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VIA EDIS

July 2, 2020

The Honorable Lisa R. Barton
Secretary to the Commission
U.S. International Trade Commission
500 E Street, S.W., Room 112
Washington, D.C. 20436

Re: *Certain Electronic Devices, Including Computers, Tablet Computers, and Components and Modules Thereof*, Inv. No. 337-TA-____

Dear Secretary Barton:

Enclosed for filing, please find documents in support of a request by Complainants Nokia Technologies Oy and Nokia Corporation (“Complainants” or “Nokia”) that the U.S. International Trade Commission institute an investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, concerning certain Electronic Devices, Including Computers, Tablet Computers, and Components and Modules Thereof. We have included a separate letter requesting confidential treatment of the Complaint and certain exhibits included with this filing. We have enclosed public versions of the Complaint and certain confidential exhibits.

On March 16, 2020, the Commission provided “notice that it is temporarily waiving and amending certain of the Commission’s rules that required the filing of paper copies, CD-ROMS, and other physical media in section 337 investigations to address concerns about COVID-19.” International Trade Commission, Temporary Changes to Filing Procedures, Federal Register Vol. 85, No. 54 (March 19, 2020). Specifically, the Commission approved the temporary amendment of various rules “to permit parties to file section 337 complaints, exhibits, attachments, and appendices, electronically.” *Id.* Accordingly, Complainants’ filing only contains electronic versions of exhibits. Complainants confirm that they will serve copies of the Complaint and all associated exhibits, upon institution of this investigation, on all Respondents and other entities consistent with 19 CFR 201.

Complainant’s submission via EDIS includes the following documents:

1. One (1) electronic copy of the Confidential Complaint, pursuant to Commission Rule 210.8(a)(1)(i).

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Nokia Exhibit 2010, p. 1
Snap v. Nokia
IPR2025-01338

2. One (1) electronic copy of the public Complaint and public exhibits to the Complaint, pursuant to Commission Rules 210.8(a)(1)(i) and 210.12(a)(9).
3. One (1) electronic copy of the confidential exhibits to the Complaint, pursuant to Commission Rules 201.6(c) and 210.8(a)(1)(ii).
4. One (1) electronic copy of certified versions of the Asserted Patents¹ pursuant to Commission Rule 210.12(a)(9)(i).
5. One (1) electronic copy of certified versions of the assignment¹ of the Asserted Patents pursuant to Commission Rules 210.12(a)(9)(ii).
6. One (1) electronic copy of certified versions of the U.S. Patent and Trademark Office prosecution history¹ for each Asserted Patent, pursuant to Commission Rules 210.12(c)(i).
7. One (1) electronic copy of each patent and applicable pages of each technical reference mentioned in the prosecution history of each Asserted Patent, pursuant to Commission Rules 210.12(c)(ii).
8. One (1) electronic copy of a letter and certification requesting confidential treatment for the information contained in the Complaint and Confidential Exhibits 13C through 18C pursuant to Commission Rules 201.6(b) and 210.5(d).
9. One (1) electronic copy of a statement on the Public Interest regarding the remedial orders sought by the Complainants in the Complaint, pursuant to Commission Rule 210.8(b).

Thank you for your attention to this matter. Please contact me with any questions regarding this filing.

Sincerely,



Adam D. Swain
Counsel for Complainants
Nokia Technologies Oy and
Nokia Corporation

¹ Complainants have ordered a certified copy of the patent, assignment record, and file history for U.S. Pat. Nos. 7,724,818 and 8,583,706 and expects it to arrive in short order. Complainants will file the certified copy with the Commission promptly upon receipt.

**U.S. INTERNATIONAL TRADE COMMISSION
WASHINGTON, DC**

In the Matter of

**Certain Electronic Devices, Including
Computers, Tablet Computers, and
Components and Modules Thereof**

Investigation No. 337-TA-_____

COMPLAINANTS' PUBLIC INTEREST STATEMENT

Complainants Nokia Technologies Oy and Nokia Corporation (collectively, “Nokia” or “Complainants”) hereby submit comments on potential public interest concerns related to the remedy sought in Nokia’s Complaint.

I. Scope of the Remedy Sought

Nokia is seeking a limited exclusion order barring importation of certain electronic devices that are imported, sold for importation, and/or sold after importation by Proposed Respondents Lenovo Group Limited; Lenovo (United States), Inc.; Lenovo (Beijing) Limited.; Lenovo PC HK Limited; Lenovo (Shanghai) Electronics Technology Co. Ltd.; Lenovo Information Products Shenzhen Co. Ltd.; Lenovo Mobile Communication; Lenovo Corporation; Lenovo Centro Tecnológico S. de RL CV (collectively, “Respondents” or “Lenovo”). Namely, Nokia seeks to exclude electronic devices that infringe one or more of claims of the Asserted Patents as defined in the Complaint herein. Nokia also seeks cease and desist orders prohibiting Lenovo and its subsidiaries, related companies, and agents from engaging in further unfair acts relating to the infringing electronic devices.¹

¹ Nokia does not currently seek to exclude Lenovo products that include cellular functionality.

II. How the Articles Potentially Subject to the Requested Remedial Orders Are Used in the United States

The accused Lenovo products are largely laptop, tablet, and desktop computers. Examples of the Accused Products are Lenovo's ThinkPad, IdeaPad, and Flex lines of laptops. U.S. consumers use the Accused Products for a variety of internet, entertainment, and social media services.

III. There Are No Public Health, Safety, or Welfare Concerns Relating to the Requested Remedy

Issuance of the requested remedial orders would have no adverse effect on the public health, safety, or welfare in the United States. Generally, concerns about a negative impact on public health, safety, or welfare have arisen in rare and narrow cases involving pharmaceuticals, essential equipment for medical treatment, or green technology products, such as hybrid cars and solar panels. No such concerns are present here. On the contrary, the requested relief serves the public interest because, as previously recognized by the Commission, there is a strong public interest in protecting intellectual property rights. *See, e.g., Certain Baseband Processor Chips and Chipsets, Transmitter and Receiver (Radio) Chips, Power Control Chips, and Products Containing Same, Including Cellular Telephone Handsets*, Inv. No. 337-TA-543, Comm'n Op. at 136-37 (June 19, 2007). This strong interest in protecting Nokia's intellectual property rights and the domestic industry set forth in the Complaint far outweighs any hypothetical adverse effect on the public.

The fact that this investigation includes allegations of infringement related to the use of H.264 technology for claims in four of the five Asserted Patents does not raise any particular public interest concern. The International Telecommunications Union (ITU) and the International Standards Organization (ISO) jointly publish the H.264 standard, which is also referred to as "MPEG-4 part 10," or "Advanced Video Coding." The ITU defines as "essential"

only patent claims that are essential or necessary for implementation of a specific Recommendation.²

Many of the claims in the four H.264-related Asserted Patents in this case are not essential according to the ITU definition and are not necessary for implementation of any specific Recommendation, and thus do not implicate any public interest concern that might be considered to arise with respect to essential patents.³ Moreover, even if some of the claims in the four Asserted Patents are adjudged or admitted to be essential to the H.264 standard, this would not raise a public interest concern in this investigation as to those claims. Nokia's Complaint comes only after more than a year of unsuccessful attempts to license Lenovo to the standard-essential claims of Nokia's H.264 portfolio, which includes the Asserted Patents, under reasonable and non-discriminatory ("RAND") terms and conditions.

As detailed in the Complaint, Nokia has at all times negotiated in good-faith with Lenovo, complying with Nokia's RAND commitment to the ITU at every step of the way (Complaint at Section V.B). For example, Nokia has provided Lenovo with a list of infringed patents which include the Asserted Patents, detailed proof of Lenovo's infringement of those patents, and sent high-level executives and technical experts for in-person licensing discussions. Nokia has also offered Lenovo a license to the standard-essential claims in Nokia's H.264 portfolio at a rate that is demonstrably RAND and supported by dozens of licenses in the industry. Nokia also approached Lenovo with an offer to arbitrate whether Nokia's licensing offer was consistent with Nokia's RAND obligations under the ITU Common Patent Policy and Nokia's relevant declarations. Lenovo did not accept either of Nokia's offers.

² See Compl. Ex. 21, at Annex 2, p 2.

³ U.S. Patent No. 8,583,706 does not implicate the use of H.264 technology at all.

Lenovo, on the other hand, has refused to meaningfully engage with Nokia, and its conduct places it squarely in the definition of an “unwilling licensee.” *See, e.g., Apple v. Motorola, Inc.*, 757 F.3d 1286, 1332 (Fed. Cir. 2014); U.S. Dep’t. of Justice and U.S. Patent and Trademark Office, Policy Statement on Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Commitments, at 7-8 (Jan. 8, 2013) (“For example, if a putative licensee . . . refuses to engage in a negotiation to determine F/RAND terms, an exclusion order could be appropriate.”). Nokia is left with little recourse but to invoke the Commission’s authority to put an end to Lenovo’s unfair trade practices. Accordingly, under the circumstances here, where Lenovo has engaged in unreasonable hold-out despite Nokia’s repeated overtures, the requested relief premised upon standard-essential patent claims does not raise a legitimate public interest concern. Moreover, the question of whether to issue remedial orders based on standards-essential patent claims is evaluated as part of the Commission’s remedial stage, which comes after a determination that a violation has occurred. *Certain Industrial Control System Software, Systems Using Same, and Components Thereof*, Inv. No. 337-TA-1020, Order Denying Request for Entry into Early Disposition Pilot Program (Sept. 13, 2016).

IV. “Like” or “Directly Competitive” Articles That Complainants or Third Parties Make that Could Replace the Subject Articles

The laptop, tablet, and desktop market is highly competitive, and numerous companies, including Nokia’s own licensees, have the capacity to replace Lenovo’s volume of production of infringing products for the United States market without delay. For example, competitive laptop, tablet, and desktop computers are available from multiple sources with whom Lenovo competes. Further, Nokia’s licensees can also adequately supply the market and will continue to do so irrespective of whether the requested remedial orders are issued. No public interest concerns exist where the market contains an adequate supply of competitive or substitute products for

those subject to a remedial order. *See, e.g., Certain Lens Fitted Film Packages*, Inv. No. 337-TA-406, Comm'n Op. at 18 (June 28, 1999).

V. The Requested Remedial Orders Would Have Minimal Impact on Consumers

Following an exclusion order, U.S. consumers will have available to them a wide variety of electronic devices, including desktop and laptop computers and tablets, including those supplied by Nokia's licensees, as well as other competitive non-accused computers and tablets. In view of the availability of commercial alternatives to the Accused Products, the exclusion of the infringing products will not negatively impact consumers in the United States. Rather, the requested relief will serve the public interest by enforcing United States intellectual-property rights. Precluding Lenovo from importing and selling their infringing products will benefit the public interest by protecting innovators, such as Nokia and its licensees, who invest domestically to research and develop new technologies. Permitting unlicensed suppliers like Lenovo to import and sell infringing products would not only devalue the licenses Nokia granted to other companies, but would also undermine future investment in similar technologies. *See Certain Display Controllers and Products Containing Same*, Inv. No. 337-TA-491/481, Comm'n Op. at 66 (Feb. 2005).

Dated: July 2 , 2020

Respectfully submitted,

/s/ Adam D. Swain

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PUBLIC VERSION

U.S. INTERNATIONAL TRADE COMMISSION
WASHINGTON, DC

In the Matter of

**Certain Electronic Devices, Including
Computers, Tablet Computers, and
Components and Modules Thereof**

Investigation No. 337-TA-_____

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

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EXHIBIT & APPENDIX LISTS

PUBLIC EXHIBITS	
Ex. No.	DESCRIPTION
1	U.S. Patent No. 8,144,764 (certified copy) (NOKIA_CMPLITC00000001 - NOKIA_CMPLITC00000018)
2	U.S. Patent No. 7,532,808 (certified copy) (NOKIA_CMPLITC00000019 - NOKIA_CMPLITC00000050)
3	U.S. Patent No. 6,950,469 (certified copy) (NOKIA_CMPLITC00000051 - NOKIA_CMPLITC00000105)
4	U.S. Patent No. 7,724,818 (certified copy) (NOKIA_CMPLITC00000106 - NOKIA_CMPLITC00000119)
5	U.S. Patent No. 8,583,706 (certified copy) (NOKIA_CMPLITC00000120 - NOKIA_CMPLITC00000130)
6	Assignment Record for U.S. Patent No. 8,144,764 (certified copy) (NOKIA_CMPLITC00002222 - NOKIA_CMPLITC00002247)
7	Assignment Record for U.S. Patent No. 7,532,808 (certified copy) (NOKIA_CMPLITC00002248 - NOKIA_CMPLITC00002256)
8	Assignment Record for U.S. Patent No. 6,950,469 (certified copy) (NOKIA_CMPLITC00002257 - NOKIA_CMPLITC00002281)
9	Assignment Record for U.S. Patent No. 7,724,818 (certified copy) (NOKIA_CMPLITC00002282 - NOKIA_CMPLITC00002291)
10	Assignment Record for U.S. Patent No. 8,583,706 (an amended certified copy will be filed upon receipt) (NOKIA_CMPLITC00002292 - NOKIA_CMPLITC00002293)
11	U.S. Patent Nos. 8,144,764; 7,532,808; 6,950,469; 7,724,818 Accused Products Chart
12	U.S. Patent No. 8,583,706 Accused Products Chart

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PUBLIC EXHIBITS	
Ex. No.	DESCRIPTION
13	Patent License Agreement between Nokia and Microsoft [No Public Version Available]
14	License Agreement between Nokia Corporation and Samsung Electronics Co., Ltd. [No Public Version Available]
15	Addendum 6 to the License Agreement between Nokia Corporation and Samsung Electronics Co., Ltd. [No Public Version Available]
16	Addendum 1 to the License Agreement between Nokia Corporation and Samsung Electronics Co., Ltd. [No Public Version Available]
17	Patent License Agreement Between Nokia Corporation, Nokia Technologies Oy, and Panasonic Corporation [No Public Version Available]
18	Identification of Current Nokia Licensees Pursuant to 19 CFR § 210.12(a)(9)(iii) [No Public Version Available]
19	<i>“QuickTime and MPEG-4: Now Featuring H.264,”</i> Technology Brief, QuickTime and MPEG-4, Apple Computer, Inc. (2006)
20	<i>“Common Patent Policy for ITU-T/ITU-R/ISO/IEC,”</i> ITU (2019), https://www.itu.int/en/ITU-T/ipr/Pages/policy.aspx
21	<i>“Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC,”</i> ITU, Rev. 3 (Nov. 2, 2018)
22	<i>“Series H: Audiovisual and Multimedia Systems, Infrastructure of Audiovisual Services – Coding of Moving Video,”</i> Recommendation ITU-T, H.264, International Telecommunication Union (Jun., 2019)
23	List of Foreign Counterparts
24	U.S. Patent No. 8,144,764 Claim Chart for Infringement of Claims 1, 15, 31, and 46 by Lenovo’s Accused Devices (AMD)
25	U.S. Patent No. 8,144,764 Claim Chart for Infringement of Claims 1, 15, 31, and 46 by Lenovo’s Accused Devices (Intel)
26	U.S. Patent No. 8,144,764 Claim Chart for Infringement of Claims 1, 15, 31, and 46 by Lenovo’s Accused Devices (MediaTek)

