)	Public
62	Intel in California (accessed April 26, 2022) (intel.com)	Public
63	Intel in Costa Rica (accessed April 26, 2022) (intel.com)	Public
64	Intel in New Mexico (accessed April 26, 2022) (intel.com)	Public
65	Intel in Oregon (accessed April 26, 2022) (intel.com)	Public
66	Intel Malaysia (accessed April 26, 2022) (amcham.com)	Public

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60	Intel DI Product List	Public
09 70	Global Manufacturing at Intel (accessed August 25, 2022) (intel.com)	Public
70	Jobs at Intel in Folsom, California (accessed August 19, 2022) (intel.com)	Public
/1	12600K (Alder Lake))	Public
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73	Qualcomm, Samsung Galaxy S21 Fan Edition 5G, Powered by Snapdragon 888 Mobile Platform	Public
74	Samsung Galaxy S21 Ultra Teardown – iFixit	Public
75	Power vs. Performance Management of the CPU: Qualcomm	Public
76	Qualcomm's New Snapdragon 888 Brings Built-In 5G to Android Phones – IGN (Dec 2, 2020)	Public
77	Qualcomm Details The Snapdragon 888, 3rd Gen 5G & Cortex-X1 on 5nm	Public
78	Arm Cortex-X1 Core Technical Reference Manual, Rev. r1p1	Public
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81	Arm DynamIQ Shared Unit Technical Reference Manual, Rev .r4p1	Public
82	Arm DynamIQ_Expanding the possibilities for AI - Architectures and Processors blog - Arm Community blogs - Arm Community	Public
83	Where does big.LITTLE fit in the world of DynamIQ - Architectures and Processors blog - Arm Community blogs - Arm Community	Public
84	ARM Cortex-A Series Programmer's Guide for Armv8-A, Ver. 1	Public
85	Developer, Balancing performance and power consumption with big.LITTLE	Public
86	Ten Things to Know About big.LITTLE - Architectures and Processors blog.pdf	Public
87	Qualcomm Snapdragon 820E Processor Device Specification LM80- P2751-1 Rev E (Feb 9, 2018)	Public
88	Qualcomm Resource Power Manager, API Reference, LM80-P0436-74 Rev A (Feb 2, 2018)	Public
89	drivers/qcom: add RPMH communication support [LWN.net]	Public
90	qcom,sdm845 (kernel.org)	Public
91	The Impact of Big Core Little Core Architecture on Application Development	Public
92	SM- G990U1_NA_12_Opensource\Kernel.tar.gz\Kernel.tar\.\drivers\cpufreq\cp ufreq_ondemand.c	Public
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Exhibit	Description	Designation
NO.	Arm Cortex-A78 Core Technical Reference Manual Rev. r1n2	Public
05	Arm Cortex A55 Core Technical Reference Manual, Rev. 11p2	Public
95	Spendragen Bower Optimization SDK Dynamia ADI	Public
90	"The Ovelessment difference?"	Public
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98	CoreLink CCI-550	Public
99	Arteris Announces Ncore Cache-Coherent Interconnect, Anand Tech	Public
100	Qualcomm Snapdragon Mobile Platform OpenCL	Public
101	SM- G990U1_NA_12_Opensource\Kernel.tar.gz\Kernel.tar\.\arch\arm64\boot\d ts\vendor\qcom\lahaina-gpu.dtsi	Public
102	SM- G990U1_NA_12_Opensource\Kernel.tar.gz\Kernel.tar\.\drivers\gpu\msm\ kgsl_pwrctrl.c	Public
103	Arteris IP Customers	Public
104	Certain Arteris Technology Assets Acquired	Public
105	Arteris Delivers Major Productivity Features for its Network-On-Chip Interconnect IP and Toolset	Public
106	Low-Power Design Using NoC Technology	Public
107	Adreno 660 GPU Specs and Features	Public
108	SM- G990U1_NA_12_Opensource\Kernel.tar.gz\Kernel.tar\.\arch\arm64\boot\d ts\vendor\qcom\lahaina.dtsi	Public
109	Qualcomm Redefines Premium with the Flagship Snapdragon 888 5G Mobile Platform, Qualcomm	Public
110	Qualcomm Snapdragon 888 5G Processor - Benchmarks and Specs - NotebookCheck.net Tech	Public
111	Qualcomm Snapdragon 888 deep dive: Everything you need to know	Public
112	Qualcomm Hexagon DSP: An architecture optimized for mobile multimedia and communications	Public
113	Qualcomm Kryo CPU — Game Developer Guides documentation	Public
114	Balancing Performance and Power Consumption with big.LITTLE	Public
115	SM- G990U1_NA_12_Opensource\Kernel.tar.gz\Kernel.tar\.\drivers\gpu\msm\ governor msm adreno tz.c	Public
116	Qualcomm Snapdragon 820E Processor Clock Plan, LM80-P2751-27 Rev. A (Feb 19, 2018)	Public
117	Qualcomm Snapdragon 410E Processor APQ8016E System Power Overview, LM80-P0436-73 Rev. A	Public
118	Linux Kernel Documentation/devicetree/bindings/interconnect/qcom,bcm- voter.yaml	Public

Exhibit	Description	Designation
No.		
119	SM-	Public
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120	rpmh-rsc	Public
120	SM-	Public
121	G990U1 NA 12 Opensource\Kernel.tar.gz\Kernel.tar\.\drivers\thermal\ac	i uone
	om/msm lmh dcvs.c	
122	What is the big.LITTLE Architecture?	Public
123	12th-Gen-Intel-Core-Performance-Hybrid-Architecture	Public
124	12th Generation Intel Core Processors Datasheet, Volume 1, rev 009, Aug 2022	Public
125	Intel Alder Lake P-Core and E-Core Detailed - Tech Edged	Public
126	12th Gen Core Desktop Processors – Product Brief	Public
127	Intel Architecture Day 2021: Alder Lake, Golden Cove, and Gracemont	Public
	Detailed (Aug 19, 2021)	
128	Intel Alder Lake P-Core E-Core Detailed: Golden Cove Offers 50%	Public
	Higher Single-Threaded & Hybrid Design Offers 50% Higher Multi-	
100	Threaded Performance (Aug 23, 2021)	D 11
129	Game Dev Guide for 12th Gen Intel Core Processor Hybrid Architecture	Public
130	Intel Processor Frequency ID Utility Common Terms	Public
131	Alder Lake Overclocking: What's New – SkatterBencher	Public
132	Performance Tuning Guide for Cisco UCS M5 Servers	Public
133	Intel Architecture Day 2021 Presentation	Public
134	12th Gen Intel Core Processors, Blueprint Series Presentation	Public
135	Intel Unveils Alder Lake: Next-Generation Mainstream Heterogeneous Multi-Core SoC – WikiChip Fuse	Public
136	Intel Dynamic Tuning Technology (Intel DTT) User Guide	Public
137	Dynamic Tuning - Intel – WikiChip	Public
138	Enabling or disabling Intel Turbo Boost Technology	Public
139	Qualcomm Details The Snapdragon 888 3rd Gen 5G & Cortex-X1 on 5nm	Public
140	Qualcomm Snapdragon 888 5G mobile platform	Public
141	Qualcomm Hexagon SDK 3.0 – DSP Power and Efficiency	Public
142	Balancing Power & Performance for Mobile Applications	Public
143	Heterogeneous Computing for your Demanding Apps - Qualcomm	Public
	Developer Network	
144	[experience] Static API introduced by Power Optimization SDK	Public
145	Highest quality on your phone with High Performance mode [samsung.com]	Public
146	Samsung updates the Galaxy S21 with features from One UI 3.1.1	Public

Exhibit	Description	Designation
No.		
147	Qualcomm Snapdragon 888: specs and benchmarks	Public
148	Snapdragon Power Optimization SDK – App Notes	Public
149	Snapdragon Power Optimization SDK – Static API	Public
150	Snapdragon Power Optimization SDK Dynamic APIs	Public
151	Intel Product Information	Public
152	Photographs for the Samsung Representative Article (i.e., the Samsung	
	Galaxy S21 FE 5G Smartphone) and the Qualcomm Representative Article	
	incorporated therein (i.e., the Qualcomm Snapdragon 888 5G SoC)	
153	What we know about Intel's \$20 billion bet on Ohio (Jan 22, 2022)	Public
154	Samsung Coppell warehouse investing \$3.8 million in upgrades (Jan 24,	Public
	2020)	
155	Notice Letter to Samsung re Patent Infringement (Sept 9, 2022)	Public
156	Notice Letter to Qualcomm re Patent Infringement (Sept 9, 2022)	Public
157	Authorized Service Providers – Qualcomm Advantage Network Member	Public
	Directory	
158	Qualcomm 10-K 2021	Public

APPENDICES

Appendix	Description		
No.			
А	Certified File History of U.S. Patent No. 8,775,833		
В	Technical References cited in the File History for U.S. Patent No. 8,775,833		
С	Certified File History of U.S. Patent No. 8,898,494		
D	Technical References cited in the File History for U.S. Patent No. 8,898,494		
E	Certified File History of U.S. Patent No. 10,049,080		
F	Technical References cited in the File History for U.S. Patent No. 10,049,080		
G	Certified File History of U.S. Patent No. 10,705,588		
Н	Technical References cited in the File History for U.S. Patent No. 10,705,588		

I. INTRODUCTION

1. This Complaint is filed by Daedalus Prime LLC ("Daedalus" or "Complainant") pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 ("Section 337") to remedy the unlawful and unauthorized importation, sale for importation, and/or sale within the United States after importation, into the United States, of certain integrated circuits, mobile devices containing the same, and components thereof (the "Accused Products") that directly infringe, contributorily infringe, and/or induce the infringement, literally or under the doctrine of equivalents, of certain claims of U.S. Patent No. 8,775,833 ("the '833 Patent"), U.S. Patent No. 8,898,494 ("the '494 Patent"), U.S. Patent No. 10,049,080 ("the '080 Patent"), and U.S. Patent No. 10,705,588 ("the '588 Patent") (collectively, the "Asserted Patents"). Certified copies of the '833, '494, '080, and '588 Patents are attached hereto as **Exhibits** 1-4 respectively, and certified copies of the assignment records of each patent are attached hereto as **Exhibits** 5-8 respectively.