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Ex. No.	DESCRIPTION
27	U.S. Patent No. 8,144,764 Claim Chart for Infringement of Claims 1, 15, 31, and 46 by Lenovo's Accused Devices (Nvidia)
28	U.S. Patent No. 8,144,764 Claim Chart for Infringement of Claims 1, 15, 31, and 46 by Lenovo's Accused Devices
29	U.S. Patent No. 7,532,808 Claim Chart for Infringement of Claims 1, 7, 10, and 16 by Lenovo's Accused Devices (AMD)
30	U.S. Patent No. 7,532,808 Claim Chart for Infringement of Claims 1, 7, 10, and 16 by Lenovo's Accused Devices (Intel)
31	U.S. Patent No. 7,532,808 Claim Chart for Infringement of Claims 1, 7, 10, and 16 by Lenovo's Accused Devices (MediaTek)
32	U.S. Patent No. 7,532,808 Claim Chart for Infringement of Claims 1, 7, 10, and 16 by Lenovo's Accused Devices (Nvidia)
33	U.S. Patent No. 7,532,808 Claim Chart for Infringement of Claims 1, 7, 10, and 16 by Lenovo's Accused Devices
34	U.S. Patent No. 6,950,469 Claim Chart for Infringement of Claims 1, 18, 23, 27, and 50 by Lenovo's Accused Devices (AMD)
35	U.S. Patent No. 6,950,469 Claim Chart for Infringement of Claims 1, 18, 23, 27, and 50 by Lenovo's Accused Devices (Intel)
36	U.S. Patent No. 6,950,469 Claim Chart for Infringement of Claims 1, 18, 23, 27, and 50 by Lenovo's Accused Devices (MediaTek)
37	U.S. Patent No. 6,950,469 Claim Chart for Infringement of Claims 1, 18, 23, 27, and 50 by Lenovo's Accused Devices (Nvidia)
38	U.S. Patent No. 6,950,469 Claim Chart for Infringement of Claims 1, 18, 23, 27, and 50 by Lenovo's Accused Devices
39	U.S. Patent No. 7,724,818 Claim Chart for Infringement of Claims 1, 6, 10-12, 14-15, 20-23 by Lenovo's Accused Devices (AMD)
40	U.S. Patent No. 7,724,818 Claim Chart for Infringement of Claims 1, 6, 10-12, 14-15, 20-23 by Lenovo's Accused Devices (Intel)

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41	U.S. Patent No. 7,724,818 Claim Chart for Infringement of Claims 1, 6, 10-12, 14-15, 20-23 by Lenovo's Accused Devices (MediaTek)
42	U.S. Patent No. 7,724,818 Claim Chart for Infringement of Claims 1, 6, 10-12, 14-15, 20-23 by Lenovo's Accused Devices (Nvidia)
43	U.S. Patent No. 7,724,818 Claim Chart for Infringement of Claims 1, 6, 10-12, 14-15, 20-23 by Lenovo's Accused Devices
44	U.S. Patent No. 8,583,706 Claim Chart for Infringement of Claims 1, 6, and 12 by Lenovo's Accused Devices (Chromebook)
45	U.S. Patent No. 8,583,706 Claim Chart for Infringement of Claims 1, 6, and 12 by Lenovo's Accused Devices (Android/Google Assistant)
46	Lenovo (United States) Inc. Invoice No. 6452317554 re: Lenovo Tab E10, dated July 19, 2019
47	Amazon.com Order Receipt No. 112-2307585-1559402 re: Lenovo Smart Tab M10 10.1" Android Tablet, dated December 5, 2019, https://www.amazon.com/gp/css/summary/print.html/ref=ppx_yo_dt_b_invoice_o01?ie=UTF8&orderID=112-2307585-1559402
48	Amazon. Com Order Receipt No. 112-6262435-3137063 re: Lenovo Smart Tab P10 10.1" Android Tablet, dated December 5, 2019, https://www.amazon.com/gp/css/summary/print.html/ref=ppx_yo_dt_b_invoice_o00?ie=UTF8&orderID=112-6262435-3137063
49	Lenovo Group Limited 2018/2019 Annual Report
50	Photograph of the Lenovo IdeaPad L340 and the Lenovo Tab 4 8, purchased from retailers in the United States
51	U.S. Patent No. 8,144,764 Claim Chart for Domestic Industry by Nokia's Licensed Devices, Including Microsoft Surface Go ("Surface Go")
52	U.S. Patent No. 8,144,764 Claim Chart for Domestic Industry by Nokia's Licensed Devices, Including Samsung Galaxy Tab A8" Tablet, SM-T380NZKEXAR ("Galaxy Tab")
53	U.S. Patent No. 8,144,764 Claim Chart for Domestic Industry by Nokia's Licensed Devices, Including Panasonic HC-V180K

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Ex. No.	DESCRIPTION
54	U.S. Patent No. 7,532,808 Claim Chart for Domestic Industry by Nokia's Licensed Devices (Microsoft)
55	U.S. Patent No. 7,532,808 Claim Chart for Domestic Industry by Nokia's Licensed Devices (Samsung)
56	U.S. Patent No. 7,532,808 Claim Chart for Domestic Industry by Nokia's Licensed Devices (Panasonic)
57	U.S. Patent No. 6,950,469 Claim Chart for Domestic Industry by Nokia's Licensed Devices, Including Microsoft Surface Go ("Surface Go")
58	U.S. Patent No. 6,950,469 Claim Chart for Domestic Industry by Nokia's Licensed Devices, Including Samsung Galaxy Tab A8" Tablet, SM-T380NZKEXAR ("Galaxy Tab")
59	U.S. Patent No. 6,950,469 Claim Chart for Domestic Industry by Nokia's Licensed Devices, Including Panasonic HC-V180K
60	U.S. Patent No. 7,724,818 Claim Chart for Domestic Industry by Nokia's Licensed Devices (Microsoft)
61	U.S. Patent No. 7,724,818 Claim Chart for Domestic Industry by Nokia's Licensed Devices (Samsung)
62	U.S. Patent No. 7,724,818 Claim Chart for Domestic Industry by Nokia's Licensed Devices (Panasonic)
63	U.S. Patent No. 8,583,706 Claim Chart for Domestic Industry by Nokia's Licensed Devices, Including Microsoft Surface Pro X ("Surface Pro X")
64	U.S. Patent No. 8,583,706 Claim Chart for Domestic Industry by Nokia's Licensed Devices, Including Samsung Chromebook 4 ("Samsung Chromebook")
65	U.S. Patent No. 8,583,706 Claim Chart for Domestic Industry by Nokia's Licensed Devices, Including Samsung Galaxy S9
66	Microsoft Corporation Form 10-K, 2019
67	Microsoft Website Job Openings, https://careers.microsoft.com/us/en/search-results
68	Consolidated Financial Statements of Samsung Electronics Co., Ltd. and its Subsidiaries for 2018, PriceWaterhouseCooper, dated February 27, 2019

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PUBLIC EXHIBITS	
Ex. No.	DESCRIPTION
69	<i>“Samsung Austin Semiconductor Continues Central Texas Growth with more than \$1 Billion in Investment,”</i> Samsung Newsroom (Nov. 1, 2016); https://news.samsung.com/global/samsung-austin-semiconductor-continues-central-texas-growth-with-more-than-1-billion-in-investment
70	<i>“Samsung’s Austin Upgrade: \$291 Million Investment on the Way at Sprawling Chip Plant,”</i> Dallas Morning News.com (Nov. 16, 2018); https://www.dallasnews.com/business/technology/2018/11/16/samsung-s-austin-upgrade-291-million-investment-on-the-way-at-sprawling-chip-plant/
71	<i>“Samsung Opens Largest Wafer Plant in Austin Texas,”</i> Samsung Press Release (Jun. 14, 2007); https://www.samsung.com/us/news/newsPreviewRead.do?news_seq=3707
72	<i>“Samsung Recognized as One of LinkedIn’s Top Companies of 2018,”</i> Samsung Press Release (Mar. 22, 2018); https://news.samsung.com/us/samsung-recognized-linkedin-top-companies-2018/
73	<i>“Samsung to Double R&D Space in Austin, Hire More,”</i> Austin Business Journal (Aug. 22, 2016); https://www.bizjournals.com/austin/news/2016/07/19/samsung-to-double-r-d-space-in-austin-hire-more.html?s=print
74	Samsung Research America Website Homepage
75	Panasonic Form 6-K, dated February 2016, https://sec.report/Document/0001193125-16-483450/d140397d6k.htm
76	Panasonic Annual Report, 2019
77	Panasonic Aero – About Us, Panasonic.aero, https://www.panasonic.aero/our-story/10.12.2019
78	Panasonic Operating Results, Panasonic Annual Report, 2019
79	Panasonic Corporation of North America – Company Overview, https://www.panasonic.com/us/corporate/profile/overview.html
80	About Panasonic Corporation of North America, Vault, https://www.vault.com/company-profiles/general-consumer-products/panasonic-corporation-of-north-america
81	Panasonic Career Opportunities. Panasonic.com (Dec. 12, 2019); https://careers.na.panasonic.com/

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PUBLIC EXHIBITS	
Ex. No.	DESCRIPTION
82	Panasonic Avionics Join Us, Panasonic.aero, https://www.panasonic.aero/join-us/
83	Panasonic Lumix Pro Services, https://lumix-pro.us/
84	Panasonic Avionics Corporation Chief Technology Officer in Lake Forest, California, Job Posting, indeed.com, https://www.indeed.com/qc-Panasonic-Avionics-l-Lake-Forest,-CA-jobs.html?vjk=d7438aa78af471a5 [6/10/2020 10:31:14 AM]
85	Panasonic Sr. Product Cost Analyst in Peachtree, Georgia, Job Posting, Panasonic Careers (Dec. 12, 2019) https://careers.na.panasonic.com/careers/sr-product-cost-analyst
86	<i>“Series H: Audiovisual and Multimedia Systems, Infrastructure of Audiovisual Services – Coding of Moving Video,”</i> Recommendation ITU-T, H.264, International Telecommunication Union (Mar., 2019)
87	Panasonic Sr. User Research Lead in Denver, Colorado, Job Posting, Panasonic Careers (Dec. 12, 2019); https://careers.na.panasonic.com/careers/sr-user-research-lead
88	Panasonic Mobility Field/Sales Engineer for Mendota Heights, Minnesota, Job Posting, Intensjobs.com (Dec. 12, 2019); https://intensjobs.com/job/mobility-field-sales-engineer-panasonic-corporation-of-north-america-61bf0a7cb9d2884e/ [12/12/2019 4:13:20 PM]
89	Panasonic Android Solutions Technical Architect in Newark, New Jersey, Job Posting, LinkedIn.com (Dec. 12, 2019); https://www.linkedin.com/jobs/view/android-solutions-technical-architect-at-panasonic-usa-1613475363/
90	Exemplary bills of lading identifying Lenovo (United States), Inc. as the purchaser and consignee of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China
90A	Exemplary bills of lading identifying Lenovo Group Limited as the purchaser and consignee of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China

PUBLIC VERSION

PUBLIC EXHIBITS	
Ex. No.	DESCRIPTION
91	Exemplary bills of lading identifying Lenovo PC HK Ltd. as the purchaser and consignee of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China
92	Exemplary bills of lading identifying Lenovo Information Products (Shenzhen) as the shipper of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China
93	Exemplary bills of lading identifying Lenovo (Shanghai) Electronics Technology as the shipper of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China
94	Exemplary bills of lading identifying Lenovo Corporation as the shipper of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China
95	Exemplary bills of lading identifying Lenovo Mobile Communications as the shipper of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China
96	Exemplary bills of lading identifying Lenovo Centro Tecnologico S. de RL CV as the consignee of shipments of components relating to the accused functionality for tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China
97	Lenovo ECCN and HTS Information, Lenovo.com, https://www.lenovo.com/us/en/eccn/
98	Declaration of Adam Swain

CONFIDENTIAL EXHIBITS	
Ex. No.	DESCRIPTION
13C	Patent License Agreement between Nokia and Microsoft

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CONFIDENTIAL EXHIBITS	
Ex. No.	DESCRIPTION
14C	License Agreement between Nokia Corporation and Samsung Electronics Co., Ltd.
15C	Addendum 6 to the License Agreement between Nokia Corporation and Samsung Electronics Co., Ltd.
16C	Addendum 1 to the License Agreement between Nokia Corporation and Samsung Electronics Co., Ltd.
17C	Patent License Agreement Between Nokia Corporation, Nokia Technologies Oy, and Panasonic Corporation
18C	Identification of Current Nokia Licensees Pursuant to 19 CFR § 210.12(a)(9)(iii)

APPENDICES	
APPENDIX	DESCRIPTION
A	Certified copy of the prosecution history of U.S. Patent No. 8,144,764 and copies of each technical reference identified therein
B	Certified copy of the prosecution history of U.S. Patent No. 7,532,808 and copies of each technical reference identified therein
C	Certified copy of the prosecution history of U.S. Patent No. 6,950,469 and copies of each technical reference identified therein
D	Certified copy of the prosecution history of U.S. Patent No. 7,724,818 and copies of each technical reference identified therein
E	Certified copy of the prosecution history of U.S. Patent No. 8,583,706 and copies of each technical reference identified therein

I. INTRODUCTION

1. Nokia Technologies Oy and Nokia Corporation (collectively, “Nokia” or “Complainants”) file this Complaint pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 (“Section 337”), based on the unlawful importation into the United States, the sale for importation into the United States, and/or the sale within the United States after importation of certain electronic devices, including computers, tablet computers, and components and modules thereof.

2. The proposed Respondents are Lenovo Group Limited; Lenovo (United States), Inc.; Lenovo (Beijing) Limited.; Lenovo PC HK Limited; Lenovo (Shanghai) Electronics Technology Co. Ltd.; Lenovo Information Products Shenzhen Co. Ltd.; Lenovo Mobile Communication; Lenovo Corporation; Lenovo Centro Tecnologico S. de RL CV (collectively, “Respondents” or “Lenovo”).

3. Lenovo has engaged in unfair acts in violation of Section 337 through and in connection with the unlicensed importation into the United States, sale for importation into the United States, and/or sale within the United States after importation of accused non-cellular electronic devices, including computers, tablet computers, and components and modules thereof that infringe one or more of claims of U.S. Patent No. 8,144,764 (“the ’764 Patent”), U.S. Patent No. 7,532,808 (“the ’808 Patent”), U.S. Patent No. 6,950,469 (“the ’469 Patent”), U.S. Patent No. 7,724,818 (“the ’818 Patent”), and U.S. Patent No. 8,583,706 (“the ’706 Patent”) (collectively the “Asserted Patents”). The ’764 Patent, ’808 Patent, ’469 Patent, and ’818 Patent are collectively referred to as the “H.264 Asserted Patents.”

4. This Complaint is directed to Lenovo’s electronic devices such as desktop computers, notebook computers, tablets, servers, smart home devices, and components and

modules thereof that infringe the Asserted Patents. Specifically, Nokia asserts that Lenovo directly infringes, contributorily infringes, and/or induces the infringement of at least the following claims of the Asserted Patents:

U.S. Patent No.	Asserted Claims¹	Exemplary Accused Products²
8,144,764	Claims 1,2 , 5-7, 9-13, 15 , 1618, 21-23, 25-30, 31 , 32, 35-37, 39-45, 46 , 47-49, 52-54, and 56-62	Products in Ex. 11
7,532,808	Claims 1 , 2-4, 6, 7 , 9, 10 , 11-13, 15, 16 , 17-18, 20-30, 32-41, 43-49, 51-60, and 62-65	Products in Ex. 11
6,950,469	Claims 1 , 2-7, 9, 15-16, 18 , 20-25, 27 , 28-30, and 50	Products in Ex. 11
7,724,818	Claims 1 , 2-5, 6 , 7-9, 10-12 , 13, 14-15 , 20-23	Products in Ex. 11
8,583,706	Claims 1 , 2-5, 6 , 7-11, 12 , 13-16	Products in Ex. 12

5. On information and belief, the Accused Products are manufactured and/or sold for importation into the United States, imported into the United States, and/or sold after importation into the United States by or on behalf of Lenovo.

6. An industry as required by 19 U.S.C. §§ 1337(a)(2) and (3) exists or is in the process of being established in the United States relating to articles protected by the Asserted Patents.

¹ The claims listed in bold are independent claims.

² Such products include at least the Lenovo IdeaPad L340 and the Lenovo Tab 4 8. The full list of Accused Products is identified in Exs. 11 and 12, (collectively, the “Accused Products”). Nokia does not seek a remedy on cellular versions of the Accused Products, to the extent they exist.

7. Nokia seeks as relief a permanent exclusion order prohibiting entry into the United States of Lenovo's infringing electronic devices, including computers and tablet computers. Nokia also requests that such an exclusion order prohibit Lenovo from importing into the United States components and modules of the accused electronic devices so as to prevent Lenovo from circumventing any exclusion order directed to its electronic devices. The components and modules, for example, would include hardware or software modules, such as graphic processing unit (GPU) and video coding core hardware and/or software, such as the Nvidia GeForce GTX 1050. Thus, reference to "Accused Products" herein includes at least these components and modules.

8. Nokia also requests permanent cease and desist orders prohibiting Lenovo from importing, admitting or withdrawing from a foreign trade zone, marketing, advertising, demonstrating, warehousing inventory of, distributing, offering for sale, selling, licensing, repairing, programming, packaging, repackaging, bundling, updating, soliciting U.S. agents or distributors for, or aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer, or distribution of its infringing electronic devices, including computers, tablet computers, and components and modules thereof. Nokia also seeks the imposition of a bond if Lenovo continues to import infringing articles during the 60-day Presidential review period, pursuant to 19 U.S.C. § 1337(j).

II. COMPLAINANTS AND LICENSEES

A. Nokia Technologies Oy

9. Complainant Nokia Technologies Oy ("Nokia Tech") is a foreign corporation organized under the laws of Finland, located at Karaportti 3, FIN-02610, Espoo, Finland.

10. Nokia Tech is a wholly-owned subsidiary of Nokia Corporation (“Nokia Corp.”) and is the sole owner by assignment of all right, title, and interest in each of the Asserted Patents. *See* Exs. 1 through 5. Prior to the assignment to Nokia Tech, Nokia Corp. was the sole owner of all right, title, and interest in each of the Asserted Patents. *See id.*

11. Nokia Tech develops and licenses innovations that are powering the next revolution in computing and mobility: the “programmable world” where intelligent connections bring millions of everyday objects online.

B. Nokia Corporation

12. Complainant Nokia Corporation (“Nokia Corp.”) is a Finnish company that is a leading innovator in the telecommunications industry. Nokia Corp. pioneered the early evolution of mobile communications. Beginning in the early 1980s, Nokia Corp. introduced the first car phone and portable phone to operate on the Nordic Mobile Telephone (“NMT”) network, which was the first international cellular network. Nokia Corp. also provided base stations and switches for NMT networks. In 1987, Nokia Corp. launched the first handheld mobile phone for NMT networks – known as the “Mobira Cityman.”

13. Nokia Corp. was also one of the key developers of Global System for Mobile communications (“GSM”) technology, which was adopted in 1987 as the European standard for digital mobile technology. Nokia Corp. delivered its first GSM network to the Finnish company Radiolinja in 1989 and launched its first digital handheld GSM phone – the Nokia 1011 – in 1992. Throughout the 1990s, Nokia Corp.’s core business was manufacturing mobile phones and telecommunications systems.

14. Nokia Corp. has played a critical role in developing the technologies that are vital to the growth and popularity of mobile devices and has invented and patented many of the core technologies that underlie the features that have driven that trend.

15. Nokia Corp.'s innovations have continued throughout the wireless era to the smartphones of the present day, bringing several "firsts" in the industry. For example, in 1996, Nokia Corp. introduced the Nokia 9000 Communicator, which was the first all-in-one phone, fax, calendar, email, and Internet device in a hand-portable size. The Nokia 8110i, introduced in 1997, was the first mobile phone with a dynamic menu supporting Smart Messaging. Just two years later, Nokia Corp. introduced the Nokia 7110, the first mobile phone compliant with Wireless Application Protocol 1.1, which provided access to mobile Internet services, such as banking, email, and news, and was the first phone with predictive text input.

16. The new century brought even further Nokia advances. In 2002, Nokia Corp. launched its first third generation ("3G") phone – the Nokia 6650. That same year, Nokia Corp. also unveiled the Nokia 7650, a phone with a built-in camera, and the Nokia 3650, Nokia's video capture phone. The following year, Nokia Corp. rolled out its 5140, the first Push-to-Talk GSM handset. In 2006, Nokia Corp. introduced the N95, which was the first such device with built-in Global Positioning System ("GPS") technology, and, in 2008, Nokia Corp. released the E71, the world's slimmest smartphone. In 2010, Nokia Corp. pioneered the N8, the first smartphone with built-in 720P High Definition video and a 12 megapixel camera.

17. In February 2011, Nokia Corp. announced it would release a new line of smartphones that use the Microsoft Windows Phone operating system, designed to offer enhanced hardware optimization, software customization, and language support. Nokia Corp. continued to build upon its Windows Phone product line through 2014, with additional releases

in the United States including the Lumia 520, Lumia 521, Lumia 720, Lumia 925, Lumia 928, Lumia ICON, Lumia 930, Lumia 1020, Lumia 1320, Lumia 1520, and Lumia 2520.

18. In addition to manufacturing mobile phones, Nokia Corp. has consistently been one of the major contributors to wireless communication standards and audio and video compression standards that enable many of the features that are commonplace and expected of today's mobile phones.

19. By the mid-1990s, Nokia Corp. was developing its own proprietary video codec, referred to as the MobiVideo Codec or MVC. In early 1998, the Video Coding Experts Group ("VCEG") of the International Telecommunication Union-Telecommunication (ITU-T) issued a call for proposals on a project called H.26L, the "L" standing for "long term." The target of H.26L was to double the coding efficiency in comparison to any other existing video coding standards for a broad variety of applications. Nokia Corp. submitted an early proposal for H.26L.

20. The development of H.26L eventually led to the development of ITU-T Recommendation H.264 Advanced video coding for generic audiovisual services ("the H.264 Standard"), which is one of the prominent video coding standards used today, and is described below in more detail. Nokia Corp. thereafter participated in the collaborative phase of standardization, contributing numerous innovations to the development of H.264.

21. Nokia Corp., together with its wholly-owned subsidiaries, has cumulatively invested over €129 billion in research and development relating to mobile communications, and as a result of this commitment, currently owns more than 10,000 patent families.

22. Following the sale of its Devices and Services business unit, as described below, Nokia Corp. continues to invest heavily in research and development, as well as expansion of its industry-leading patent portfolio.

C. Microsoft Corp.

23. Nokia Corp.'s Devices and Services group previously developed and sold many mobile devices for the U.S. market. On September 2, 2013, Nokia Corp. agreed to sell substantially all of its Devices and Services business to a subsidiary of Microsoft Corporation ("Microsoft") [REDACTED]

[REDACTED] As part of that transaction, Nokia Inc., which was a fully-owned subsidiary of Nokia Corp., became a fully-owned subsidiary of Microsoft.

24. Since then, Microsoft has made significant domestic investments in plant, equipment, labor, and capital as well as substantial domestic investments in engineering and research and development to develop, ready-for-market, and support Microsoft's line of mobile and non-mobile video playback devices in the United States, including the Microsoft Xbox One, Surface Pro X, Surface Pro 7, Surface Laptop 3, Surface Go, Surface Book 2, and Surface Studio 2. Further details of these domestic investments are provided in Section XI.B *infra*.

25. Microsoft continues to sell a variety of products that practice the Asserted Patents, including the Xbox One, Xbox One X, Xbox One S, Surface 2, Surface Pro 2, Surface 3, Surface Pro 3, Surface Pro 4, Surface Pro 5, Surface Pro 6, Surface Pro 7, Surface Pro X, Surface Go, Surface Go 2, Surface Studio 2, Surface Laptop 2, Surface Book 2, Surface Book 3, HoloLens 2, and HoloLens. Further details are provided in Section XI.B *infra*.

D. Samsung Electronics Co., Ltd.

26. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

27. Samsung has made significant domestic investments in plant, equipment, labor, and capital as well as substantial domestic investments in engineering and research and development to develop, ready-for-market, and support its line of mobile phones, tablets, and other devices in the United States, including all mobile phone, and tablet devices capable of encoding or decoding H.264 video, including the Samsung Galaxy Fold 5G, Samsung Galaxy Fold, Samsung Galaxy S20 Ultra 5G, Samsung Galaxy S20 Ultra, Samsung Galaxy S20+ 5G, Samsung Galaxy S20+, Samsung Galaxy S20 5G UW, Samsung Galaxy S20 5G, Samsung Galaxy S20, Samsung Galaxy S10 Lite, Samsung Galaxy S10 5G, Samsung Galaxy S10+, Samsung Galaxy S10, Samsung Galaxy S10e, Samsung Galaxy S9, Samsung Galaxy S8, Samsung Galaxy S7, Samsung Galaxy S7 Edge, Samsung Galaxy S7 Active, Samsung Galaxy S6, Samsung Galaxy S6 Edge+, Samsung Galaxy S5, Samsung Galaxy A21s, Samsung Galaxy A21, Samsung Galaxy A Quantum, Samsung Galaxy A71 5G, Samsung Galaxy A51 5G, Samsung Galaxy A31, Samsung Galaxy A41, Samsung Galaxy A11, Samsung Galaxy A01, Samsung Galaxy A71, Samsung Galaxy A51, Samsung Galaxy A70s, Samsung Galaxy A20s, Samsung Galaxy A90 5G, Samsung Galaxy A10s, Samsung Galaxy A40, Samsung Galaxy A90, Samsung Galaxy A30s, Samsung Galaxy A50s, Samsung Galaxy A10e, Samsung Galaxy A2 Core, Samsung Galaxy A80, Samsung Galaxy A70, Samsung Galaxy A60, Samsung Galaxy

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A50, Samsung Galaxy A30, Samsung Galaxy A20e, Samsung Galaxy A20, Samsung Galaxy A10, Samsung Galaxy A8s, Samsung Galaxy A6s, Samsung Galaxy A9, Samsung Galaxy A7, Samsung Galaxy A8 Star, Samsung Galaxy A6, Samsung Galaxy A8, Samsung Galaxy A9 Pro, Samsung Galaxy A5, Samsung Galaxy A3, Samsung Galaxy C7, Samsung Galaxy C5 Pro, Samsung Galaxy C7 Pro, Samsung Galaxy C9 Pro, Samsung Galaxy C10, Samsung Galaxy C7, Samsung Galaxy C5, Samsung Galaxy J2 Core, Samsung Galaxy J8, Samsung Galaxy J6, Samsung Galaxy J4, Samsung Galaxy J7 Duo, Samsung Galaxy J2 Pro, Samsung Galaxy J2, Samsung Galaxy J7 V, Samsung Galaxy J7 Max, Samsung Galaxy J7 Pro, Samsung Galaxy J7, Samsung Galaxy J5, Samsung Galaxy J1 mini prime, Samsung Galaxy J2 Prime, Samsung Galaxy M01, Samsung Galaxy M11, Samsung Galaxy M21, Samsung Galaxy M31, Samsung Galaxy M10s, Samsung Galaxy M30s, Samsung Galaxy M40, Samsung Galaxy M30, Samsung Galaxy M20, Samsung Galaxy M10, Samsung Galaxy Note10 Lite, Samsung Galaxy Note10+ 5G, Samsung Galaxy Note10+, Samsung Galaxy Note 10 5G, Samsung Galaxy Note 10, Samsung Galaxy Note 8, Samsung Galaxy Note 7, Samsung Galaxy Note 5, Samsung Galaxy Note Edge, Samsung Galaxy Note 4, Samsung Galaxy Note 3, Samsung Galaxy XCover Pro, Samsung Galaxy XCover FieldPro, Samsung Galaxy XCover 4s, Samsung Galaxy Z Flip, Samsung Galaxy Tab S6 Lite, Samsung Galaxy Tab S6 5G, Samsung Galaxy Tab Active Pro, Samsung Galaxy Tab A 8.0, Samsung Galaxy View2, Samsung Galaxy Tab S5e, Samsung Galaxy Tab A 10.1, Samsung Galaxy Tab A 8.0, Samsung Galaxy Tab S4 10.5, Galaxy Tab S6, Samsung Galaxy Tab A, Samsung Galaxy Tab S5e, Samsung Galaxy Tab S3, Samsung Galaxy TabPro S, Samsung Galaxy Tab S2, Samsung Galaxy View, Samsung Galaxy Tab A, Samsung Galaxy Tab E, Samsung Galaxy Tab E Lite, Samsung Kids Tab E Lite, Samsung Galaxy Tab, Samsung Galaxy Tab 2, Samsung Galaxy Tab 3, Samsung Galaxy Tab 4, Samsung Plus 2-in-1

Chromebook, Samsung Galaxy Book S, Samsung Galaxy Book 2, and Samsung Galaxy Book. Further details of these domestic investments are provided in Section XI.B *infra*.