2. The proposed respondents are Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, "Samsung"), and Qualcomm Inc. ("Qualcomm"). All of these proposed respondents are referred to collectively throughout this Complaint as "Respondents." On information and belief, each of the Respondents imports, sells for importation, and/or sells in the United States after importation, into the United States, Accused Products that directly infringe, contributorily infringe, and/or induce the infringement of, literally or under the doctrine of equivalents, Daedalus's Asserted Patents.

3. Pursuant to Commission Rules 210.10(b)(1) and 210.12(a)(12), categories of the Accused Products are (a) integrated circuits that incorporate computer processors; (b) mobile devices consisting of smartphones, tablets, and smartwatches containing such integrated circuits; and (c) components of such integrated circuits, smartphones, tablets, and smartwatches.

4. Pursuant to Commission Rule 210.12(a)(9)(vii), Daedalus asserts that the Accused Products infringe at least the following claims of the Asserted Patents (collectively, the "Asserted Patent Claims")¹:

Patent	Respondent(s)	Asserted Claims
8,775,833	Samsung, Qualcomm	1-5 , 7, 13- 18
8,898,494	Samsung, Qualcomm	1, 3, 12, 14-15
10,049,080	Samsung, Qualcomm	1-8
10,705,588	Samsung, Qualcomm	1- 7, 8 -19

5. To remedy Respondents' continuing and unlawful violation of Section 337, Daedalus seeks, as permanent relief, a limited exclusion order pursuant to 19 U.S.C. § 1337(d) against each named Respondent and their subsidiaries, predecessors, affiliates, agents, successors, and assigns, barring from entry into the United States all articles that directly infringe, contributorily infringe, and/or induce the infringement of, literally or under the doctrine of equivalents, the Asserted Patents. Daedalus also seeks cease and desist orders pursuant to 19 U.S.C. § 1337(f), prohibiting each Respondent and their subsidiaries, predecessors, affiliates, agents, successors, and assigns from engaging in the (a) importation, sale for importation, and/or sale within the United States after importation of such articles, (b) marketing, distributing, offering for sale, selling, or otherwise transferring (except for exportation) in the United States of such articles, (c) advertising of such imported articles, (d) soliciting U.S. agents, retailers, resellers, or distributors for such articles, and (e) aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer (except for exportation), or distribution of such articles.

6. Further, Daedalus requests that the Commission impose a bond upon Respondents' importation of infringing articles during the 60-day Presidential review period

¹ Independent claims in the chart of asserted claims in each patent are in **bold**.

pursuant to 19 U.S.C. § 1337(j) to prevent further injury to Daedalus and its licensee's domestic industry relating to each of the Asserted Patents.

II. THE PARTIES

A. The Complainant

7. Pursuant to Commission Rule 210.12(a)(7), Complainant Daedalus Prime LLC is a Delaware limited liability company, and has a principal place of business at 51 Pondfield Road, Suite 3, Bronxville, New York 10708, and registered agent located at 555 E. Loockerman Street, Suite 120, Dover DE, 19901. Pursuant to Commission Rule 210.12(a)(7), Daedalus is a patent management and licensing company.

8. Daedalus is the sole owner by assignment of all right, title, and interest in each Asserted Patent. **Exhibits** 5-8.

9. Daedalus's domestic licensee is Intel Corporation ("Intel"). Intel is headquartered at 2200 Mission College Boulevard, Santa Clara, California. Intel is the predecessor-in-interest of each of the Asserted Patents, and has a non-exclusive license to practice each of the Asserted Patents.

10. The Asserted Patents stem from Intel's significant investments in researching, developing, and manufacturing innovative microprocessor architectures, including power management technology. Intel technology provides the computer processing brains used by over 77% of laptops, 97% of servers, and over 55% of desktop PCs sold around the world. *See, e.g.*, **Exhibit** 9 at 3-6, <u>https://www.cpubenchmark.net/market_share.html</u> (accessed August 22, 2022). Intel also powers over 80% of the top 500 supercomputers in the world. **Exhibit** 10 at 3. <u>https://www.networkworld.com/article/2257922/ibm--cray-lead-top-500-supercomputer-rankings.html</u> (accessed August 22, 2022).

11. Founded in 1968, Intel is a multinational company and pioneer of cuttingedge computer processing technology. Intel is one of the few companies in the United States that continues to manufacture its chips in large volumes at its own massive semiconductor fabs in Arizona, New Mexico, and Oregon. **Exhibit** 11 at 12 (Intel 2021 Form 10-K). Intel has made, and continues to make, substantial investments in the research, development, and manufacturing of computer processors (e.g., Intel's 12th Generation product families), and system products containing the same (e.g., computing devices and servers) that practice, or are made from processes that practice, the Asserted Patents. *See* **Exhibits** 11-13 (Intel Form 10-K, 2021, 2020, 2019); **Exhibits** 14-17 (Intel claim charts).

B. The Proposed Respondents

1. Samsung

12. The Samsung Respondents in this action, themselves and/or through their subsidiaries and corporate relatives, import, sell for importation, and/or sell in the United States after importation, products that directly or indirectly infringe the Asserted Patents, including integrated circuits, mobile devices containing the same, and components thereof.

(a) Samsung Electronics Co., Ltd.

13. Pursuant to Commission Rule 210.12(a)(4), proposed Respondent Samsung Electronics Co., Ltd. is a South Korean corporation with a principal place of business at 129 Samsung-Ro, Maetan-3dong, Yeongtong-gu, Suwon, Gyeonggi-do, Korea 16677, and has as its wholly-owned U.S. subsidiary proposed Respondent Samsung Electronics America, Inc., a New York corporation with a principal place of business at 85 Challenger Rd, Ridgefield Park, New Jersey, 07660-2112, United States.

14. Upon information and belief, Samsung Electronics Co., Ltd. is engaged in the manufacturing, research, development, testing, marketing, distribution, shipping, importation,

sale for importation, and/or sale within the United States after importation of products that infringe, including integrated circuits, mobile devices containing the same (i.e., smartphones, tablets, and smartwatches), and components thereof that are manufactured outside of the United States. *See, e.g.*, **Exhibit** 18, <u>https://www.samsung.com/us/tablets/</u> (accessed August 19, 2022); **Exhibit** 19, <u>https://www.samsung.com/us/smartphones/</u> (accessed August 19, 2022). Upon information and belief, Samsung Electronics Co., Ltd. is also engaged in contributing to (or instructing others regarding) the use, manufacture, sale, and/or importation of such articles.

15. According to Bloomberg's Company Profile, "Samsung Electronics Co., Ltd. manufactures a wide range of consumer and industrial electronic equipment and products such as semiconductors, personal computers, peripherals, [and] monitors.... The Company also produces Internet access network systems and telecommunications equipment including mobile phones." *See* Exhibit 20 at 1 (https://www.bloomberg.com/profile/company/BC94:LN) (accessed August 19, 2022). According to Samsung's 2021 Business Report, Samsung's "IM Division manufactures and sells smart mobile devices, network systems, and computers." Exhibit 21 at 5, https://images.samsung.com/is/content/samsung/assets/global/ir/docs/2021_4Q_Interim_Report_ vF.pdf (accessed August 22, 2022).

16. On information and belief, Respondent Samsung's Galaxy S21 FE 5G smartphone, manufactured overseas (*see* Exhibit 152 at 4), incorporates the Qualcomm Snapdragon 888 5G chip (*see* Exhibit 152 at 7-8), which on information and belief is fabricated by at least Samsung's 5nm (5LPE) node in Korea. *See* Exhibit 23 at 1-2 https://www.anandtech.com/show/16271/qualcomm-snapdragon-888-deep-dive (accessed August 19, 2022) (identifying Samsung 5nm (5LPE) for Snapdragon 888); Exhibit 24 at 4, https://www.tomshardware.com/news/samsung-foundry-update-5nm-socs-in-production-hpc-

<u>shipments-to-expand-in-q4</u> (accessed August 19, 2022) ("Samsung Foundry's first 5LPE chips are made at its first EUV-dedicated V1 line in Hwaseong, South Korea. Eventually, it will also be used at Samsung Foundry's upcoming production line in Pyeongtaek, South Korea, starting in the second half of 2021.").

17. Upon information and belief, Samsung Electronics Co., Ltd. is engaged in the instruction or encouragement of others, including customers in the United States, to use, make, sell, and/or import such integrated circuits and mobile devices containing the same (i.e., smartphones, tablets, and smartwatches), and components thereof in a directly infringing manner.

(b) Samsung Electronics America, Inc.

18. Upon information and belief, Samsung Electronics America, Inc. is engaged in the manufacturing, research, development, testing, marketing, distribution, shipping, importation, sale for importation, and/or sale within the United States after importation of, and/or contributing to (or instructing others regarding) the use, manufacture, sale, and/or importation of products that infringe, including integrated circuits, mobile devices containing the same (i.e., smartphones, tablets, and smartwatches), and components thereof that are manufactured outside of the United States.

19. According to Bloomberg's Company Profile, "Samsung Electronics America, Inc. manufactures electronic products," including "cell phones, storage device ... smartwatches, and computer products." See Exhibit 25 1 at https://www.bloomberg.com/profile/company/005930:KS (accessed August 20, 2022). According to Samsung's 2021 Business Report, the "[m]ajor business" of Samsung Electronics America, Inc. is "[e]lectronic goods sales[.]" Exhibit 21 at 342. Further, in a February 2022 Samsung Electronics America, Inc. job posting for its "Mobile Marketing Team" in Plano, TX, the job description includes responsibilities for "leading the Integrated Marketing Communication

plans for the Samsung Tablet portfolio for the US market." **Exhibit** 26 at 1 <u>https://www.themuse.com/jobs/samsungelectronicsamerica/brand-marketing-manager-tablets</u> (accessed August 22, 2022); *see also*, ¶¶ 14-16, *supra*.

20. Upon information and belief, Samsung Electronics America, Inc. is engaged in the instruction or encouragement of others, including customers in the United States, to use, make, sell, and/or import such integrated circuits and mobile devices containing the same (i.e., smartphones, tablets, and smartwatches), and components thereof in a directly infringing manner.

2. Qualcomm, Inc.

21. Qualcomm Incorporated ("Qualcomm") is a corporation organized and existing under the laws of the state of Delaware with its principal place of business located at 5775 Morehouse Dr., San Diego, California, 92121. Qualcomm, either itself and/or through the activities of its subsidiaries, designs, manufactures, has manufactured, sells, imports, sells for importation, and/or sells within the United States after importation, into the United States, products such as integrated circuits and components thereof manufactured outside the United States. *See, e.g.*, ¶ 14-16, *supra*.