E. Panasonic Corporation

28. [REDACTED]

[REDACTED]

[REDACTED]

29. Panasonic has made significant domestic investments in plant, equipment, labor, and capital as well as substantial domestic investments in engineering and research and development to develop, ready-for-market, and support its line of tablets, laptops, cameras, and other devices in the United States capable of encoding or decoding H.264 video, including the Panasonic Toughpad FZ-M1, Panasonic Toughpad FZ-G1, Panasonic Toughpad FZ-X1, Panasonic Toughpad FZ-A1, Panasonic Toughpad JT-B1, Panasonic Toughbook L1, Panasonic Toughbook 55, Panasonic Toughbook 54, Panasonic Toughbook 31, Panasonic Toughbook 20, Panasonic Toughbook 33, Panasonic Toughbook T1, and Panasonic Toughbook N1, Lumix LX100 II, Lumix TS7, Lumix 4K Digital Camera ZS200, Lumix ZS80 20.3MP Digital Camera, Lumix DC-ZS70 4K Digital Camera, Lumix FZ80 4K Point and Shoot Long Zoom Camera, Lumix FZ2500 Digital Camera, Lumix 4K Digital Camera LX10, Lumix 4K Digital Camera ZS100, Lumix FZ300 4K 24X F2.8 Long Zoom Digital Camera, Lumix 30X Travel Zoom Camera, Lumix Active Lifestyle Tough, Lumix LX100 Integrated Leica DC Lens Camera, Lumix FZ1000 4K QFHD/HD 16X Long Zoom Digital Camera, Lumix FZ1000M2 20.1MP Digital Camera, Lumix S1H Digital Mirrorless Camera, Lumix G95 20.3MP Mirrorless Camera, Lumix S1R Body Digital Mirrorless Camera, Lumix S1 Body Digital Mirrorless Camera, Lumix GX9 Mirrorless Camera, Lumix GX85 4K Mirrorless Camera, Lumix GH5s C4K Mirrorless ILC

Camera, Lumix G9 Mirrorless Camera, Lumix GH5 4K Mirrorless Camera, Lumix GX850 4K Mirrorless ILC Camera, Lumix GH5 4K Mirrorless ILC Camera, Lumix GX8 4K Mirrorless Interchangeable Lens Camera, Lumix G7 4K Mirrorless Interchangeable Lens Camera Kit, Lumix GH4 Professional 4K Mirrorless Interchangeable Lens Camera, Panasonic Full HD Camcorder with 20X Stabilized Lens and WiFi Smartphone Twin Video Capture, Panasonic 4K 24p Cinema/60p Video Camcorder HC-X1000, Panasonic Full HD Camcorder, Panasonic 4K Cinema-Like Camcorder, Panasonic 4K Camcorder, Panasonic HD Camcorder, Panasonic 4K Cinema-Like Camcorder, Panasonic 4K Ultra HD Camcorder, Panasonic 4K HD Camcorder, Panasonic Next Series Inflight Entertainment System, Panasonic EX1 Inflight Entertainment System, Panasonic EX2 Inflight Entertainment System, and Panasonic EX3 Inflight Entertainment System (“Panasonic Domestic Industry Products”). Further details of these domestic investments are provided in Section XI.B *infra*.

III. PROPOSED RESPONDENTS

30. All of the Proposed Respondents are Lenovo entities that have material involvement in the importation, sale for importation, and/or sale after importation of the Accused Products into the United States. As shown in Sections VIII through IX, there are many Lenovo entities responsible for the importation, sale for importation, and/or sale after importation of the Accused Products into the United States and thus Nokia seeks to name each as a Proposed Respondent in order to address the widespread infringement.

31. Proposed Respondent Lenovo Group Limited (“Lenovo Group”) is a company organized under the laws of the People’s Republic of China, with its principal place of business at Lincoln House, 23rd Floor, Taikoo Place, 979 King’s Road, Quarry Bay, Hong Kong, China.

32. Proposed Respondent Lenovo (United States), Inc. is a company organized under the laws of the Delaware, with its principal place of business at 8001 Development Drive, Morrisville, NC 27560. Lenovo (United States), Inc. operates as a subsidiary of Lenovo Group.

33. Proposed Respondent Lenovo (Beijing) Limited is a company organized under the laws of the People's Republic of China, with its principal place of business at Lenovo Building, 6 Chuangye Rd, Shangdi Haidian District, Beijing, China 100085. Lenovo (Beijing) Limited operates as a subsidiary of Lenovo Group.

34. Proposed Respondent Lenovo (Shanghai) Electronics Technology Co. Ltd. is a company organized under the laws of the People's Republic of China, with its principal place of business at Wai Gao Qiao Free Trade Zone, 199 Fenju Road, No. 68 Building, Shanghai, China 200131. Lenovo (Shanghai) Electronics Technology Co. Ltd. operates as a subsidiary of Lenovo Group.

35. Proposed Respondent Lenovo PC HK Limited is a company organized under the laws of the People's Republic of China, with its principal place of business at Lincoln House, 23rd Floor, Taikoo Place, 979 King's Road, Quarry Bay, Hong Kong, China. Lenovo PC HK Limited operates as a subsidiary of Lenovo Group.

36. Proposed Respondent Lenovo Information Products Shenzhen Co. Ltd. is a company organized under the laws of the People's Republic of China, with its principal place of business at No. 30 Tao Hua Road, Free Trade Zone, FuTian District, Shenzhen City, Shenzhen, China 518038. Lenovo Information Products Shenzhen Co. Ltd. operates as a subsidiary of Lenovo Group.

37. Proposed Respondent Lenovo Mobile Communication is a company organized under the laws of the People's Republic of China, with its principal place of business at No. 19,

Gaoxin 4th Road, East Lake New Technology Development Zone, Hubei, Wuhan, China 430079. Lenovo Mobile Communication operates as a subsidiary of Lenovo Group.

38. Proposed Respondent Lenovo Corporation is a company organized under the laws of the People's Republic of China, with its principal place of business at No. 2088 Pangjin Road, Wujiang China 215217. Lenovo Corporation operates as a subsidiary of Lenovo Group.

39. Proposed Respondent Lenovo Centro Tecnologico S. de RL CV is a corporation organized under the laws of Mexico with its principal place of business at Blvd. Escobedo No. 316, Parque Industrial Technology Apodaca, Mexico 66600. Respondent Lenovo Centro Tecnologico S. de RL CV operates as a subsidiary of Lenovo Group.

40. Together, the Proposed Lenovo Respondents design, develop, manufacture, use, import into the United States, sell, and/or offer for sale in the United States computers and computer tablets, including the Accused Products. More specifically, Lenovo Group Limited, by and through various Lenovo subsidiaries and affiliated third parties imports the accused products into the United States through a distribution channel established by Lenovo Group Limited and carried out at least in part by Lenovo (United States), Inc.

41. On information and belief, the Proposed Lenovo Respondents import the accused products through a distribution channel established by Lenovo Group. For example, publicly available information shows that all Proposed Respondents are involved in the sale for importation and/or importation Lenovo tablet, notebook, and desktop computers into the United States. *See* Section VIII and Exs. 90 through 96. Further, in co-pending litigation in the United States District Court for the Eastern District of North Carolina, Lenovo (United States), Inc. has admitted to importing Lenovo tablet, notebook, and/or desktop computers into the United States.

42. The Lenovo Respondents import and sell the Accused Products within the United States by various means and agents, including via online and retail stores. Further, on information and belief, Lenovo performs several services to support the importation into the United States and sale after importation into the United States of the Accused Products, including marketing of the Accused Products, providing online interactive tutorials for the Accused Products, distributing user manuals for the Accused Products, providing in-person demonstrations for the Accused Products, testing the Accused Products, and offering after-sale technical support for the Accused Products.

IV. THE TECHNOLOGY AND ACCUSED PRODUCTS AT ISSUE

43. The Accused Products are Lenovo desktop computers, notebook computers, tablets, servers, smart home devices, and components and modules thereof that incorporate, without authorization, certain of Nokia's technologies as set forth and claimed in the Asserted Patents. *See* Exs. 11 through 12.

44. The Asserted Patents are directed to video coding and an improved user interface for conducting searches.

45. First, digital video traditionally consumes a large amount of data. Without efficient and effective video compression, many of the video streaming applications available on the Internet would not be viable. A combination of market expansion, technology advances, and increased user expectation is driving demand for better, higher quality digital video.

46. Video compression or video encoding is the process of reducing the amount of data required to represent digital video. Video decompression or video decoding is the process for recovering digital video from the compressed representation.

47. The Video Coding Asserted Patents (the '764 Patent, '808 Patent, '818 Patent, and '469 Patent) offer specific improvements to video coding that enhance compression efficiency.³ The Asserted Patents make it possible to compress video into a smaller space, which means that compressed video clips take up less transmission bandwidth and/or less storage space while providing better or equal video quality when compared to clips compressed without Nokia's innovations. This compression makes it possible to transmit HD television over a limited-capacity broadcast channel, to record hours of video on a flash memory card, and to deliver massive numbers of video streams over an already busy Internet or wireless channel.

48. The Video Coding Asserted Patents include claims directed to compression and decompression. The decompression or decoding techniques claimed in the patents have been adopted into, and declared as essential to, the H.264 Standard described below. The Asserted Patents are a reflection of the breadth of Nokia's extensive dedication and investment in video compression technology and development of standardized protocols.

49. Other industry participants have recognized the revolutionary value of H.264. For example, in "QuickTime and MPEG-4: Now Featuring H.264," Lenovo described H.264 as "revolutionizing virtually every application that uses video" and providing "a vast improvement over previous generations of video codecs." Ex. 19.

50. Second, the '706 Patent includes claims directed at an improved user interface that allows users to, for example, conduct a search using an adaptive address field, automatically

³ All non-technical descriptions of the inventions herein are presented to give a general background of those inventions. Such statements are not intended to be used, nor should they be used, for purposes of patent claim interpretation. Complainants present these statements subject to, and without waiver of, their right to argue that claim terms should be construed in a particular way, as contemplated by claim interpretation jurisprudence and the relevant evidence.

determine an associated network service application, and initiate functions of that application with a single click.

V. NOKIA'S COMPLIANCE WITH RAND

A. The ITU and H.264 Standardization Process

51. The accused technology for the Video Coding Asserted Patents relates to the H.264 Standard developed by the International Telecommunication Union ("ITU").

52. In order to enable devices manufactured by different entities to interoperate, standards-setting organizations ("SSOs") have formed to promulgate industry standards, which define communication protocols that can be adopted by different manufacturers to enable interoperability between their devices.

53. The ITU and the International Standards Organization ("ISO") jointly publish a standard that is referred to as "H.264," "MPEG-4 part 10," or "Advanced Video Coding." The H.264 Standard development process was initiated by the VCEG and finalized by the Joint Video Team ("JVT"), which was a collaborative effort between VCEG and the Moving Picture Experts Group ("MPEG").

54. The ITU was formed in 1865 at the International Telegraph Convention and, in 1947, became a specialized agency of the United Nations, responsible for issues that concern information and communication technologies. The ITU handles a number of different matters and thus is organized into various sectors. One of the sectors is Telecommunication Standardization or "ITU-T." The mission of ITU-T is to ensure efficient and timely production of standards related to the field of telecommunications. The standards developed by ITU-T are referred to as "Recommendations."

55. Within ITU-T, members come together in various teams or groups to propose technology that best meets the aims of the organization and its members and draft the Recommendations. The goal is to draft Recommendations that incorporate the best available technology to ensure that the standards are the highest possible quality. The H.264 Standard described above is explicitly detailed in the H.264 Recommendation.

56. In order to facilitate the widespread adoption of its standards, the ITU must ensure both that manufacturers have access to the standards and simultaneously ensure that patent holders have incentives to continue to innovate and contribute technologies to the standards. Without the former, standards could issue, but no one would be willing to adopt them. Without the latter, there likely would be no standards at all, and manufacturers would be forced to rely on a multiplicity of proprietary technologies.

57. As it searches for the best available technical solutions, the ITU takes into account that many parts of its standards will be covered by patents owned by members and third parties. In order to assist with the usage of patented technologies in standardized communication protocols, the ITU adopted a Common Patent Policy which states that “a patent embodied fully or partly in a Recommendation | Deliverable must be accessible to everybody without undue constraints.”⁴ Ex. 20.

58. The ITU published Guidelines for compliance with the implementation of the Common Patent Policy, which explain that the Common Patent Policy “was drafted in its operative part as a checklist, covering the three different cases which may arise if a Recommendation | Deliverable requires licenses for Patents to be practiced or implemented, fully or partly.” Ex. 21, Guidelines, at 1.

⁴ This patent policy applies to the ITU, ITU-T, ISO, and IEC.

59. The Common Patent Policy states:

2. If a Recommendation | Deliverable is developed and such information as referred to in paragraph 1 has been disclosed, three different situations may arise:

2.1 The patent holder is willing to negotiate licences free of charge with other parties on a non-discriminatory basis on reasonable terms and conditions. Such negotiations are left to the parties concerned and are performed outside ITU-T/ITU-R/ISO/IEC.