22. On information and belief, as a fabless entity, Qualcomm employs the services of foundries who manufacture the integrated circuits and components thereof abroad. **Exhibit** 158 at 4 (Qualcomm 10-K 2021). These integrated circuits and components thereof are incorporated into various downstream Samsung products (i.e., smartphones, tablets, smartwatches) that are then sold for importation into the United States, imported into the United States, and/or sold within the United States after importation. **Exhibit** 158 at 7 (Qualcomm 10-K 2021).

23. According to Qualcomm's website, its "portfolio includes products for processors, modems, platforms, RF systems, and connectivity, plus products based on the end-use application of your design. [Qualcomm] offer[s] a full range of purpose-built, pre-packaged

software, hardware, and tools[.]" **Exhibit** 27 at 4, <u>https://www.qualcomm.com/company/about</u> (accessed August 22, 2022).

24. Upon information and belief, Qualcomm is engaged in the instruction or encouragement of others, including customers in the United States, to use, make, sell, and/or import such integrated circuits and mobile devices containing the same (i.e., smartphones, tablets, and smartwatches), and components thereof in a directly infringing manner.

III. THE PATENTS

25. The Asserted Patents generally relate to integrated circuits, system-on-achip ("SoCs"), and processors, comprising a central processing unit ("CPU") and/or a graphics processing unit ("GPU") supporting various power management features.² Integrated circuits are a major contributor to power consumption in computing systems, and the power required for their operation consumes energy and produces heat. In recent years, techniques for reducing power consumption have become a primary concern of companies that design and sell products that include integrated circuits, especially as the demand for increasingly powerful portable computing devices with long-lasting battery capacities continues to increase.

26. Pursuant to Commission Rule 210.12(a)(9)(iii), Complainant has attached as **Confidential Exhibit** 28C a list of entities that, to the best of Daedalus's knowledge, are parties to one or more confidential agreements with Intel that may, but do not necessarily, incorporate a grant of a limited non-exclusive license under and/or restrictive covenant with respect to the Asserted Patents. Complainant provides this list, which may be over-inclusive, to ensure compliance with Commission Rule 210.12(a)(9)(iii). By including an entity on this list, however,

² The non-technical descriptions of the patented technology provided herein are provided solely for compliance with the Commission Rules and is not intended to define, limit, or otherwise affect the construction and/or application of any of the Asserted Patents.

Daedalus makes no representation concerning the scope of licensed rights and/or restrictive covenants, if any exist, or that such licensed rights or restrictive covenants ultimately extend to any proposed Respondent, Accused Product, or Asserted Patent in this Investigation.

A. THE ASSERTED '833 PATENT

2. Ownership and Asserted Claims of the '833 Patent

27. United States Patent No. 8,775,833 is entitled "Dynamically Allocating a Power Budget over Multiple Domains of a Processor," and issued on July 8, 2014 to inventors Avinash N. Ananthakrishnan, Efraim Rotem, Doron Rajwan, Eliezer Weissmann, and Nadav Shulman. The '833 Patent issued from United States Patent Application No. 13/780,066, filed on February 28, 2013.

28. The '833 Patent is a continuation of United States Patent Application No.13/225,677, filed on September 6, 2011.

29. By way of assignment, Complainant Daedalus owns all rights, title, and interest to the '833 Patent. As required by Commission Rules 210.12(a)(9)(i)–(ii), certified copies of the '833 Patent and its assignment records are attached as **Exhibits** 1 and 5 respectively.

30. In accordance with Commission Rules 210.12(c)(1)–(2), **Appendix** A to this Complaint includes one certified copy of the United States Patent and Trademark Office prosecution history for the '833 Patent. **Exhibit** 1 includes a certified copy of the '833 Patent, and **Appendix** B includes applicable pages of each technical reference mentioned in the prosecution history of the '833 Patent.

31. All fees for the '833 Patent have been timely paid, and there are no fees currently due. In accordance with Commission Rule 210.12(a)(9)(xi), the expiration date of the '833 Patent is September 6, 2031.

32. The '833 Patent has 18 claims, including three independent claims (1, 8 and

13), and 15 dependent claims. Complainant is asserting at least claims 1-5, 7, and 13-18 of the '833

Patent (the "Asserted '833 Patent Claims") against Samsung and Qualcomm.

3. Foreign Counterparts to the '833 Patent

33. In accordance with Commission Rule 210.12(a)(9)(v), Complainant has

listed in the table below the only known foreign counterparts to the '833 Patent.

Application Number	Publication Number	Status
DE112012003701T	DE112012003701	Granted
DE202012008539U	DE202012008539	Granted
TW101132365A	TWI470409B	Granted
TW103140478A	TWI512447B	Granted
PCT/US2012/053726	WO2013036497	Complete

4. Non-Technical Description of the '833 Patent

34. Pursuant to Commission Rule 210.12(a)(9)(vi), prior to the '833 Patent, devices such as multicore processors incorporated an ever-increasing number of functional units, where each functional unit consumed different amounts of power based on its workload. *See, e.g.*, **Exhibit** 1, '833 Patent at 1:10-26. However, there was no suitable mechanism to ensure that these different functional units had sufficient power while sharing a common power budget. *See, e.g.*, *id*.

35. The '833 Patent discloses novel solutions to dynamically allocate a power budget over multiple domains of a processor to ensure that different functional units on the processor have sufficient power. *See, e.g., id.* at 1:55-2:31. In some embodiments, the processor includes two domains, each of which is operable at an independent voltage and frequency. *See, e.g., id.* at 5:8-15. The processor further includes logic to dynamically allocate a power budget for the processor between the two domains at run time, according to sharing policy values controllable by user-level software. *See, e.g., id.* at 5:65-6:60.

B. THE ASSERTED '494 PATENT

1. Ownership and Asserted Claims of the '494 Patent

36. United States Patent No. 8,898,494 is entitled "Power Budgeting Between a Processing Core, a Graphics Core, and a Bus on an Integrated Circuit When a Limit Is Reached," and issued on November 25, 2014 to inventors Travis T. Schluessler and Russell J. Fenger. The '494 Patent issued from United States Patent Application No. 13/398,641, which was filed on February 16, 2012, and is a continuation-in-part of United States Patent Application No. 13/327,670, filed on December 15, 2011.

37. By way of assignment, Complainant Daedalus owns all rights, title, and interest to the '494 Patent. As required by Commission Rules 210.12(a)(9)(i)–(ii), certified copies of the '494 Patent and its assignment records are attached as **Exhibits** 2 and 6 respectively.

38. In accordance with Commission Rules 210.12(c)(1)–(2), Appendix C to this Complaint includes one certified copy of the United States Patent and Trademark Office prosecution history for the '494 Patent. Exhibit 2 includes one certified copy of the '494 Patent, and Appendix D includes applicable pages of each technical reference mentioned in the prosecution history of the '494 Patent.

39. All fees for the '494 Patent have been timely paid, and there are no fees currently due. In accordance with Commission Rule 210.12(a)(9)(xi), the expiration date of the '494 Patent is April 1, 2032.

40. The '494 Patent has 18 claims, including three independent claims (1, 4 and 8), and 15 dependent claims. Complainant is asserting at least claims 1, 3, 12, and 14-15 of the '494 Patent (the "Asserted '494 Patent Claims") against Samsung and Qualcomm.

2. Foreign Counterparts to the '494 Patent

41. In accordance with Commission Rule 210.12(a)(9)(v), Complainant has

Application Number	Publication Number	Status
CN201280069930	CN104115093	Granted
CN201710115292	CN106843430	Granted
DE202012011944U	DE202012011944	Granted
TW101147519	TWI610165	Granted
PCT/US2012/069164	WO2013090379	Complete

listed below the only known foreign counterparts to the '494 Patent.

3. Non-Technical Description of the '494 Patent

42. Pursuant to Commission Rule 210.12(a)(9)(vi), prior to the '494 Patent, as more functional units were incorporated into integrated circuits, and the density of integrated circuits increased, the integrated circuits required more power. *See, e.g.*, **Exhibit** 2, '494 Patent at 1:20-57. The ability to reduce power consumption without compromising overall system performance has become paramount in computer architecture. *See, e.g., id.* Conventionally, for processors with host processing cores and/or graphics processing cores, power balancing was very basic and only took into consideration power requirements of the core type. *See, e.g., id.*

43. The '494 Patent discloses solutions for addressing vital needs for energy efficiency and conservation associated with integrated circuits. *See, e.g., id.* In at least some embodiments, the invention takes into account the amount of workload performed by a core and a communication bus, and allocates power to the core or communication bus that needs it. *See, e.g., id.* at 8:18-49. In some embodiments, the processor includes an integrated circuit that further includes a core, a communication bus, and a balancing control, wherein the balancing control can dynamically tune power allocation between the core and communication bus based on the

integrated circuit's power limit and the communication bus's workload. *See, e.g., id.* at 15:4-58, claim 1.

C. THE ASSERTED '080 PATENT

1. Ownership and Asserted Claims of the '080 Patent

44. United States Patent No. 10,049,080 is entitled "Asymmetric Performance Multicore Architecture with Same Instruction Set Architecture," and issued on August 14, 2018 to inventors Varghese George, Sanjeev S. Jahagirdar, and Deborah T. Marr. The '080 Patent issued from United States Patent Application No. 15/431,527, which was filed on February 13, 2017, and is a continuation of United States Patent Application No. 13/335,257, filed on December 22, 2011 (now U.S. Patent No. 9,569,278).

45. By way of assignment, Complainant Daedalus owns all rights, title, and interest to the '080 Patent. As required by Commission Rules 210.12(a)(9)(i)–(ii), certified copies of the '080 Patent and its assignment records are attached as **Exhibits** 3 and 7 respectively.

46. In accordance with Commission Rules 210.12(c)(1)-(2), Appendix E to this Complaint includes one certified copy of the United States Patent and Trademark Office prosecution history for the '080 Patent. Exhibit 3 includes one certified copy of the '080 Patent, and Appendix F includes applicable pages of each technical reference mentioned in the prosecution history of the '080 Patent.

47. All fees for the '080 Patent have been timely paid, and there are no fees currently due. In accordance with Commission Rule 210.12(a)(9)(xi), the expiration date of the '080 Patent is December 22, 2031.

48. The '080 Patent has 24 claims, including three independent claims (1, 9, and 17), and 21 dependent claims. Complainant is asserting at least claims 1-8 of the '080 Patent (the "Asserted '080 Patent Claims") against Samsung and Qualcomm.