2.2 The patent holder is willing to negotiate licences with other parties on a non-discriminatory basis on reasonable terms and conditions. Such negotiations are left to the parties concerned and are performed outside ITU-T/ITU-R/ISO/IEC.

2.3 The patent holder is not willing to comply with the provisions of either paragraph 2.1 or paragraph 2.2; in such case, the Recommendation | Deliverable shall not include provisions depending on the patent.

3. Whatever case applies (2.1, 2.2 or 2.3), the patent holder has to provide a written statement to be filed at ITU-TSB, ITU-BR or the offices of the CEOs of ISO or IEC, respectively, using the appropriate "Patent Statement and Licensing Declaration" form. This statement must not include additional provisions, conditions, or any other exclusion clauses in excess of what is provided for each case in the corresponding boxes of the form.

Ex. 20.

60. The Guidelines define the term "Patent" to be "those claims contained in and identified by patents, utility models and other similar statutory rights based on inventions (including applications for any of these) solely to the extent that any such claims are essential to the implementation of a Recommendation | Deliverable. Essential patents are patents that would be required to implement a specific Recommendation | Deliverable." Ex. 21, Guidelines, at 2. The definition of "Patent" provided by the Guidelines is mirrored in the Patent Statement and Licensing Declaration Form, which is prepared by each patent holder when declaring patent claims as essential to H.264. The Patent Statement and Licensing Declaration Form states that identifying specific patents on the form is optional but not required. The ITU thus deems

“essential” only patent claims that are essential or necessary for implementation of a specific Recommendation.

61. The H.264 Recommendation specifies the implementation of decoders and specifically defines the “decoding process” as “[t]he process *specified* in this Recommendation | International Standard that reads a bitstream and derives decoded pictures from it.” Ex. 22, Recommendation ITU-T H.264, at 7. It does not, however, specify the implementation of encoders.

B. Nokia’s Compliance with ITU Licensing Obligations

62. Consistent with the Common Patent Policy, Nokia has declared to the ITU that it is prepared to grant licenses to the essential claims of the Asserted Patents on reasonable and non-discriminatory (“RAND”) terms and conditions. Specifically, claims of the Video Coding Asserted Patents specified in the H.264 Standard are essential, and Nokia has been and remains prepared to grant a license under RAND terms to any essential claims of the Video Coding Asserted Patents.

63. Nokia has negotiated in good faith and made substantial efforts to enter into a license agreement with Lenovo on reasonable and non-discriminatory terms, as proven by Nokia’s conduct in licensing negotiations with Lenovo.

64. Nokia has been trying to license its H.264 essential patent claims to Lenovo for its non-cellular products over a year. On March 18, 2019, Nokia notified Lenovo that it infringed claims in more than twenty Nokia video decoding patents, including certain of the Patents-in-Suit. Nokia attached a presentation with an overview of Nokia’s relevant patents, a list of Lenovo products that infringe Nokia’s patent claims, and claim charts describing that infringement. Nokia offered Lenovo a license at its established industry rate and explained that

the rate was supported by dozens of other companies that have taken a license to use Nokia's H.264 video-coding technology.

65. Nokia reached out to Lenovo several more times, but received no response. On May 22, 2019, Nokia sent Lenovo a letter indicating that Nokia was left with no option other than to conclude that Lenovo was refusing to discuss a license to Nokia's essential patent claims. Nokia requested that Lenovo provide a response by May 29, 2019. Lenovo finally responded and agreed to a meeting in Lenovo's Chicago office on June 6, 2019 to discuss the technical merits of Nokia's assertions. Nokia sent licensing executives Robert Gray and Susanna Martikainen, as well as Simon Walker, one of Nokia's lead technical experts, to discuss the essentiality of Nokia's claims, to answer any of Lenovo's technical questions about the claims, to address any response from Lenovo, and to discuss Nokia's license offer. Ms. Martikainen, Mr. Gray, and Mr. Walker traveled to the meeting from Finland.

66. Unfortunately, Lenovo's representatives were unprepared for substantive discussions. Despite having received Nokia's claim charts nearly three months earlier, Lenovo presented no evidence or argument contradicting Nokia's assertion that Lenovo was infringing Nokia's essential patent claims. In addition, Lenovo did not respond to Nokia's licensing offer, would not say whether Lenovo would accept or reject Nokia's offer, and did not state whether Lenovo even intended to make a counteroffer. In good faith, Nokia stated that it would be willing to wait until a telephonic discussion between the parties scheduled for June 25 to receive Lenovo's substantive response to Nokia's March 18 licensing offer. But the day before the June 25 telephone call, Lenovo cancelled the call and stated that Nokia's offer was unreasonable and unsupportable.

67. Lenovo rescheduled the meeting for a month later. The parties met again on July 24, 2019. At the meeting, Nokia's lead technical expert presented claim charts and was prepared to answer questions from Lenovo. Again, Lenovo did not offer any evidence or argument contradicting Nokia's claims of essentiality or infringement. Nokia again reiterated its license offer. Lenovo did not accept or reject Nokia's offer, or make a counteroffer.

68. On July 30, 2019, the parties held a telephone conference to continue technical discussions, but they did not discuss specific licensing terms or conditions on the call. Lenovo again did not provide any evidence or argument contradicting Nokia's infringement allegations.

69. On July 31, 2019, Nokia sent Lenovo an updated claim chart for one of its patents, as well as an updated patent list.

70. On August 27, 2019, Nokia sent Lenovo an anonymized exemplary list of executed licenses for its H.264 patent portfolio. The list identified each license's scope, licensed product definition, and royalty rate.

71. On November 5, 2019, Nokia sent Lenovo an offer to submit to an arbitration to settle whether Nokia's March 18, 2019 licensing offer was consistent with Nokia's RAND obligations under the ITU Common Patent Policy and Nokia's relevant declarations. Lenovo did not accept Nokia's offer.

72. On November 25, 2019, Lenovo sent Nokia a letter requesting additional information and denying infringement, but it still provided no explanation for why its products do not infringe Nokia's patents and it did not make any offer to license the asserted patents.

73. On November 29, 2019, Nokia responded to Lenovo's requests for further information. Nokia confirmed that the list of patents including essential H.264 claims provided to Lenovo on July 31, 2019 was up to date. Nokia provided Lenovo with a list of its litigated

patents for which it accused devices practicing the H.264 standard. Additionally, Nokia reiterated that the licensing rates it offered had been adopted and confirmed in the market by a substantial number of licenses, and again directed Lenovo to the anonymized list of license agreements.

74. On December 6, 2019, Lenovo responded. Despite the substantial amount of information Nokia had provided over the course of the negotiations, Lenovo complained that it still did not have sufficient information to assess Nokia's patents or its offer. Notwithstanding the claim charts Nokia provided, Lenovo denied that it was infringing Nokia's patents and claimed it was not aware of any evidence that Nokia's patent claims were actually essential to the H.264 standard. Finally, after months of negotiations, Lenovo made a counteroffer over twenty times lower than Nokia's offer and the rate to which numerous other licensees had agreed.

75. On December 24, 2019, Nokia offered Lenovo a license to its H.264 encoding patent claims and provided Lenovo with a list of Nokia patents containing claims for encoding an H.264-compliant bitstream. Alternatively, Nokia offered Lenovo a combined H.264 encoding/decoding license that would settle the entirety of the parties' H.264 dispute.

76. On January 6, 2020, Lenovo responded to Nokia's H.264 encoding offer by again demanding more information from Nokia and requesting follow-up technical discussions. Lenovo made no counteroffer.

77. On January 9, 2020, Nokia responded to Lenovo and explained that Lenovo already had the information necessary to respond to Nokia's encoding offer. Nokia also renewed its offer of a teleconference with Nokia technical experts, which Lenovo previously chose not to accept.

78. On January 11, 2020, Lenovo reiterated its low counteroffer of December 6, 2019, and included revised terms and conditions differing from those in Nokia's standard licenses. Nevertheless, Nokia continued trying to work towards a license with Lenovo.

79. On February 14, 2020, Nokia responded to Lenovo's January 11 counteroffer. Nokia stated that it was open to some of Lenovo's proposals, such as the term of the license and alternate venues for arbitration, but reiterated that Lenovo's counteroffered rate was far lower than the market rate for a license to Nokia's patent claims.

80. On February 27, 2020, Lenovo (John Mulgrew) and Nokia (Susanna Martikainen, Patrik Hammaren, Janne Vesterinen, Robert Gray, and Simon Walker (by phone)) representatives met in New York. At the meeting, Nokia presented an implementation patent presentation and two claim charts. Lenovo said additional technical discussions were needed so it could make a business case for paying Nokia. Lenovo also said that a settlement of the parties' dispute could include (1) a broad license to Nokia's portfolio; (2) an H.264-only license; or (3) a cross-license.

81. On March 13, 2020, Nokia and Lenovo had a telephone call to discuss overall deal structures, share an update on Nokia's cellular standard essential patent ("SEP") portfolio, and agree on an agenda and expectations for future meetings.

82. On March 25, 2020, Lenovo responded to Nokia's rejection of its counteroffer but failed to explain why Lenovo should pay over twenty times less than Nokia's dozens of other licensees.

83. On April 27, 2020, Nokia supplemented its March 18, 2019 decoding offer to add provisions requested by Lenovo. In the April 27, 2020 letter, Nokia outlined four separate contractual provisions that could be added to the March 18, 2019 offer in order to address

concerns expressed by Lenovo. Nokia reiterated that its March 18, 2019 offer was RAND and noted that it was offering the four optional sections “as an offer of compromise.”

84. On April 30, 2020, Lenovo sent Nokia an updated H.264 counteroffer. The updated counteroffer included the same rate Lenovo had previously offered, which was far lower than Nokia’s offer and the rate to which numerous other licensees had taken a license to the patents.

85. As explained above, Nokia has continuously negotiated with Lenovo in good faith in order to license its essential patent claims on RAND terms. Nokia has provided Lenovo with a list of infringed patents, detailed proof of Lenovo’s infringement, an anonymized list of licenses supporting Nokia’s offered rate, and repeatedly provided Lenovo with the opportunity to have licensing discussions with Nokia’s high-level executives and technical experts. Nokia has also offered Lenovo a RAND rate to license Nokia’s patents, which is supported by dozens of licenses in the industry.

86. Lenovo’s refusal to substantively engage in discussions with Nokia shows Lenovo’s unwillingness to take a RAND license.

87. Nokia has complied with all conditions precedent under its RAND commitment to seek the relief it requests in this case. Under such circumstances, this Complaint is necessary to put an end to Lenovo’s infringing conduct as an unwilling licensee.

88. Nokia has now concluded dozens of video coding licenses. All licenses that have been concluded since February 2014 are portfolio licenses covering Nokia’s H.264 decoding claims, encoding claims, or both. Nokia’s licenses relate to a vast array of product types, including mobile devices, tablets, televisions, Blu-ray players, cameras, set-top boxes, and video playback devices. Due to the wide range of applications of H.264, Nokia’s existing licensees

include companies of various sizes that are active in a variety of businesses and industries, with a focus on producers of computer, video playback, and entertainment devices (*e.g.*, screens, monitors, set-top boxes, TVs, and Blu-ray players), and camera systems (*e.g.*, general video cameras and special purpose video cameras such as security, door, and medical cameras).

89. Nokia's original license offer to Lenovo was made using Nokia's standard licensing terms that are consistent with rates offered to Nokia's other licensees for the same technology, and which other companies have accepted. Nokia has been transparent about its pricing expectations, explained many times its methods for deriving RAND license terms and rates, and supported its offer by supplying claim charts detailing how Lenovo products practice many of Nokia's standards essential patent claims. Despite Nokia's good faith efforts to license its H.264 standard essential patent claims on RAND terms, Lenovo has never seriously engaged in licensing discussions with Nokia, and has instead has sought to only engage in delay tactics. Lenovo has persistently refused to constructively negotiate a license, repeatedly made counteroffers below RAND, and is currently engaged in "hold out."

90. Lenovo's conduct during these negotiations has confirmed that it is unwilling to take a license to Nokia's essential patent claims on RAND terms thereby reinforcing that its only interest is further delaying any resolution of this dispute and continuing its current practice of freeriding. For example, Lenovo has:

- i. Repeatedly engaged in dilatory license tactics while making use of Nokia's intellectual property;
- ii. Refused to accept Nokia's RAND license offer;
- iii. Failed to pay any compensation for use of Nokia's H.264 patents; and
- iv. Made counteroffers far below RAND.

91. Nokia has complied with all conditions precedent under its RAND commitment to seek the relief it requests in this case. Under such circumstances, an exclusion order is warranted to put an end to Lenovo's conduct as an unwilling licensee.

VI. THE ASSERTED PATENTS AND NON-TECHNICAL DESCRIPTION OF THE INVENTIONS⁵

A. Ownership of the Asserted Patents

92. Nokia Tech owns by assignment the entire right, title, and interest in and to each of the Asserted Patents. Certified copies of the assignments for each of the Asserted Patents are attached as Exs. 6 through 10.⁶

B. U.S. Patent No. 8,144,764

93. The '764 Patent, entitled "Video Coding," issued on March 27, 2012, to inventor Miska Hannuksela. The '764 Patent issued from U.S. Application Serial No. 11/242,888, filed on October 5, 2005, which is a continuation of U.S. Application Serial No. 09/855,640, filed on May 15, 2001, now U.S. Patent No. 6,968,005, which claims priority to Great Britain Patent Application Number 0011597.2, filed on May 15, 2000. The '764 Patent expires on or after January 19, 2023.

94. A certified copy of the '764 Patent is attached as Ex. 1.

95. A certified copy of the assignment for the '764 Patent is attached as Ex. 6.

96. A certified copy of the prosecution history of the '764 Patent and copies of each reference cited in the '764 Patent and its prosecution history are included in Appx. A.

⁵ See *supra* note 2.

⁶ Nokia has requested certified copies of each patent, assignment, and prosecution history from the U.S. Patent and Trademark Office. To the extent the copies attached to this Complaint are not certified, Nokia will provide certified copies as soon as they are available.

97. The '764 Patent has sixty-two claims, four of which are independent claims. Complainants are asserting Claims 1-2, 5-7, 9-13, 15-16, 18, 21-23, 25-29, 31-32, 35-37, 39, 40-47, 49, 52-54, and 56-62.