2. Foreign Counterparts to the '080 Patent

49. In accordance with Commission Rule 210.12(a)(9)(v), Complainant has

Application Number	Publication Number	Status
CN201280063860A	CN104011704	Granted
CN201810311226A	CN108763129	Granted
CN202110256803A	CN112947736	Published/Pending
TW101147200A	TWI470418	Granted
PCT/US2012/068274	WO2013095944	Complete

listed below the only known foreign counterparts to the '080 Patent.

3. Non-Technical Description of the '080 Patent

50. Pursuant to Commission Rule 210.12(a)(9)(vi), prior to the '080 Patent, in processors with multiple cores, a typical way to address workload fluctuations was to scale processing performance and power consumption by enabling or disabling entire cores and raising or lowering their supply voltages and operating frequencies. *See, e.g.*, **Exhibit** 3, '080 Patent at 1:15-3:49. Other processors utilized a mixture of lower power cores and higher performance cores for different workloads; but the lower power cores and higher performance cores did not support the same instruction set, making it difficult for the system software to adjust switching between the lower power and higher performance cores. *See, e.g., id.*

51. The '080 Patent solves these problems by teaching a system that improves power savings and system performance. In some embodiments, the multicore processor includes two sets of cores that support the same instruction set and can be enabled all together, wherein one set consumes less power than the other does when the same operating frequency and supply voltage are applied. *See, e.g., id.* at 3:50-4:46. The multicore processor further includes power management hardware to disable one set of cores, but not the other, when there is a drop in demand below a threshold. *See, e.g., id.* at 4:47-5:13.

D. THE ASSERTED '588 PATENT

1. Ownership and Asserted Claims of the '588 Patent

52. United States Patent No. 10,705,588 is entitled "Enabling a Non-Core Domain to Control Memory Bandwidth in a Processor," and issued on July 7, 2020 to inventors Avinash N. Ananthakrishnan, Inder M. Sodhi, Efraim Rotem, Doron Rajwan, Eliezer Weissmann, and Ryan Wells. The '588 Patent issued from United States Patent Application No. 16/249,103, which was filed on January 16, 2019, and is a continuation of United States Patent Application No. 15/381,241, filed on December 16, 2016 (now U.S. Patent 10,248,181), which is a continuation of United States Patent Application No. 15/138,505, filed on April 26, 2016 (now U.S. Patent No. 10,037,067), which is a continuation of United States Patent Application No. 14/451,807, filed on August 5, 2014 (now U.S. Patent No. 9,354,692), which is a continuation of United States Patent Application No. 13/282,896, filed on October 27, 2011 (now U.S. Patent No. 8,832,478).

53. By way of assignment, Complainant Daedalus owns all rights, title, and interest to the '588 Patent. As required by Commission Rules 210.12(a)(9)(i)–(ii), certified copies of the '588 Patent and its assignment records are attached as **Exhibits** 4 and 8.

54. In accordance with Commission Rules 210.12(c)(1)–(2), **Appendix** G to this Complaint includes one certified copy of the United States Patent and Trademark Office prosecution history for the '588 Patent. **Exhibit** 4 includes one certified copy of the '588 Patent, and **Appendix** H includes applicable pages of each technical reference mentioned in the prosecution history of the '588 Patent.

55. All fees for the '588 Patent have been timely paid, and there are no fees currently due. In accordance with Commission Rule 210.12(a)(9)(xi), the expiration date of the '588 Patent is October 27, 2031.

56. The '588 Patent has 20 claims, including three independent claims (1, 8,

and 20), and 17 dependent claims. Complainant is asserting at least claims 1-19 of the '588 Patent (the "Asserted '588 Patent Claims") against Samsung and Qualcomm.

2. Foreign Counterparts to the '588 Patent

57. In accordance with Commission Rule 210.12(a)(9)(v), Complainant has

listed below the only known foreign counterparts to the '588 Patent.

Application Number	Publication Number	Status
TW101135884	TWI477973	Granted
TW103146274	TWI540440	Granted
TW105112608	TWI574159	Granted
TW105140882	TWI630482	Granted
PCT/US2012/057655	WO2013062714	Complete

3. Non-Technical Description of the '588 Patent

58. Pursuant to Commission Rule 210.12(a)(9)(vi), prior to the '588 Patent, in a multicore processor, different functional units within the processor could have differing needs for operating frequency based on their workloads. *See, e.g.*, **Exhibit** 4, '588 Patent at 1:18-38. However, there was no suitable mechanism to ensure these different units operated at an appropriate frequency. *Id.* Furthermore, the different units could have a shared interconnect to access a shared memory. *See, e.g.*, *id.* But such interconnect was either operated at a constant fixed frequency or tied to the frequency of the processor cores. *See, e.g.*, *id.* The interconnect frequency, which impacts memory bandwidth, was not tailored to the needs of the different units and affected processor performance. *See, e.g.*, *id.*

59. The '588 Patent solves these problems by allowing the different functional units to have control over interconnect frequency and thus memory bandwidth. *See, e.g., id.* at 1:57-2:39. In some embodiments, the graphics processing circuitry can control its memory

bandwidth via interconnect frequency. *See, e.g., id.* Graphics processing performance can thus be improved because it is a strong function of the bandwidth available to it. *See, e.g., id.*

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

60. Pursuant to Commission Rules 210.12(a)(2) and 210.12(a)(3), the unfair acts of the Respondents involve the design, manufacture, and importation, sale for importation, and/or sale within the United States after importation, into the United States, of certain infringing integrated circuits, mobile devices containing the same (i.e., smartphones, tablets, and smartwatches), and components thereof, including, without limitation, the Accused Products.

61. Pursuant to Commission Rule 210.12(b), physical samples of the representative imported articles identified in this section (Section IV (Infringement), e.g., a smartphone mobile device containing an SoC) and the domestic industry representative article identified in Section VII ((Domestic Industry), e.g., an Intel processor), are available for inspection at Complainant's outside counsel's offices. Upon request of the Commission, Complainant will provide samples to the Commission. Complainant has also included charts and photographs with this Complaint depicting the representative involved articles.

62. Upon information and belief, the Accused Products identified herein directly and/or indirectly infringe at least the Asserted Patent Claims. Discovery may reveal that these products infringe additional claims of the Asserted Patents. In addition, Complainant anticipates that discovery may reveal that additional products of Respondents infringe the Asserted Patents, including but not limited to unreleased products that will become substantially fixed in design and are likely to be imported into the United States prior to the conclusion of this Investigation.

63. Upon information and belief, Respondents have had and have knowledge of, or were willfully blind to, the Asserted Patents. Respondents have knowledge of the Asserted Patents as a result of the filing and/or service of this Complaint or related district court action. Additionally, prior to, or contemporaneous with, the filing of this Complaint, Respondents have had actual knowledge of the Asserted Patents by way of a notice letter. **Exhibits** 155-156.

64. Upon information and belief, Respondents knowingly induced and induce direct infringing acts by others with specific intent to encourage infringement by its customers. For example, Respondents actively induce customers' direct infringement by contracting with and encouraging customers to make, have made, use, sell, sell for importation, market, advertise, and/or import in the United States products that infringe the Asserted Patents, including for further example, customers contracting with Qualcomm to make, have made, use, sell, sell for importation, market, advertise, and/or import in the United States integrated circuits and components thereof. Respondents know, or should have known, that these induced acts directly infringe the Asserted Patents because of, for example, the infringement allegations and evidence provided in connection with this Complaint, and the aforementioned notice letters to Respondents.

65. Respondents also contribute to the foregoing infringement by customers by their making, having made, using, selling, selling for importation into the United States, marketing, advertising, and/or importing into the United States products that constitute a material part of the articles that practice the Asserted Patents. Respondents know, or should have known, that such Respondents' products have no substantial non-infringing uses, are a material part of the invention of each Asserted Patent, are especially made or especially adapted for use in an infringement of such patent, and are not a staple article or commodity of commerce suitable for substantial non-infringing use.

A. Samsung

2. Representative Involved Article

66. On information and belief, Samsung is engaged in the design, manufacture, and importation, sale for importation, and/or sale within the United States after importation, into the United States, of Accused Products that infringe literally or by equivalence at least the Asserted Patent Claims.

67. Pursuant to Commission Rule 210.12(a)(9)(viii), Complainant is required to chart "a representative involved article" of Samsung that violates Section 337. Complainant has obtained a Samsung S21 FE 5G smartphone (the "Samsung Representative Article"), which includes the Qualcomm Snapdragon 888 5G SoC, and which, on information and belief, Samsung imported, sold for importation, and/or sold within the United States after importation, into the United States.

68. Complainant believes that the Samsung Representative Article is exemplary of numerous other Accused Products imported into the United States, sold for importation into the United States, or sold within the United States after importation by Samsung, because such other devices feature the same or substantially similar infringing functionality. For example, the Samsung Galaxy Tab S7+ tablet contains a Qualcomm Snapdragon 865+. **Exhibit** 29 at 5, 6, https://www.samsung.com/us/tablets/tab-s7/buy/ (accessed August 22, 2022). As another example, the Samsung Galaxy Watch4 smartwatch contains the Samsung Exynos W920 SoC. **Exhibit** 30 at 5, https://www.samsung.com/global/galaxy/galaxy-watch4/specs/ (accessed August 22, 2022). Upon information and belief, the Qualcomm Snapdragon 865+ and Samsung Exynos W920 SoCs incorporated respectively in the Samsung Galaxy Tab S7+ tablet and Samsung Galaxy Watch4 smartwatch are substantially similar to the Qualcomm Snapdragon 888 5G SoC incorporated in the Samsung Representative Article (i.e., the Galaxy S21 FE 5G smartphone). Accordingly, on information and belief, numerous other devices that are covered by the Asserted Patent claims have been imported, sold for importation, or sold within the United States after importation, into the United States, by Samsung.

69. Pursuant to Commission Rule 210.12(a)(9)(x), **Exhibit** 152 contains photographs of the Samsung Representative Article. As set forth below, the charts in **Exhibits** 31-34 demonstrate that the Samsung Representative Article violates Section 337.

3. Infringement of the '833 Patent

70. **Exhibit** 31 includes a chart comparing independent claims 1 and 13 of the '833 Patent to the Samsung Representative Article. **Exhibit** 31 shows that the Samsung Representative Article is covered by at least claims 1 and 13 of the '833 Patent.