98. The '764 Patent is, for example, directed towards a core feature of video compression that improves motion prediction, and provides substantial benefits to compression quality and efficiency.

99. Per 19 CFR § 210.12(a)(9)(vi), the following is a nontechnical description of the '764 patent. In temporal motion prediction, an “inter” frame or picture is a frame or picture that is expressed in terms of one or more temporally neighboring pictures, often referred to as “reference” pictures. Traditionally, the encoded bitstream includes reference pictures and non-reference pictures, but the decoder does not have a means to detect specifically if a reference picture, as opposed to a non-reference picture, is lost during transmission. In particular, the decoder cannot distinguish between the loss of a reference and a non-reference picture from the encoded bit stream. The loss of a reference picture is a significant event as it could cause the video sequence to be displayed improperly or the decoder to freeze. In contrast, the loss of a non-reference picture would not impact the picture quality of future pictures, and the decoder could continue decoding normally.

100. The '764 Patent discloses, for example, an improved method of encoding and decoding where a sequence indicator is used to identify when a reference picture in the sequence has been lost.

C. U.S. Patent No. 7,532,808

101. The '808 Patent, entitled “Method for Coding Motion in a Video Sequence,” issued on May 12, 2009, to inventor Jani Lainema. The '808 Patent issued from U.S. Patent

Application Serial No. 10/390,549, filed on March 14, 2003, claims priority to U.S. Provisional Application Serial No. 60/365,072, filed on March 15, 2002, and expires on or after December 11, 2025.

102. A certified copy of the '808 Patent is attached as Ex. 2.

103. A certified copy of the assignment for the '808 Patent is attached as Ex. 7.

104. A certified copy of the prosecution history of the '808 Patent and copies of each reference cited in the '808 Patent and its prosecution history are included in Appx. B.

105. The '808 Patent has sixty-five claims, four of which are independent claims. Complainants are asserting Claims 1-4, 6-7, 9-13, 15-18, 20-30, 32-41, 43, 44-49, 51-53, 54-60, and 62-65.

106. Per 19 CFR § 210.12(a)(9)(vi), the following is a nontechnical description of the '808 patent. The '808 Patent is, for example, directed towards a core feature of video compression that improves motion prediction, and provides substantial benefits to compression quality and efficiency.

107. Prior to the '808 Patent, implementing motion compensation prediction involved assigning a "coding mode" to each macroblock, which is a particular set of pixels, depending on the characteristics of the macroblock and the motion in the video sequence. One of the coding modes used prior to the '808 Patent is referred to as a "SKIP" coding mode. This mode was assigned to macroblocks that could be copied from a previous reference video frame without using or having to take into account motion compensation prediction. Use of the SKIP coding mode thus provides compression benefits because the coded information representing the macroblock does not need to include any motion data.

108. A problem arises, however, when a video sequence includes global or regional motion (panning, zooming, etc.). When global motion is involved, virtually all of the macroblocks are moving, and thus the SKIP coding mode would hardly be used, if at all. Instead, a different type of coding mode would have to be used that specifically models the global motion, thereby degrading coding efficiency.

109. The '808 Patent discloses, for example, an improvement to the SKIP coding mode that accounts for global or regional motion without the need to use or transmit additional motion data. The '808 Patent describes, as an example, that a different motion vector can be assigned to a macroblock coded in SKIP mode based on an analysis of the motion of the surrounding region. The ability to account for global or regional motion while using the SKIP coding mode drastically reduces the amount of information that must be used to encode and decode a video sequence.

D. U.S. Patent No. 6,950,469

110. The '469 Patent, entitled "Method for Sub-Pixel Value Interpolation," issued on September 27, 2005, to inventors Marta Karczewicz and Antti Olli Hallapuro. The '469 Patent issued from U.S. Patent Application Serial No. 09/954,608, filed on September 17, 2001. The '469 Patent expires on or after August 6, 2023.

111. A certified copy of the '469 Patent is attached as Ex. 3.

112. A certified copy of the assignment for the '469 Patent is attached as Ex. 8.

113. A certified copy of the prosecution history of the '469 Patent and copies of each reference cited in the '469 Patent and its prosecution history are included in Appx. C.

114. The '469 Patent, has fifty-one claims, fifteen of which are independent claims. Complainants are asserting Claims 1-7, 9, 15-16, 18, 20-25, 27-30, and 50.

115. Per 19 CFR § 210.12(a)(9)(vi), the following is a nontechnical description of the '469 patent. The '469 Patent is directed, for example, to a core feature of video compression that improves motion prediction, and provides substantial benefits to compression quality and efficiency.

116. When using motion prediction, full pixel resolution is generally not sufficiently accurate to model real life motion, which has arbitrary precision. Therefore, sub-pixel resolution is used. Allowing motion vectors to have sub-pixel resolution adds to the complexity and burden of the encoding and decoding operations that must be performed, in part, because the sub-pixel values must be interpolated from full resolution pixels.

117. One problem with sub-pixel value interpolation is maintaining prediction accuracy while also limiting computational complexity and memory usage. For example, prior art methods used predetermined sets of particular nearby pixels and sub-pixels to interpolate other sub-pixel values, while providing no choice or flexibility to avoid unnecessary dependencies which increase computational complexity or memory requirements and may reduce the accuracy of the interpolated sub-pixel values. Other methods exhibit increased computational complexity and memory requirements due to the use of high precision mathematics.

118. The '469 Patent addresses these problems, for example, by providing a method of sub-pixel value interpolation that optimizes both computational complexity and memory requirements while maintaining prediction accuracy. For example, the '469 Patent is superior to prior art methods in that it does not require any $\frac{1}{4}$ resolution sub-pixels to depend on previously interpolated $\frac{1}{4}$ resolution sub-pixels. According to the '469 Patent, $\frac{1}{4}$ resolution sub-pixels that have $\frac{1}{4}$ resolution in both the horizontal and vertical directions are interpolated by a diagonally

located pixel and sub-pixel or two diagonally located sub-pixels. As another example, the '469 Patent is superior to prior art methods in that it does not require high precision arithmetic to be used in the calculation of all sub-pixels, but rather uses high precision arithmetic selectively to maintain prediction accuracy and limit computational complexity and memory requirements.

E. U.S. Patent No. 7,724,818

119. The '818 Patent, entitled "Method for Coding Sequences of Pictures," issued on May 25, 2010, to inventors Miska Hannuksela and Ye-Kui Wang. The '818 Patent issued from U.S. Application Serial No. 10/426,928, filed on April 30, 2003, and expires on or after May 3, 2026.

120. A certified copy of the '818 Patent is attached as Ex. 4.

121. A certified copy of the assignment for the '818 Patent is attached as Ex. 9.

122. A certified copy of the prosecution history of the '818 Patent and copies of each reference cited in the '818 Patent and its prosecution history are included in Appx. D.

123. The '818 Patent has twenty-three claims, twelve of which are independent claims. Complainants are asserting Claims 1-15 and 20-23.

124. Per 19 CFR § 210.12(a)(9)(vi), the following is a nontechnical description of the '818 patent. The '818 Patent is directed, for example, to a core feature of video compression and provides improvements for use in entropy coding.

125. The JVT coding standard contains headers at slice layer and below, but it does not include picture, GOP, or sequence headers. Instead, a concept of a parameter set, introduced in ITU-T document VCEG-N55, replaces such headers. An instance of a parameter set includes all picture, GOP, and sequence level data such as picture size, display window, optional coding modes employed, macroblock allocation map, and others. Each parameter set instance includes a

unique identifier. Each slice header includes a reference to a parameter set identifier, and the parameter values of the referred parameter set are used when decoding the slice. Parameter sets decouple the transmission and decoding order of infrequently changing picture, GOP, and sequence level data from sequence, GOP, and picture boundaries.

126. There are some disadvantages with pre-defined parameter sets. First, if there is a need to transmit many parameter set instances in the beginning of a session, the out-of-band method may become overburdened or the beginning latency of the session will be too long. Second, in systems lacking feasible mechanisms for reliable out-of-band transmission of parameter sets, in-band transport of Parameter Set NAL units is not reliable. Third, for broadcast applications, since the parameter sets information should be transmitted frequently to allow new users join during the broadcast process, redundant transmission of all the active parameter set instances is costly from bit-rate point of view.

127. The '818 Patent addresses these problems and provides an efficient method to transmit parameters relating to picture information. A relatively large number of frequently used parameter set instances and their IDs are pre-defined and stored both in an encoding device and in a decoding device. When the communication starts, these pre-defined parameter sets need not be transmitted. Only the parameter sets not included in the pre-defined ones have to be transmitted, preferably at the session beginning, or transmitted in parameter set NAL units later if necessary.

F. U.S. Patent No. 8,583,706

128. The '706 Patent, entitled "Method, functional arrangement and software means for searching and processing information with user interface of a terminal in which an address field and virtual function keys are modified to correspond to an invoked service through data

input to a browser address field, and cellular network terminal employing the method,” issued on November 12, 2013, to inventors Mika P. Mustonen, II and Markku Rytivaara. The ’706 Patent issued from U.S. Application Serial No. 13/267,113, filed on October 6, 2011, and expires on or after March 21, 2023. It claims priority to U.S. Application Serial No. 10/510,891, filed as application no. PCT/FI03/00220 on March 21, 2003, and to Finnish application 20020664, filed April 8, 2002.

129. A certified copy of the ’706 Patent is attached as Ex. 5.

130. A certified copy of the assignment for the ’706 Patent is attached as Ex. 10.

131. A certified copy of the prosecution history of the ’706 Patent and copies of each reference cited in the ’706 Patent and its prosecution history are included in Appx. E.

132. The ’706 Patent has sixteen claims, three of which are independent claims. Complainants are asserting Claims 1-16.

133. Per 19 CFR § 210.12(a)(9)(vi), the following is a nontechnical description of the ’701 patent. The ’701 Patent is directed, for example, to a user interface with virtual function keys and an adaptive address field.

134. In IP (Internet Protocol) networks, a user may be linked to various applications and services which may be very different. These applications use various messages and operating instructions to guide the user in the correct use of the applications. One device can be used for a wide range of functions, such as personal communication, to pay bills and to play games.

135. The ’706 Patent discloses, for example, an improvement to user interfaces where information entered in the address field of the network browser is utilized so that the address field with its virtual function keys is modified in accordance with the service used on the basis of

information entered in the address field. This improvement makes it easier to carry out information search and processing with a communications device.

G. Foreign Counterparts of the Asserted Patents

136. A list of each foreign patent, each foreign patent application, and each foreign application that has been denied, abandoned, or withdrawn corresponding to the Asserted Patents, with an indication of the prosecution status of each such foreign patent application, is attached as Ex. 23. Nokia is aware of no other foreign patent, foreign patent application, or foreign application that has been denied, abandoned, or withdrawn corresponding to the Asserted Patents.

H. Licensees Under the Asserted Patents

137. [REDACTED]

138. [REDACTED]

[REDACTED]

VII. LENOVO'S UNLAWFUL AND UNFAIR ACTS

139. As discussed in detail below, Lenovo's Accused Products are certain electronic devices, including computers, tablet computers, and components and modules thereof, which infringe the Asserted Patents and are manufactured abroad by or for Lenovo, sold for importation into the United States by or for Lenovo and imported into the United States by or for Lenovo, and/or sold within the United States after importation by or for Lenovo.

140. The following identifies the claims infringed by Lenovo with respect to all of the Accused Products. For each Asserted Patent, two exemplary claim charts are provided, one for a

Lenovo laptop and one for a Lenovo tablet, that show how Lenovo products perform a method of decoding and/or encoding that infringes the asserted claims.

141. Lenovo directly infringes, contributes to the infringement of, and/or induces the infringement of at least Claims 1-2, 5-7, 9-13, 15-16, 18, 21-23, 25-29, 31-32, 35-37, 39, 40-47, 49, 52-54, and 56-62 of the '764 Patent with respect to all of the Accused Products.

142. Exemplary claim charts showing infringement of independent Claims 1, 15, 31, 46 of the '764 Patent by Lenovo's '764 Accused Products are attached as Exs. 24 through 28.

143. Lenovo directly infringes, contributes to the infringement of, and/or induces the infringement of at least Claims 1-4, 6-7, 9-13, 15-18, 20-30, 32-41, 43, 44-49, 51-53, 54-60, and 62-65 of the '808 Patent with respect to all of the Accused Products.

144. Exemplary claim charts showing infringement of independent Claims 1, 7, 10, and 16 of the '808 Patent by Lenovo's '808 Accused Products are attached as Exs. 29 through 33.

145. Lenovo directly infringes, contributes to the infringement of, and/or induces the infringement of at least Claims 1-7, 9, 15-16, 18, 20-25, 27-30, and 50 of the '469 Patent with respect to all of the Accused Products.

146. Exemplary claim charts showing infringement of independent claims 1, 18, 23, 27, and 50 of the '469 Patent by Lenovo's '469 Accused Products are attached as Exs. 34 through 38.

147. Lenovo directly infringes, contributes to the infringement of, and/or induces the infringement of at least Claims 1-15 and 20-23 of the '818 Patent with respect to all of the Accused Products.

148. Exemplary claim charts showing infringement of independent Claims 1, 6, 10-12, 14-15, and 20-23 of the '818 Patent by Lenovo's '818 Accused Products are attached as Exs. 39 through 43.

149. Lenovo directly infringes, contributes to the infringement of, and/or induces the infringement of at least Claims 1-16 of the '706 Patent with respect to all of the Accused Products.

150. Exemplary claim charts showing infringement of independent Claims 1, 6, and 12 of the '706 Patent by Lenovo's '706 Accused Products are attached as Exs. 44 and 45.

A. Direct Infringement

151. Lenovo directly infringes the Asserted Patents through its design, manufacture, sale for importation, importation, sale after importation, and/or use after importation of the Accused Products.

152. On information and belief, Lenovo sells for importation into the United States the Accused Products.

153. On information and belief, the Accused Products are imported into the United States by or on behalf of Lenovo.

154. Lenovo, directly and through authorized agents, sells and offers for sale the Accused Products after importation within the United States to end users.

155. On information and belief, Lenovo sells and offers for sale the Accused Products after importation to wireless system operators, distributors, independent retailers, and other resellers in the United States.

156. On information and belief, Lenovo tests, demonstrates, and/or otherwise operates the Accused Products in the United States, thereby performing the claimed methods and directly

infringing any asserted claims of the Asserted Patents requiring such operation. Similarly, Lenovo's customers and the end users of the Accused Products test and/or operate the Accused Products in the United States, in accordance with Lenovo's instruction contained in, for example, its user manuals, thereby also performing the claimed methods and directly infringing the asserted claims of the Asserted Patents requiring such operation.

B. Contributory Infringement

157. Lenovo also contributes to infringement of the Asserted Patents by selling for importation into the United States, importing into the United States, and/or selling within the United States after importation the Lenovo Accused Products and the non-staple constituent parts of those devices, including hardware modules (such as its mobile processors, GPUs, and/or video coding cores) and/or software modules for encoding and decoding H.264 video, and software and hardware for providing a user interface, which are not suitable for substantial non-infringing use and which embody a material part of the inventions described in the Asserted Patents. These devices are known by Lenovo to be especially made or especially adapted for use in the infringement of the Asserted Patents.

158. Lenovo also contributes to the infringement of the Asserted Patents by selling for importation into the United States, importing into the United States, and/or or selling within the United States after importation hardware and/or software components or modules of the Accused Products, which are not suitable for substantial non-infringing use and which embody a material part of the inventions described in the Asserted Patents. These devices are known by Lenovo to be especially made or especially adapted for use in the infringement of the Asserted Patents.

159. Specifically, Lenovo sells the Accused Products to resellers, retailers, and end users with knowledge that the devices are used for infringement. End users of those electronic

devices directly infringe the Asserted Patents by using the devices to encode H.264 video, to decode H.264 video, and to access network service applications through a user interface.

160. For example, Lenovo, upon information and belief, sells for importation into the United States, imports into the United States, and/or sells within the United States after importation the Accused Products having specific hardware circuits and/or software modules for encoding and decoding H.264 video and for accessing network service applications through a user interface, for which there is no suitable or substantial non-infringing use and which embody a material part of the inventions described in the Asserted Patents. Upon information and belief, Lenovo sells for importation into the United States, imports into the United States, and/or sells within the United States after importation hardware circuits (such as its mobile processors, GPUs, and/or video coding cores) for which there is no suitable or substantial non-infringing use and which embody a material part of the inventions described in the Asserted Patents. In addition, upon information and belief, these devices are known by Lenovo to be especially made or especially adapted for use in the infringement of the Asserted Patents.

161. Lenovo has had knowledge and notice of the '764, '808, '469, and '818 Patents and its infringement thereof since at least March 18, 2019, when Nokia sent Lenovo a notice letter identifying the '764, '808, '469, and '818 Patents. Lenovo further received notice when Nokia filed its complaint asserting infringement of the patents-in-suit on September 25, 2019 in the Eastern District of North Carolina, and when Nokia served infringement contentions in that case on April 13, 2020. Lenovo has had knowledge and notice of the '706 Patent and its infringement thereof since at least June 30, when Nokia sent Lenovo a draft amended complaint for the Eastern District of North Carolina case asserting infringement of the '706 Patent. Lenovo

has also had knowledge and notice of the Asserted Patents and its infringement as of the date of the filing of this Complaint.

C. Induced Infringement

162. Lenovo has also induced, and continues to induce, infringement of the Asserted Patents by encouraging and facilitating others to perform acts known by Lenovo to infringe the Asserted Patents with the specific intent that those performing the acts infringe the Asserted Patents.

163. Upon information and belief, Lenovo did so with knowledge of the Asserted Patents. Upon information and belief, Lenovo had actual notice of the '764, '808, '469, and '818 Patents not later than March 18, 2019, when Nokia: (i) provided Lenovo with a list of patents that included the Asserted Patents; and (ii) described how Lenovo's Accused Products infringe each of the Asserted Patents. Upon information and belief, Lenovo had actual notice of the '706 Patent not later than June 30, 2020.

164. Lenovo, upon information and belief, among other things, advertises the Accused Products, publishes datasheets and promotional literature describing the operation of those devices, creates and/or distributes user manuals for the Accused Products, and offers support and technical assistance to its customers designed to induce those customers to perform the specific acts of direct infringement. On information and belief, these materials instruct and encourage users to use the Accused Products in a manner that infringes the asserted claims.

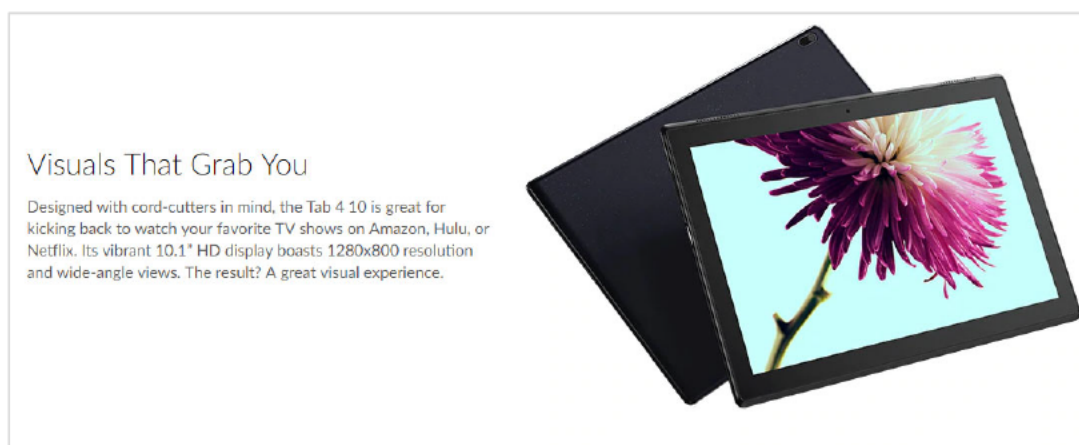
165. For example, Lenovo, upon information and belief, instructs and encourages users to use the Accused Products in a manner that infringes the asserted claims of the Video Coding Asserted Patents in at least the following ways: (i) Lenovo advertises and distributes manuals

that encourage end users to encode and decode H.264 video and (ii) encoding and decoding H.264 video using the Accused Products infringes the asserted claims of the Asserted Patents.

166. For example, Lenovo advertises the ability to stream video from services that use H.264 codecs on its products, claiming that some can even replace conventional televisions for streaming video:



<https://www.lenovo.com/us/en/tablets/android-tablets/tab-4-series/Lenovo-TB-8504/p/ZZITZTATB08> (last accessed on December 9, 2019)



<https://www.lenovo.com/us/en/tablets/android-tablets/tab-4-series/Lenovo-TB-X304/p/ZZITZTATB0X> (last accessed December 9, 2019)

PUBLIC VERSION

FOUR MODES MADE BETTER

Unlike your TV, the Yoga Tab 3 8 lets you enjoy your favorite shows anytime, anywhere. While its vibrant display delivers great video, powerful speakers emit truly immersive audio. And thanks to its epic battery life, you can binge-watch on the go. What's more, a rotating camera lets you snap pictures like never before. Now, can your TV do that?

Starting at: \$129.99

Pay later in 4 parts. **\$33** every two weeks. No fees.



<https://www.lenovo.com/us/en/tablets/android-tablets/yoga-tab-3-series/Yoga-Tab-3-8/p/ZZITZTBYT0F> (last accessed December 9, 2019)

THE ULTIMATE 10.1" VIDEO TABLET.

Unlike your TV, the Yoga Tab 3 10 lets you enjoy your favorite shows anytime, anywhere. While its vibrant display delivers great video, powerful speakers emit truly immersive audio. And thanks to its epic battery life, you can binge-watch on the go. What's more, a rotating camera lets you snap pictures like never before. Now, can your TV do that?

★★★★★ 4.4 (340)



<https://www.lenovo.com/us/en/tablets/android-tablets/yoga-tab-3-series/Yoga-Tab-3-10/p/ZZITZTBYT2F> (last accessed December 9, 2019)

Yoga Tablet 3 Pro

THE TABLET THAT CAN REPLACE YOUR TV.

Say goodbye to your TV. And hello to the ultimate entertainment tablet, the Yoga Tab 3 Pro. The dazzling display is great for binge-watching your favorite shows anywhere—from the office to your kitchen. Its powerful speakers deliver truly immersive audio. And best of all, you can project cinema-like video onto any surface. Now, can your TV do that?

Starting at: \$239.99

Pay later in 4 parts. **\$60** every two weeks. No fees.

[VIEW MODELS](#)

★★★★★ 4.1 (348)



<https://www.lenovo.com/us/en/tablets/android-tablets/yoga-tab-3-series/Yoga-Tab-3-Pro/p/ZZITZTBYT1F> (last accessed December 9, 2019)

Tab E10

Family entertainment in a 10.1" tablet

The Lenovo Tab E10 is the choice for parents seeking a vibrant multimedia tablet that the whole family can enjoy. Its large 10" HD screen and enhanced Dolby Atmos® audio is great for movies, pictures, and games. Child-friendly features like blocking inappropriate content put parents in control of what kids see and do, for added peace of mind.

Starting at: **\$109.99**

[VIEW MODELS](#)

★★★★★ 4.3 (53)



<https://www.lenovo.com/us/en/tablets/android-tablets/lenovo-tab-series/Lenovo-Tab->

[E10/p/ZZITZTATB9X](#) (last accessed December 9, 2019)

A tablet for the whole family

The Lenovo Smart Tab is a great FHD 10.1" Android tablet for multiuse or family use, with Smart Screen and Amazon Alexa functionality. Dock it to the detachable Smart Dock and ask Alexa questions, play videos, and enjoy music with loud, crisp sound. Control your smart home automation devices from across the room with far-field voice pickup features. When you're ready to go, simply undock your Lenovo Smart Tab, and this premium, kid-friendly tablet is ready to take anywhere.

Starting at: **\$199.99**

Pay later in 4 parts. \$50 every two weeks. No fees.



A premium viewing experience

The Lenovo Smart Tab M10 tablet's 10.1" full FHD display captures everything from the intensity of an action movie to the beautiful details in family photos. Say a simple prompt like, "Alexa, show me popular movie trailers," and enjoy hours of entertainment, hands-free.



<https://www.lenovo.com/us/en/tablets/android-tablets/lenovo-tab-series/Lenovo-Tab->

[M10/p/ZZITZTATBAX](#) (last accessed December 9, 2019)

10.1" Tablet with Amazon Alexa

The Lenovo Smart Tab is a great FHD 10.1" Android tablet for multiuse or family use, with Smart Screen and Amazon Alexa functionality. Dock it to the detachable Smart Dock and ask Alexa questions, play videos, and enjoy music with loud, crisp sound. Control your smart home automation devices from across the room with far-field voice pickup features. When you're ready to go, simply undock your Lenovo Smart Tab, and this premium, kid-friendly tablet is ready to take anywhere.

Starting at: \$249.99

Pay later in 4 parts. \$63 every two weeks. No fees.

[VIEW MODELS](#) ★★★★★ 4.2 (37)



<https://www.lenovo.com/us/en/tablets/android-tablets/lenovo-tab-series/Tab-P10/p/ZZITZTATB7X> (last accessed December 9, 2019)

Slim, light, portable

The Tab E8's slim and light profile means you'll barely notice you're holding it. It easily fits in your purse or bag to take anywhere. With up to 10 hours of battery life, you'll be able to go all day without the need to charge.

Visuals that pop

The Tab E8's HD (1280 x 800) display is great for binge watching your favorite shows and videos on Netflix, Hulu, and YouTube. IPS technology means photos and videos look great from any angle – so when you watch with your friends, everyone will have a great view.



<https://www.lenovo.com/us/en/tablets/android-tablets/lenovo-tab-series/Lenovo-Tab-E8/p/ZZITZTATB48> (last accessed December 9, 2019)

Superior performance for everyone

The Lenovo Tab M10 has just the right specs for an entertainment tablet the whole family can share. The Qualcomm® Snapdragon™ quad-core processor keeps things running quickly and smoothly. 802.11 ac WiFi means you'll enjoy speedy and strong connectivity.

Immersive Dolby Audio

Enjoy booming sound when listening to music, movies, shows, and videos. The Lenovo M10 boasts dual front-facing speakers and Dolby Audio™, so you'll get an immersive sound experience wherever you go.



<https://www.lenovo.com/us/en/tablets/android-tablets/lenovo-tab-series/Tab-M10/p/ZZITZTATBBX> (last accessed December 9, 2019)

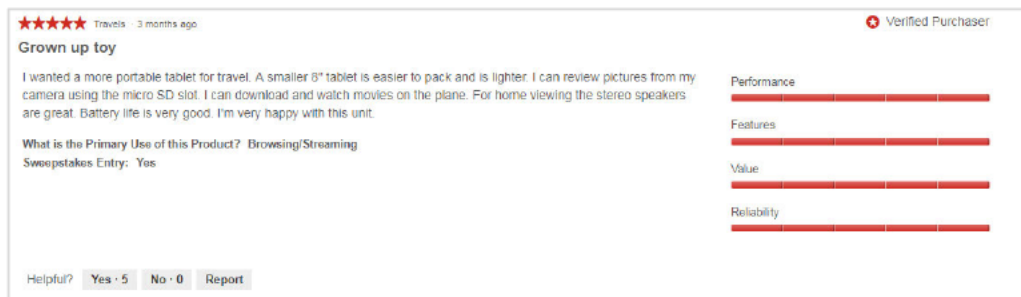
Check out the view

Gone are the days of tablets with tinny sound and grainy video. The Tab M8 brings you an IPS HD touchscreen display that uses 82% of the tablet's surface area for seamless visuals, and a Dolby Audio™-tuned speaker. This one-two punch of visual and audio pleasure makes streaming your favorite videos and playing mobile games even more enjoyable.