4. Infringement of the '494 Patent

71. **Exhibit** 32 includes a chart comparing independent claim 1 of the '494 Patent to the Samsung Representative Article. **Exhibit** 32 shows that the Samsung Representative Article is covered by at least claim 1 of the '494 Patent.

5. Infringement of the '080 Patent

72. **Exhibit** 33 includes a chart comparing independent claim 1 of the '080 Patent to the Samsung Representative Article. **Exhibit** 33 shows that the Samsung Representative Article is covered by at least claim 1 of the '080 Patent.

6. Infringement of the '588 Patent

73. **Exhibit** 34 includes a chart comparing independent claims 1 and 8 of the '588 Patent to the Samsung Representative Article. **Exhibit** 34 shows that the Samsung Representative Article is covered by at least claims 1 and 8 of the '588 Patent.

7. Specific Instance of Sale and Importation

74. Samsung imports, sells for importation, and/or sells within the United States after importation, into the United States, the Samsung Representative Article depicted in **Exhibit** 152.

75. Pursuant to Commission Rule 210.12(a)(3), **Exhibit** 35 contains the receipt from Samsung showing a sale of the Samsung Representative Article within the United States after importation into the United States. Complainant's counsel purchased the Samsung Representative Article (i.e., the Samsung S21 FE 5G smartphone) online in the United States on March 22, 2022 for shipment to its office in Boston, MA. **Exhibit** 35 at 1. The shipping label of this product shows that Samsung shipped the Samsung Representative Article from its warehouse in Coppell, TX, and the product arrived in Boston, Massachusetts on March 30, 2022. **Exhibit** 152 at 1. Upon receipt of the shipment in Boston, Complainant's counsel photographed the product packaging, which shows that the Samsung Representative Article was made in Vietnam. **Exhibit** 152 at 4. Therefore, the Samsung Representative Article was imported.

76. Thus, Samsung is violating Section 337 of the Tariff Act of 1930 by importing, selling for importation, and/or selling within the United States after importation, into the United States, the Samsung Representative Article, as well as other Accused Products that infringe the Asserted Patents.

B. Qualcomm

1. Representative Involved Article

77. On information and belief, Qualcomm is engaged in the design, manufacture, and importation, sale for importation, and/or sale within the United States after importation, into the United States, of Accused Products that infringe, literally or by equivalence, at least the Asserted Patent Claims.

78. Pursuant to Commission Rule 210.12(a)(9)(viii), Complainant is required to chart "a representative involved article" of Qualcomm that violates Section 337. Complainant has obtained a Samsung Galaxy S21 FE 5G smartphone, incorporating a Qualcomm Snapdragon 888 5G system on chip (i.e., the "Qualcomm Representative Article"), which Qualcomm imported, sold for importation, and/or sold within the United States after importation, into the United States. Complainant believes that the Qualcomm Representative Article is exemplary of numerous other Accused Products imported, sold for importation, or sold within the United States after importation, into the United States, by Qualcomm because such other devices feature the same or substantially similar infringing functionality. Accordingly, on information and belief, numerous other devices that are covered by the Asserted Patent Claims have been imported, sold for importation, or sold within the United States after importation, or sold within the United States.

79. Pursuant to Commission Rule 210.12(a)(9)(x), **Exhibit** 152 contains photographs of the Qualcomm Representative Article incorporated in the Samsung Galaxy S21 FE 5G smartphone (i.e., the Qualcomm Snapdragon 888 5G SoC). As set forth below, the charts in **Exhibits** 31–34 demonstrate that the Qualcomm Representative Article violates Section 337.

2. Infringement of the '833 Patent

80. **Exhibit** 31 includes a chart comparing independent claims 1 and 13 of the '833 Patent to the Qualcomm Representative Article incorporated in the Samsung Galaxy S21 FE 5G smartphone (i.e., the Qualcomm Snapdragon 888 5G SoC). **Exhibit** 31 shows that the Qualcomm Representative Article incorporated in the Samsung Galaxy S21 FE 5G smartphone (i.e., the Qualcomm Snapdragon 888 5G SoC) is covered by at least claims 1 and 13 of the '833 Patent.

3. Infringement of the '494 Patent

81. Exhibit 32 includes a chart comparing independent claim 1 of the '494 Patent to the Qualcomm Representative Article incorporated in the Samsung Galaxy S21 FE 5G smartphone (i.e., the Qualcomm Snapdragon 888 5G SoC). Exhibit 32 shows that the Qualcomm Representative Article incorporated in the Samsung Galaxy S21 FE 5G smartphone (i.e., the Qualcomm Snapdragon 888 5G SoC) is covered by at least claim 1 of the '494 Patent.

4. Infringement of the '080 Patent

82. Exhibit 33 includes a chart comparing independent claim 1 of the '080 Patent to the Qualcomm Representative Article incorporated in the Samsung Galaxy S21 FE 5G smartphone (i.e., the Qualcomm Snapdragon 888 5G SoC). Exhibit 33 shows that the Qualcomm Representative Article incorporated in the Samsung Galaxy S21 FE 5G smartphone (i.e., the Qualcomm Snapdragon 888 5G SoC) is covered by at least claim 1 of the '080 Patent.

5. Infringement of the '588 Patent

83. **Exhibit** 34 includes a chart comparing independent claims 1 and 8 of the '588 Patent to the Qualcomm Representative Article incorporated in the Samsung Galaxy S21 FE 5G smartphone (i.e., the Qualcomm Snapdragon 888 5G SoC). **Exhibit** 34 shows that the Qualcomm Representative Article incorporated in the Samsung Galaxy S21 FE 5G smartphone (i.e., the Qualcomm Snapdragon 888 5G SoC) is covered by at least claims 1 and 8 of the '588 Patent.

6. Specific Instance of Sale and Importation

84. Qualcomm imports, sells for importation, and/or sells within the United States after importation, into the United States, integrated circuits, including the Qualcomm Representative Article depicted in **Exhibit** 152.

85. Pursuant to Commission Rule 210.12(a)(3), Exhibit 35 contains a receipt showing a sale of a Samsung Representative Article (i.e., the Samsung S21 FE 5G smartphone), incorporating the Qualcomm Representative Article (i.e., the Qualcomm Snapdragon 888 5G system on chip), within the United States after importation into the United States. As described above, Complainant's counsel purchased a Samsung S21 FE 5G smartphone online in the United States on March 22, 2022 for shipment to its office in Boston, MA. Exhibit 35. The shipping label of this product shows that Samsung shipped the Samsung S21 FE 5G smartphone from its warehouse in Coppell, TX, and the product arrived in Boston, Massachusetts on March 30, 2022. Exhibit 152 at 1. Upon receipt of the Samsung Representative Article (i.e., the Samsung S21 FE 5G smartphone), Complainant's counsel photographed the packaging, which shows that the Samsung Representative Article was made in Vietnam, thereby evidencing the incorporation of the Qualcomm Representative Article into the Samsung Representative Article prior to importation into the United States. See Exhibit 152 at 4. Complainant's counsel photographed the Qualcomm Representative Article incorporated in the Samsung Representative Article. Exhibit 152 at 7-8 (showing the "Qualcomm Snapdragon 888 (SM8350)" SoC incorporated into the Samsung Representative Article). Furthermore, on information and belief, the Qualcomm Snapdragon 888 5G chip is fabricated by at least Samsung's 5nm (5LPE) node in Korea. See Exhibit 23 at 1-2, https://www.anandtech.com/show/16271/qualcomm-snapdragon-888-deep-dive (accessed May 17, 2022) (identifying Samsung 5nm (5LPE) for Snapdragon 888); Exhibit 24 at 4, https://www.tomshardware.com/news/samsung-foundry-update-5nm-socs-in-production-hpcshipments-to-expand-in-q4 (accessed May 17, 2022) ("Samsung Foundry's first 5LPE chips are made at its first EUV-dedicated V1 line in Hwaseong, South Korea. Eventually, it will also be

used at Samsung Foundry's upcoming production line in Pyeongtaek, South Korea, starting in the second half of 2021.") Therefore, the Qualcomm Representative Article was imported.

86. Thus, Qualcomm is violating Section 337 of the Tariff Act of 1930 by importing, selling for importation, and/or selling within the United States after importation, into the United States, the Qualcomm Representative Article, as well as other Accused Products that infringe the Asserted Patents.

V. HARMONIZED TARIFF SCHEDULE INFORMATION

87. On information and belief, the articles subject to this Complaint are classifiable under at least the following headings and subheadings of the Harmonized Tariff Schedule ("HTS") of the United States: 8517.13.00 (Smartphones); 8517.62.90 (Machines for the reception, conversion and transmission or regeneration of voice, images or other data, including switching and routing apparatus: Other); 8471.30.01 (Portable automatic data processing machines, weighing not more than 10 kg, consisting of at least a central processing unit, a keyboard and a display); 8542 (Electronic integrated circuits); 8541.21.00 (Transistors, other than photosensitive transistors); 8541.50.00 (Other semiconductor devices); 8542.31.00 (Processors and controllers, whether or not combined with memories, converters, logic circuits, amplifiers, clock and timing circuits, or other circuits); 8471.49.00 (Other automatic data processing machines entered in the form of systems); and 8471.50.01 (Processing units other than those of subheading 8471.41 or 8471.49, whether or not containing in the same housing one or two of the following types of unit: storage units, input units, output units).

88. These HTS identifications are for illustrative purposes only in compliance with the Commission Rules, and are not intended to restrict the scope of the Investigation.

VI. RELATED LITIGATION

89. Pursuant to Commission Rule 210.12(a)(5), Complainant is also asserting all Asserted Patents against the proposed Samsung Respondents in district court proceedings before the United States District Court for the Eastern District of Texas, styled as: Daedalus Prime LLC v. Samsung Elecs. Co., Ltd., et al., 2:22-cv-00352 (E.D. Tex.). Complainant is also asserting all Asserted Patents against Arrow Electronics, Inc., Avnet, Inc., Digi-key Corporation d/b/a Digi-Key Electronics, Future Electronics, Inc., Mazda Motor Corporation, Mazda Motor of America, Inc., Mazda North American Operations, Mercedes-Benz, AG, Mercedes-Benz Group AG, Mercedes-Benz USA, LLC, Mouser Electronics, Inc, Newark, NXP Semiconductors NV, NXP USA, Inc., Rochester Electronics, LLC, Visteon Corporation, MediaTek Inc., MediaTek USA Inc., Qualcomm Inc., and Qualcomm Technologies, Inc. in district court proceedings before the United States District Court for the District of Delaware, styled as: Daedalus Prime LLC v. Arrow *Electronics, Inc. et al.*, 1-22-cv-01107 (DDE); *Daedalus Prime LLC v. Mazda Motor Corporation* et al., 1-22-cv-01108 (DDE); Daedalus Prime LLC v. Mazda Motor Corporation et al., 1-22-cv-01109 (DDE); and in a complaint before the United States International Trade Commission, filed on August 23, 2022, and styled as Semiconductors and Devices and Products Containing the Same, Including Printed Circuit Boards, Automotive Parts, and Automobiles (Inv. No. 337-TA-3637). Complainant is also asserting a related patent against proposed Samsung Respondent, Samsung Electronics Co., Ltd., in proceedings before the Düsseldorf Regional Court, Patent Litigation Chamber located in Düsseldorf, Germany. No responsive pleadings have been filed in these proceedings. To Complainant's knowledge, the alleged unfair methods of competition and unfair acts, or the subject matter thereof, are not, and have not been, the subject of any court or agency litigation.

VII. DOMESTIC INDUSTRY RELATING TO THE ASSERTED PATENTS

90. Pursuant to Commission Rule 210.12(a)(6)(i), a domestic industry as defined in Section 337(a)(3) exists in the United States as the result of Intel's domestic activities related to the technology of the Asserted Patents and products that practice the Asserted Patents. In addition, a domestic industry is in the process of being established.

91. Pursuant to Commission Rule 210.12(a)(9)(iv), Complainant has attached a copy of the Daedalus license agreement with Intel as **Confidential Exhibit** 36C. *See, e.g.*, **Confidential Exhibit** 36C at § 5.1.

92. Pursuant to Commission Rule 210.12(a)(7), Daedalus is a patent management and licensing company.

A. Intel Corporation

93. Intel is a corporation duly organized and existing under the laws of the State of Delaware with a principal place of business located at 2200 Mission College Boulevard, Santa Clara, California.

94. Intel designs, develops, manufactures, and sells domestic industry products that practice the technology claimed by the Asserted Patents in the United States (collectively, the "DI Products"). The DI Products are and/or have been designed, developed, and/or manufactured as the result of significant and substantial levels of investments by Intel in the United States. These investments include significant and continuous investments in plant and equipment, and employment of labor or capital; and substantial and ongoing investments in engineering, research, and development of Intel's products that practice the Asserted Patents.³ Sections VII.B-VII.E, *infra.*⁴

95. Intel's investments in products presently under development constitute not only (i) an existing domestic industry, but also (ii) a domestic industry in the process of being established. For example, Intel's investments in products not yet commercialized or presently under development constitute necessary tangible steps to establish an industry in the United States. Also, there is a significant likelihood that the industry requirement will be satisfied in the future as to those products due to the projected demand and market for those products upon commercialization. Also, for example, on January 21, 2022, Intel "announced plans for an initial investment of more than \$20 billion in the construction of two new leading-edge chip factories in Ohio" and announced that this "investment will help boost production to meet the surging demand for advanced semiconductors, powering a new generation of innovative products from Intel and serving the needs of foundry customers as part of the company's IDM 2.0 strategy." Exhibit 37 at 9, https://www.intel.com/content/www/us/en/newsroom/news/intel-announces-next-us-sitelandmark-investment-ohio.html#gs.uv1cbl (accessed August 19, 2022). Intel announced that the new factory in Ohio is expected to create 3,000 Intel jobs. Exhibit 37 at 10. The Ohio fabs are expected to manufacture advanced chips at 2 nm and below, including Intel's 18A process node. Exhibit 153 https://www.theverge.com/2022/1/22/22895447/intel-ohio-chip-fab-4. at manufacturing-cpu-processor-explained (accessed Sept. 9, 2022). Upon information and belief, the technology disclosed in the Asserted Patents will facilitate continued improvements in SoC efficiency, and will therefore be used in Intel's future products. As a result of these investments,

³ On information and belief, the Intel products practicing the Asserted Patents comprise at least the following product families: Alder Lake; Rocket Lake; Tiger Lake; Ice Lake; and Denverton.

⁴ Daedalus intends to promptly seek discovery from Intel to verify the investments and allocations thereof detailed in Sections VII.B-VII.E, *infra*. *See also*, Exhibit 36C at §4.4(b).

a domestic industry exists and is in the process of being established in the United States: under Section 337(a)(3)(A) due to Intel's significant investment in plant and equipment; under Section 337(a)(3)(B) due to Intel's significant employment of labor or capital; and under Section 337(a)(3)(C) due to Intel's substantial investment in research and development with respect to each of the Asserted Patents.

B. Intel's U.S. Investments

96. Intel currently employs approximately 113,452 global employees, about 52,365 (46.16%) of which are located in the United States, and about 61,087 (53.84%) of which of which are located outside the United States. *See, e.g.*, **Exhibits** 39-67. In the year 2018, Intel was reported as employing 102,700 global employees, of which about 51,000 were in the U.S. *See* **Exhibit** 38 at 2, <u>https://www.bizjournals.com/portland/news/2018/03/29/intels-oregon-workforce-number-hits-new-high.html</u> (accessed August 19, 2022).

97. Of Intel's 52,365 employees currently in the U.S., approximately 17,565 (33.54%) are located in Intel's U.S. non-fab locations (e.g., California, Texas, Colorado, and Massachusetts), and approximately 34,800 (66.46%) are located in its U.S. fab locations (e.g., Oregon, Arizona, and New Mexico). *See, e.g.*, **Exhibits** 39-67. Thus, based on these headcount totals, approximately 33.54% of Intel's investments in the U.S. relate to, or support, R&D; whereas 66.46% of Intel's investments in the U.S. relate to, or support, R&D; whereas factories in Ohio are expected to create 3,000 Intel jobs, thereby increasing (i) the U.S. employee headcount to approximately 55,365; (ii) the fab location headcount to approximately 37,800 (68.27%); and (iii) Intel's investments related to, or support, manufacturing to 68.27%. *See, e.g.*, **Exhibits** 37, 39-67.

98. During its fiscal years 2017-2021, and Q1 2022, Intel offered a range of products, including (i) products having a release date of 2017 onwards, and (ii) products released

as early as 2012 but still designated as "Launched" (i.e., not "Discontinued") on Intel's website. These included 1,922 products: 1,079 processors (784 with release date of 2017 onwards and 295 released since 2012 and still "launched"), 254 FPGAs (100 with release date of 2017 onwards and 154 released since 2012 and still "launched"), 79 chipsets (68 with release date of 2017 onwards and 11 released since 2012 and still "launched"), 106 servers (95 with release date of 2017 onwards and 11 released since 2012 and still "launched"), 12 structured ASICs, 149 NUCs (148 with release date of 2017 onwards and 1 released since 2012 and still "launched"), 8 GPUs, 24 Wireless products (18 with release date of 2017 onwards and 6 released since 2012 and still "launched"), 75 Ethernet products (44 with release date of 2017 onwards and 6 released since 2012 and still "launched"), and 136 Memory and Storage products (all released since 2017). *See* Exhibit 68; *see generally* https://www.intel.com/content/www/us/en/products/overview.html.

99. Intel also offers several product families which, on information and belief, practice at least the Asserted '833, '494, and '588 Patents, five of which are: (i) Alder Lake; (ii) Rocket Lake; (iii) Tiger Lake; (iv) Ice Lake; and (v) Denverton. For purposes of this complaint, Daedalus identifies these product families as the "Exemplary DI Families" and reserves all rights to identify additional domestic industry products in the future. In addition, at least 27 out of 56 of Intel's Alder Lake product family members, i.e., specifically those that incorporate Intel's "Hybrid Architecture," practice the '080 Patent. For purposes of this complaint, Daedalus identifies this subset of the Alder Lake product family as the "'080 Exemplary DI Families."

100. Of the aforementioned 1,922 product releases since 2017 (and products released since 2012 and not discontinued according to Intel's website), at least 56 are in the Alder Lake family (47 processors and 9 chipsets), at least 41 are in the Rocket Lake family (29 processors and 12 chipsets), at least 40 are in the Tiger Lake family (38 processors and 2 chipsets), at least 91

are in the Ice Lake family (91 processors), and at least 20 are in the Denverton family (20 processors). *See* Exhibit 68; https://www.intel.com/content/www/us/en/products/overview.html.

101. Based on a straight-line proportion of Intel's 1,922 products, those Exemplary DI Families comprise 12.90% (248/1,922) of Intel's products launched on or after January 1, 2017. These figures are broken down by processor family code name, below.

Product Family Codename /	Number of	Percentage of Total Intel Product
Process	Products	Releases since 2017 and Launched
	Released Since	Products since 2012
	2017	
Alder Lake	56	2.91%
'080 Exemplary DI Families	27	1.40%
Rocket Lake	41	2.13%
Tiger Lake	40	2.08%
Ice Lake	91	4.73%
Denverton	20	1.04%
Total Exemplary DI Families:	248	12.9%
Total Intel Products:	1,922	

102. Intel's annual report list its cost of sales across all product lines for fiscal years 2019-2021. Exhibit 11 at 37 (Intel 2021 Form 10-K).

103. Based on the percentages of the Exemplary DI Families listed above (totaling 12.9%), plus taking into account Intel's U.S. headcount percentage of 46.16% (an estimated 33.54% of which are dedicated to R&D in the U.S. and approximately 66.46% of which are dedicated to manufacturing in the U.S.), the cost of sales attributable to the Exemplary DI Products since 2019 in the U.S. are as follows:

Cost of Sales ⁵	Q1-Q4 2019	Q1-Q4 2020	Q1-Q4 2021	Total
Alder Lake	\$400,626,102	\$460,132,343	\$472,947,005	\$1,553,612,013
'080 Exemplary DI Families	\$192,300,528.96	\$220,863,524.64	\$227,014,562.40	\$745,733,766.24
Rocket Lake	\$293,241,786	\$336,797,900	\$346,177,705	\$1,137,257,953
Tiger Lake	\$286,358,176	\$328,891,846	\$338,051,468	\$1,110,557,808
Ice Lake	\$651,189,506	\$747,912,708	\$768,742,039	\$2,525,244,978
Denverton	\$143,179,088	\$164,445,923	\$169,025,734	\$555,278,904
Cost of Sales Allocable	\$1,774,594,658	\$2,038,180,721	\$2,094,943,950	\$6,881,951,656
to Exemplary DI				
Products (U.S.)				
Exemplary DI Families	\$595,199,048	\$683,605,814	\$702,644,201	\$2,308,206,585
R&D U.S. Total				
(estimated):				
Exemplary DI Families	\$1,179,395,610	\$1,354,574,907	\$1,392,299,749	\$4,573,745,070
Manufacturing U.S.				
Total (estimated):				
Cost of Sales (Total U.S.)	\$13,767,220,000	\$15,812,108,000	\$16,252,474,400	\$50,036,516,800
Cost of Sales (Total W.W.)	\$29,825,000,000	\$34,255,000,000	\$35,209,000,000	\$108,398,000,000

C. Intel's Significant Investment in Plant and Equipment

1. Square Footage of Buildings Owned

104. Intel's annual reports from fiscal years 2019-2021 disclose that Intel owned approximately 32,000,000 sq. ft. of buildings in the U.S., which equated to 52.5% of Intel's global footprint of 61,000,000 sq. ft., in 2021. **Exhibits** 11-13 (Intel Form 10-K, 2021, 2020, 2019).

105. Using the same percentages listed above in ¶¶ 96-97 and 101, the chart

below shows the U.S.-based square-footage of buildings allocable to the five Exemplary DI

Families (approx. 4,124,800 sq. ft. in 2021, which is approx. 6.76% of Intel's overall footprint in

2021).

 $^{^{5}}$ Cost of Sales includes investments that would likely qualify under all three subsections 337(a)(3)(A), (B), and (C).

Plant (sq. ft.)	Q1-Q4 2019	Q1-Q4 2020	Q1-Q4 2021
Alder Lake	934,110	931,200	931,200
'080 Exemplary DI Families	448,373	446,976	446,976
Rocket Lake	683,730	681,600	681,600
Tiger Lake	667,680	665,600	665,600
Ice Lake	1,518,330	1,513,600	1,513,600
Denverton	333,840	332,800	332,800
Sq. Ft. Allocable to DI Products	4,137,690	4,124,800	4,124,800
(U.S.)			
Exemplary DI Families R&D U.S.	1,387,781	1,383,458	1,383,458
Total (estimated):			
Exemplary DI Families	2,749,909	2,741,342	2,741,342
Manufacturing U.S. Total			
(estimated):			
Intel (Total U.S.)	32,100,000	32,000,000	32,000,000
Intel (Total W.W.)	59,800,000	60,000,000	61,000,000

106. Intel invests significant sums, and is in the process of investing additional significant sums, in domestic plant and equipment relating to the DI Products. "The majority of [Intel's] logic wafer manufacturing is conducted in the U.S." **Exhibit** 11 at 12 (Intel 2021 Form 10-K). Intel's "Main U.S. Activities" are "logic wafer manufacturing; microprocessor manufacturing; R&D; enterprise platform design; hardware and software engineering." *Id.*

107. Intel owns and operates semiconductor fabrication facilities in, e.g., Chandler, Arizona; Rio Rancho, New Mexico; and Hillsboro, Oregon; and has a planned future site in Ohio. **Exhibit** 69 at 2, <u>https://www.intel.com/content/www/us/en/architecture-and-technology/global-manufacturing.html</u> (accessed August 23, 2022).

108. Intel also owns and operates research and development facilities across the United States. For example, in Folsom, California, Intel reports that "[w]ith seven buildings totaling over 1.5 million square feet of office, test floor, and lab space, Intel Folsom is one of our largest Intel sites and one of the largest private sector employers in the area[, and] as a research and development campus, Folsom employees create, test, and validate the next generation of chips and chipsets, including desktop, mobile, and server processor products." **Exhibit** 70 at 1,

https://www.intel.com/content/www/us/en/jobs/locations/united-states/sites/folsom.html

(accessed August 19, 2022).

2. Value of Land and Buildings

109. According to Intel's annual reports from fiscal years 2019-2021, Intel's net value of land and buildings was \$37.7 billion in 2019, \$37.5 billion in 2020, and \$40.0 billion in 2021. Exhibits 11-13(Intel Form 10-K, 2021, 2020, 2019).

110. In taking a headcount allocation of 46.16% to account for Intel's U.S.-based employees vs. Intel's non-U.S.-based employees, Intel's net value of land and buildings was \$17.4 billion in 2019, \$17.3 billion in 2020, and \$18.4 billion in 2021.⁶ Exhibits 11-13 (Intel Form 10-K, 2021, 2020, 2019).

111. Based on a straight-line proportion of Intel's 1,922 products, the U.S.-based net value of land and buildings allocable to the five Exemplary DI Families are as follows (approx. \$2.3 billion in 2021, which is approx. 5.95% of Intel's overall net value of land and buildings in 2021).

112. Using the same percentages listed above in ¶¶ 96-97 and 101, of the estimated \$2.3 billion of the net value of land and buildings allocable to the five Exemplary DI Families, approximately \$799 million, or 33.54%, is estimated to be dedicated to U.S.-based R&D; and approximately \$1.5 billion, or 66.46%, is estimated to be dedicated to U.S.-based manufacturing:

⁶ These amounts exclude accumulated depreciation.

Plant (\$) (Land, Buildings)	Q1-Q4 2019	Q1-Q4 2020	Q1-Q4 2021
Alder Lake	\$506,985,112	\$504,204,572	\$537,826,270
'080 Exemplary DI Families	\$243,352,853	\$242,018,194	\$258,156,609
Rocket Lake	\$371,092,195	\$369,056,955	\$393,666,651
Tiger Lake	\$362,381,111	\$360,393,646	\$384,425,650
Ice Lake	\$824,068,584	\$819,549,012	\$874,198,714
Denverton	\$181,190,556	\$180,196,823	\$192,212,825
Exemplary DI Families U.S. Total	\$2,245,717,558	\$2,233,401,009	\$2,382,330,109
(estimated)			
Exemplary DI Families R&D U.S.	\$753,213,669	\$749,082,698	\$799,033,519
Total (estimated):			
Exemplary DI Families	\$1,492,503,889	\$1,484,318,310	\$1,583,296,591
Manufacturing U.S. Total			
(estimated):			
Plant (Total U.S.)	\$17,422,168,800	\$17,326,617,600	\$18,482,002,400
Plant (Total W.W.)	\$37,743,000,000	\$37,536,000,000	\$40,039,000,000

113. Additionally, Intel's annual reports show that Intel spent significant amounts on construction in the United States during this same period. **Exhibit** 11 at 86 (Intel 2021 Form 10-K).

114. Using the same percentages listed above in ¶¶ 96-97 and 101, the chart below shows the amounts per family of the five Exemplary DI Families using the same allocation methodology (approx. 1.28 billion, which is approx. 5.95% of Intel's overall net of construction in 2021).

Plant (\$) (Land, Buildings)	Q1-Q4 2019	Q1-Q4 2020	Q1-Q4 2021
Alder Lake	\$215,767,211	\$232,504,181	\$289,404,505
'080 Exemplary DI Families	\$103,568,261	\$111,602,007	\$138,914,162
Rocket Lake	\$157,932,701	\$170,183,473	\$211,832,164
Tiger Lake	\$154,225,361	\$166,188,556	\$206,859,578
Ice Lake	\$350,714,402	\$377,919,167	\$470,406,636
Denverton	\$77,112,680	\$83,094,278	\$103,429,789
Exemplary DI Families U.S. Total	\$955,752,355	\$1,029,889,654	\$1,281,932,671
(estimated)			
Exemplary DI Families R&D U.S.	\$320,559,340	\$345,424,990	\$429,960,218
Total (estimated):			
Exemplary DI Families	\$635,193,015	\$684,464,664	\$851,972,453
Manufacturing U.S. Total			
(estimated):			
Construction (Total U.S.)	\$7,414,680,800	\$7,989,834,400	\$9,945,172,000
Construction (Total W.W.)	\$16,063,000,000	\$17,309,000,000	\$21,545,000,000

3. Investments in Machinery and Equipment

115. Intel has also made significant investments in the machinery and equipment

used to manufacture and test the domestic industry products in the United States. Exhibit 11 at

86 (Intel 2021 Form 10-K).

116. Using the same percentages listed above in ¶¶ 96-97 and 101, from 2019–

2021, Intel invested the following estimated amounts based upon the same methodology:

Machinery and Equipment (\$)	Q1-Q4 2019	Q1-Q4 2020	Q1-Q4 2021
Alder Lake	\$1,006,112,177	\$1,066,330,343	\$1,168,028,255
'080 Exemplary DI Families	\$482,933,845	\$511,838,565	\$560,653,562
Rocket Lake	\$736,432,624	\$780,509,839	\$854,948,516
Tiger Lake	\$719,145,473	\$762,188,012	\$834,879,302
Ice Lake	\$1,635,364,466	\$1,733,244,853	\$1,898,547,644
Denverton	\$359,572,737	\$381,094,006	\$417,439,651
DI Product Total (estimated)	\$4,456,627,476	\$4,723,367,052	\$5,173,843,369
Exemplary DI Families R&D	\$1,494,752,856	\$1,584,217,309	\$1,735,307,066
U.S. Total (estimated):			
Exemplary DI Families	\$2,961,874,621	\$3,139,149,743	\$3,438,536,303
Manufacturing U.S. Total			
(estimated):			
Machinery/Equipment	\$34,574,301,600	\$36,643,654,400	\$40,138,428,000
Investments (Total U.S.)			
Machinery/Equipment	\$74,901,000,000	\$79,384,000,000	\$86,955,000,000
Investments (Total W.W.)			

D. Intel's Significant Investment in Labor and/or Capital

1. Number of Employees

117. A domestic industry as defined by 19 U.S.C. § 1337(a)(3)(B) exists in the United States with respect to the articles protected by the Asserted Patents by reason of Intel's significant employment of labor and/or capital. As noted above, Intel currently employs approximately 113,452 global employees, about 52,365 (46.16%) of which are located in the United States, and about 61,087 (53.84%) of which are located outside the United States. *See, e.g.*, **Exhibits** 39-67.

118. Significant numbers of Intel employees work in the United States relating to, or supporting, R&D (approx. 33.54%) and relating to, or supporting, manufacturing (approx. 66.46%). *See, e.g.*, **Exhibits** 39-67. For example, in taking 12.9% of Intel's overall costs associated with the five product families as part of the DI Products, an estimated 7,211 of Intel's 55,900 U.S. employees are dedicated to those five product families.

119. Using the same percentages listed above in ¶¶ 96-97 and 101, the chart below shows the approximate number of U.S.-based employees dedicated to the five Exemplary DI Families.

Labor (Headcount)	Q1-Q4 2019	Q1-Q4 2020	Q1-Q4 2021
Alder Lake	1,488	1,486	1,627
'080 Exemplary DI Families	714	713	781
Rocket Lake	1,089	1,087	1,191
Tiger Lake	1,064	1,062	1,163
Ice Lake	2,419	2,415	2,644
Denverton	532	531	581
Headcount Allocable to DI Products	6,593	6,581	7,205
(U.S.)			
Exemplary DI Families R&D U.S.	2,211	2,207	2,417
Total (estimated):			
Exemplary DI Families	4,381	4,374	4,789
Manufacturing U.S. Total			
(estimated):			
Total Intel Headcount (Total U.S.)	51,145	51,053	55,900
Total Intel Headcount (Total W.W.)	110,800	110,600	121,100

2. Marketing and G&A Expenses

120. Intel has also made significant investments in marketing the Exemplary DI

Families, as well as in general and administrative ("G&A") expenses related to the Exemplary DI

Families. Exhibit 11 at 37, 40 (Intel 2021 Form 10-K).

121. Using the same percentages listed above in ¶¶ 96-97 and 101, the chart below shows the approximate amount of investment Intel has made in these areas related to the five Exemplary DI Families using the same in-line product allocation.

Marketing and G&A (\$)	Q1-Q4 2019	Q1-Q4 2020	Q1-Q4 2021
Alder Lake	\$85,296,756	\$83,013,221	\$87,889,240
'080 Exemplary DI Families	\$40,942,443	\$39,846,346	\$42,186,835
Rocket Lake	\$62,433,708	\$60,762,254	\$64,331,299
Tiger Lake	\$60,968,128	\$59,335,910	\$62,821,175
Ice Lake	\$138,643,868	\$134,932,142	\$142,857,768
Denverton	\$30,484,064	\$29,667,955	\$31,410,588
Marketing and G&A \$ Allocable to	\$377,826,524	\$367,711,483	\$389,310,070
Exemplary DI Products (U.S.)			
Marketing and G&A (Total U.S.)	\$2,931,160,000	\$2,852,688,000	\$3,020,248,800
Marketing and G&A (Total W.W.)	\$6,350,000,000	\$6,180,000,000	\$6,543,000,000

122. These marketing and G&A numbers alone demonstrate that Intel's employment of labor and capital comprise a domestic industry in the United States with respect to the Asserted Patents.

E. Intel's Substantial Investment in the Exploitation of the Asserted Patents

1. **R&D** Expenditures

123. A domestic industry as defined by 19 U.S.C. § 1337(a)(3)(C) exists in the

United States with respect to the Asserted Patents by reason of Intel's substantial investment in its engineering, research, and development ("R&D") directed to its products covered by the Asserted Patents.

124. Intel's total investment in research and development for fiscal years 2019-2021 and Q1 2022 was \$46,508,000,000. **Exhibit** 11 at 37 (Intel 2021 Form 10-K). The approximate U.S. portion of that expenditure was \$21,468,092,800.

125. Using the same percentages listed above in ¶¶ 96-97 and 101, allocating the approximate U.S. R&D expenditure to the products covered by the Asserted Patents, using the same in-line allocation by processor family shows the following:

R&D (\$)	Q1-Q4 2019	Q1-Q4 2020	Q1-Q4 2021
Alder Lake	\$179,485,867	\$182,091,783	\$204,040,586
'080 Exemplary DI Families	\$86,153,216	\$87,404,056	\$97,939,481
Rocket Lake	\$131,376,253	\$133,283,676	\$149,349,295
Tiger Lake	\$128,292,303	\$130,154,952	\$145,843,443
Ice Lake	\$291,741,632	\$295,977,366	\$331,653,599
Denverton	\$64,146,152	\$65,077,476	\$72,921,722
R&D \$ Allocable to Exemplary	\$795,042,207	\$806,585,253	\$903,808,646
DI Products (U.S.)			
R&D (Total U.S.)	\$6,167,899,200	\$6,257,449,600	\$7,011,704,000
R&D (Total W.W.)	\$13,362,000,000	\$13,556,000,000	\$15,190,000,000

126. In sum, Intel has expended, and will continue to expend, significant and substantial domestic resources in plant and equipment, labor or capital, research and development,

and engineering, in connection with the design, development, support, and manufacture of the DI Products including the Exemplary DI Products. A domestic industry therefore exists, and is in the process of being established, in connection with the Asserted Patents.

127. Pursuant to Commission Rule 210.12(a)(9)(ix), Complainant is required to chart "a representative involved domestic article" of Intel to an exemplary claim of each involved Asserted Patent. As described above, Complainant believes that at least the Intel 12^{th} Generation Intel Core i5-12600K processor (also sometimes referred to by its code name "Alder Lake") (the "DI Representative Article"), is exemplary of numerous other DI Products because such other devices feature the same or substantially similar functionality. Pursuant to Commission Rule 210.12(a)(9)(x), **Exhibit** 71 contains photographs of the DI Representative Article.

F. The DI Representative Article Practices each of the Asserted Patents.

128. **Exhibit** 14 includes a chart comparing independent claim 1 of the '833 Patent to the DI Representative Article. **Exhibit** 14 shows that the DI Representative Article practices at least one claim of the '833 Patent.

129. **Exhibit** 15 includes a chart comparing independent claim 1 of the '494 Patent to the DI Representative Article. **Exhibit** 15 shows that the DI Representative Article practices at least one claim of the '494 Patent.

130. **Exhibit** 16 includes a chart comparing independent claim 1 of the '080 Patent to the DI Representative Article. **Exhibit** 16 shows that the DI Representative Article practices at least one claim of the '080 Patent.

131. **Exhibit** 17 includes a chart comparing independent claim 1 of the '588 Patent to the DI Representative Article. **Exhibit** 17 shows that the DI Representative Article practices at least one claim of the '588 Patent.

VIII. REQUESTED REMEDIAL ORDERS

A. Limited Exclusion Order

132. Pursuant to Section 337(d), Daedalus respectfully requests that a limited exclusion order be entered against each named Respondent and its subsidiaries, predecessors, affiliates, agents, successors, and assigns, in order to remedy the Respondents' violation of Section 337 and to prevent such future violations by Respondents, barring from entry into the United States all articles that directly infringe, contributorily infringe, and/or induce the infringement of, literally or under the doctrine of equivalents, the Asserted Patents.

B. Cease and Desist Order

133. Cease and desist orders against all named Respondents are appropriate under Section 337(f), which provides that the Commission may issue a cease and desist order against any person violating Section 337, prohibiting each Respondent and their subsidiaries, predecessors, affiliates, agents, successors, and assigns from engaging in the (a) importation, sale for importation, and/or sale within the United States after importation of such articles, (b) marketing, distributing, offering for sale, selling, or otherwise transferring (except for exportation) in the United States such articles, (c) advertising such imported articles, (d) soliciting U.S. agents, retailers, resellers, or distributors for such articles, and (e) aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer (except for exportation), or distribution of such articles. On information and belief, Qualcomm and Samsung maintain or may maintain by the conclusion of the evidentiary hearing (or are involved in the direction of others in maintaining) commercially significant inventory of integrated circuits, mobile devices containing the same (i.e., smartphones, tablets, and smartwatches), and components thereof, including at least at Samsung's warehouse facility located at 240 Dividend Drive, Coppell, TX. Exhibit 154 at 1-2. In particular, at least certain Samsung products ordered directly from Samsung's U.S. website,

https://www.samsung.com/us/, have been shipped from the Samsung warehouse facility located at 240 Dividend Drive, Coppell, TX. **Exhibit** 152 at 1; **Exhibit** 35 at 1. Furthermore, upon information and belief, Qualcomm utilizes a vast network of distributors to maintain commercially significant inventory, including in the United States market. **Exhibit** 157, https://www.qualcomm.com/support/qan/member-

<u>directory?facetMemberships=Authorized%20Distributor%20Program</u> (accessed on Sept. 10, 2022). Additionally, whereas here, Samsung's and Qualcomm's infringing integrated circuits, mobile devices containing the same, (i.e., smartphones, tablets, and smartphones), and components thereof are easily concealed, and it is difficult to identify the source of infringing goods, a cease and desist order is necessary to ensure compliance with the requested remedial orders. At least for the foregoing reasons, cease and desist orders are an appropriate remedy to prevent the widespread violation of Daedalus's patent rights.

IX. RELIEF REQUESTED

134. WHEREFORE, by reason of the foregoing, pursuant to Commission Rule210.12(a)(11), Complainant requests that the United States International Trade Commission:

a. Institute an investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, with respect to the Respondents' violations of Section 337 based on the design, manufacture, importation into the United States, sale for importation into the United States, sale within the United States after importation, and instruction of purchasers on the infringing use of any articles, including integrated circuits, mobile devices containing the same, and components thereof, that infringe one or more claims of one or more of the Asserted Patents;

b. Schedule and conduct an evidentiary hearing on permanent relief pursuant to 19 U.S.C. § 1337(d) and (f) of the Tariff Act of 1930, as amended;

c. Issue a Limited Exclusion Order specifically directed to each named Respondent and its subsidiaries, predecessors, affiliates, agents, successors, and assigns, pursuant to 19 U.S.C. § 1337(d), excluding from entry into the United States any articles, including integrated circuits, mobile devices containing the same, and components thereof, that infringe one or more of the Asserted Patents;

d. Issue permanent cease and desist orders pursuant to 19 U.S.C. § 1337(f) prohibiting each Respondent and its subsidiaries, predecessors, affiliates, agents, successors, and assigns, from, among other things, importing, selling, offering for sale (including via the Internet or electronic mail), advertising (including via the Internet or electronic mail), or distributing articles, including integrated circuits, mobile devices containing the same, and components thereof, that infringe one or more claims of one or more of the Asserted Patents; and

e. Impose a bond upon each Respondent and its subsidiaries, predecessors, affiliates, agents, successors, and assigns, who continues to import infringing articles, including infringing integrated circuits, mobile devices containing the same, and components thereof, during the 60-day-Presidential review period per 19 U.S.C. § 1337(j); and issue such other and further relief as the Commission deems just and proper under the law, based upon the facts determined by the investigation and the authority of the Commission.

Respectfully submitted,

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