<https://www.lenovo.com/us/en/tablets/android-tablets/lenovo-tab-series/Lenovo-Tab-M8-2nd-Gen-HD/p/ZZITZTATB58> (last accessed on December 9, 2019)

167. Additionally, Lenovo publishes customer reviews of the Accused Products that show its customers actually use the Accused Products to stream video and recommending the Accused Products to others:

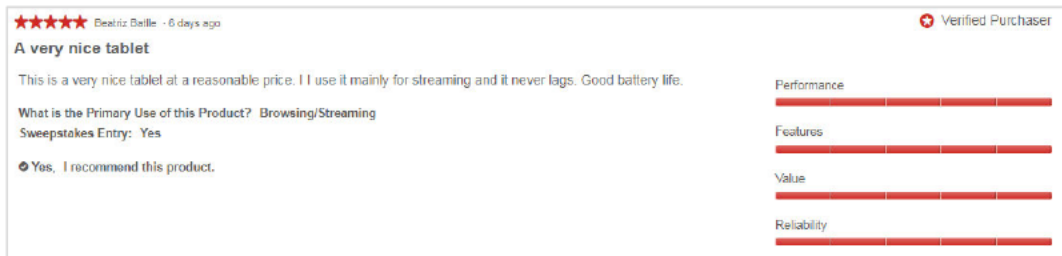


<https://www.lenovo.com/us/en/tablets/android-tablets/tab-4-series/Lenovo-TB-8504/p/ZZITZTATB08> (last accessed on December 9, 2019)

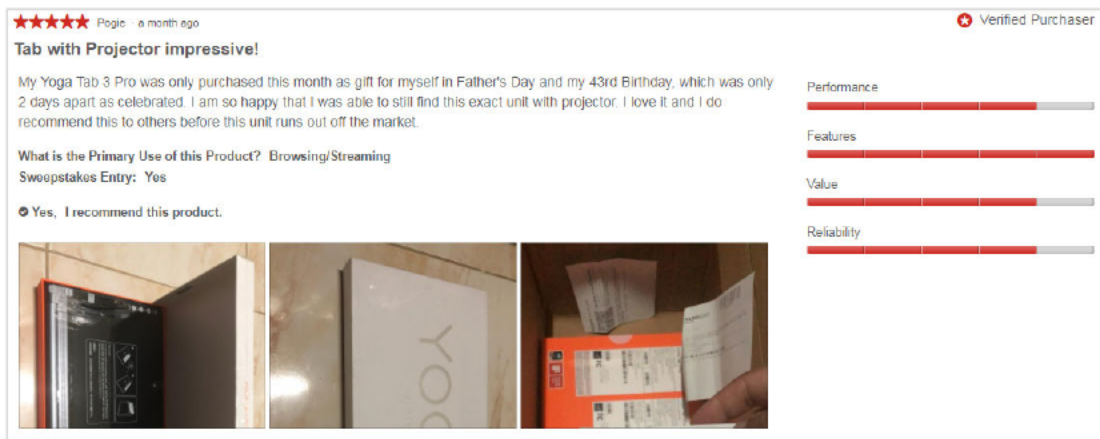
PUBLIC VERSION



<https://www.lenovo.com/us/en/tablets/android-tablets/yoga-tab-3-series/Yoga-Tab-3-8/p/ZZITZTBYT0F> (last accessed December 9, 2019)



<https://www.lenovo.com/us/en/tablets/android-tablets/yoga-tab-3-series/Yoga-Tab-3-10/p/ZZITZTBYT2F> (last accessed December 9, 2019)



<https://www.lenovo.com/us/en/tablets/android-tablets/yoga-tab-3-series/Yoga-Tab-3-Pro/p/ZZITZTBYT1F> (last accessed December 9, 2019)

PUBLIC VERSION

★★★★★ Andrea1993 · 16 days ago Verified Purchaser

This is a good tablet

I really like this tablet. It handles all of the things I need it to, including email, video streaming, and games.

What is the Primary Use of this Product? ☐ Browsing/Streaming

Sweepstakes Entry: ☐ Yes

☒ Yes, I recommend this product.

Performance: 

Features: 

Value: 

Reliability: 

<https://www.lenovo.com/us/en/tablets/android-tablets/lenovo-tab-series/Lenovo-Tab-E10/p/ZZITZTATB9X> (last accessed December 9, 2019)

★★★★★ Anonymous · 24 days ago Verified Purchaser

SMART TAB M10

I thought it was another tablet but I was very surprised when I saw everything I can do with it. Alexa, which is included, is very helpful. The purchase on Lenovo.com was quick and with the financing option.

What is the Primary Use of this Product? ☐ Browsing/Streaming

Sweepstakes Entry: ☐ Yes

☒ Yes, I recommend this product.

Performance: 

Features: 

Value: 

Reliability: 

<https://www.lenovo.com/us/en/tablets/android-tablets/lenovo-tab-series/Lenovo-Tab-M10/p/ZZITZTATBAX> (last accessed December 9, 2019)

★★★★★ Savannah Sweetie · 10 days ago Verified Purchaser

Little Tablet/Big Performance

I am enjoying my Smart Tab P10 very much! Great Purchase!

What is the Primary Use of this Product? ☐ Browsing/Streaming

Sweepstakes Entry: ☐ Yes

☒ Yes, I recommend this product.

Performance: 

Features: 

Value: 

Reliability: 

<https://www.lenovo.com/us/en/tablets/android-tablets/lenovo-tab-series/Tab-P10/p/ZZITZTATB7X> (last accessed December 9, 2019)

★★★★★ LeoTeck · 6 months ago Verified Purchaser

Tab E 8

I bought this tablet to use with a google home / chromecast multi room speaker system. There were some connection issues before I realized my router was dual-band and I could connect to the 5GHz signals. Problem solved. I have found the E8 to be fast, responsive, and video playback is nicer than I expected. I would buy it again.

What is the Primary Use of this Product? ☐ Browsing/Streaming

Sweepstakes Entry: ☐ Yes

☒ Yes, I recommend this product.

Performance: 

Features: 

Value: 

Reliability: 

<https://www.lenovo.com/us/en/tablets/android-tablets/lenovo-tab-series/Lenovo-Tab-E8/p/ZZITZTATB48> (last accessed December 9, 2019).

168. In addition, Lenovo, upon information and belief, instructs and encourages users to use the Accused Products in a manner that infringes the asserted claims of the '706 Patent in at least the following ways: (i) Lenovo advertises and distributes manuals that encourage end users to access network service applications through a user interface and (ii) accessing network service applications using the Accused Products, for example through the Google Assistant, infringes the asserted claims of the Asserted Patents.

169. For example, Lenovo advertises the Google Assistant feature of its products:

To activate Google Assistant, the app continuously listens for the key activation phrase, "OK Google." Once it hears those words, the app attempts to complete whatever request or command it hears and, depending on the type of device it's installed on, can respond to ask for further clarification like, "You want me to find your smartphone. Is that right?"

What Can Google Assistant Do?

From making hands-free calls to searching the web, Google Assistant's native functions are extensive. If you already use Google apps such as Gmail, Google Photos, or Google Duo, then Google Assistant will reference the data on these programs to send messages, find pictures, and initiate video calls for seamless integration across the suite of Google products.

Some of the many things you can do with Google Assistant, including automated tasks predicted by your unique day-to-day behavior:

- Search your email for the tracking info on an order you placed
- Make an online reservation
- Move an appointment on your calendar
- Order food from nearby restaurants
- Set a reminder to finally knock out that "Honey Do" list
- Remember where you parked
- Get the weather forecast
- Be on time – always choose the fastest way to work
- Quickly find the sales presentation that's buried somewhere on Google Drive
- Identify that song that's been stuck in your head all day
- Call a friend, create a new contact, or send a text
- Locate your lost phone
- Connect with **smart devices** to integrate with your home or wearable tech
- And so much more!

<https://www.lenovo.com/us/en/faqs/voice-search/what-is-google-assistant/>

170. Lenovo's customers and the end users of the Accused Products test and/or operate the Accused Products in accordance with Lenovo's instruction thereby directly infringing the asserted claims.

171. In addition, Lenovo is on notice of these allegations as of the filing of this Complaint.

VIII. SPECIFIC INSTANCES OF UNFAIR IMPORTATION AND SALE

172. Respondents sell for importation into the United States, import into the United States, and/or sell after importation into the United States the Accused Products.

173. Upon information and belief, substantially all or all of the Accused Products in the United States are manufactured by Lenovo affiliates or agents thereof, which are located primarily in Asia, and sold for importation. *See* Ex. 49, Lenovo 2018/19 Annual Report, at 131, 283-90.

174. For example, several of the Accused Products were purchased from Lenovo's website and a retailer located in the United States. Specifically, a Lenovo Tab E10 was purchased from Lenovo at www.Lenovo.com on July 19, 2019. *See* Ex. 46. Additionally, a Lenovo Smart Tab M10 and a Lenovo Smart Tab P10 were purchased on December 5, 2019 at www.Amazon.com. *See* Exs. 47 and 48.

175. Each of the acquired products indicate that they were made in China and manufactured for a Lenovo entity. For example, Exhibit 50 contains photographs of the Lenovo IdeaPad L340 and the Lenovo Tab 4 8, purchased from retailers in the United States. The photographs show, *inter alia*, that these laptop computers and tablets themselves, as well as their packaging, indicate that they were "Made in China." Further, each of the Lenovo 100e Chromebook 2nd Generation laptop, Lenovo L340-15IRH laptop, Lenovo 14W laptop, Lenovo

Yoga C940-14IIL laptop, Lenovo Yoga Smart Tab (YT-X705F) tablet, and Lenovo Smart Tab M10 tablet computers were “Made in China” and “made for” a Lenovo entity. *See* Ex. 98 and attachments thereto.

176. Moreover, Lenovo acknowledges the Accused Products are imported and accordingly publishes the Harmonized Tariff Schedule number for all of its imported products. *See* Ex. 97.

177. Proposed Respondent Lenovo (United States), Inc. has imported the Accused Products and sold the Accused Products after importation. Attached as Ex. 90 is two exemplary bills of lading in which Lenovo (United States), Inc. is listed as the purchaser and consignee of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China. Further, upon information and belief, Lenovo (United States), Inc. operates, directs, and/or controls several U.S. distribution centers (such as “Lenovo WC DC Plant”) and fulfillment centers (such as “Lenovo USFC Plant”) where the Accused Products are imported and sold after importation by, or on behalf of, the Lenovo Respondents Lenovo (United States) Inc. and Lenovo (Beijing) Limited.

178. Proposed Respondent Lenovo Group Limited has imported the Accused Products and sold the Accused Products after importation. Attached as Ex 90-A is two exemplary bills of lading in which Lenovo Group Limited is listed as the consignee of desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China

179. Proposed Respondent Lenovo PC HK Limited has imported the Accused Products and sold the Accused Products after importation. Attached as Ex 91 is two exemplary bills of lading in which Lenovo PC HK Limited is listed as the shipper of shipments of tablet, notebook,

and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China.

180. Proposed Respondent Lenovo Information Products Shenzhen Co. Ltd. has imported the Accused Products and sold the Accused Products after importation. Attached as Ex. 92 is two exemplary bills of lading in which Lenovo Information Products Shenzhen Co. Ltd. is listed as the shipper of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China.

181. Proposed Respondent Lenovo Mobile Communication has imported the Accused Products and sold the Accused Products after importation. Attached as Ex. 95 is two exemplary bills of lading in which Lenovo Mobile Communication is listed as the shipper of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China.

182. Proposed Respondent Lenovo (Shanghai) Electronics Technology Co. Ltd. has imported the Accused Products and sold the Accused Products after importation. Attached as Ex. 93 is two exemplary bills of lading in which Lenovo (Shanghai) Electronics Technology Co. Ltd. is listed as the shipper of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China.

183. Proposed Respondent Lenovo Corporation has imported the Accused Products and sold the Accused Products after importation. Attached as Ex. 94 is two exemplary bills of lading in which Lenovo Corporation is listed as the shipper of shipments of tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China.

184. Proposed Lenovo Centro Tecnologico S. de RL CV has imported the Accused Products and sold the Accused Products after importation. Attached as Ex. 96 is two exemplary bills of lading in which Lenovo Centro Tecnologico S. de RL CV is listed as the consignee of shipments of components relating to the accused functionality for tablet, notebook, and/or desktop computers identified by Harmonized Tariff Schedule number being imported into the United States from China.

IX. HARMONIZED TARIFF SCHEDULE NUMBERS

185. On information and belief, the Accused Products have been imported into the United States under at least the following Harmonized Tariff Schedule numbers: 8471.30.0100, 8471.50.0150, 8471.49.0000, and 8471.80.1000, (tablet computers, notebook computers, desktop computers, all-in-one computers, and components thereof). Ex. 97. These numbers are exemplary, and Complainants will provide updated Harmonized Tariff Schedule numbers as they are discovered throughout the course of the investigation.

X. RELATED LITIGATION

186. On September 19, 2018, Nokia filed six complaints alleging patent infringement of Nokia H.264 patents against Lenovo in the Munich, Mannheim, and Dusseldorf Region Courts in Germany.

187. On September 25, 2019, Nokia filed a complaint in the U.S. District Court for the Eastern District of North Carolina alleging infringement of the Asserted Patents against Respondents.

188. On October 19, 2019, Nokia filed a complaint for patent infringement against Lenovo in the High Court of Delhi in New Delhi, India.

189. On December 19, 2019, Nokia filed a complaint for patent infringement against Lenovo in the Munich Regional Court in Munich, Germany.

190. Aside from the above-mentioned matters, Nokia has not litigated the Asserted Patents against Respondents before any other court or agency.

191. In 2016, Nokia litigated the Asserted Patents against Apple Inc. in the United States District Court for the Eastern District of Texas. The parties settled in 2017.

XI. DOMESTIC INDUSTRY

192. An industry as required by Section 337(a)(2) and as defined by Section 337(a)(3) exists in the United States. Complainants, through its licensees, have made significant investments in plant and equipment, employed significant labor and capital, and made substantial investments in engineering and research and development related to products and services that embody the Asserted Patents.

A. Products that Practice the Asserted Patents

193. As stated above, for purposes of this Complaint, Nokia submits that various Microsoft, Samsung, and Panasonic devices capable of encoding and decoding H.264 video practice at least one claim of the Asserted Patents (“Domestic Industry Products”). The following table provides examples of the Domestic Industry Products that practice each of the Asserted Patents:

U.S. Patent No.	Example of Domestic Industry Products
7,532,808	Xbox One, Xbox One X, Xbox One S, Surface 2, Surface Pro 2, Surface 3, Surface Pro 3, Surface Pro 4, Surface Pro 5, Surface Pro 6, Surface Pro 7, Surface Pro X, Surface Go 2, Surface Go, Surface Studio 2, Surface Laptop 2, Surface Book 3, Surface Book 2, HoloLens 2, HoloLens Samsung Galaxy Fold 5G, Samsung Galaxy Fold, Samsung

	<p>Galaxy S20 Ultra 5G, Samsung Galaxy S20 Ultra, Samsung Galaxy S20+ 5G, Samsung Galaxy S20+, Samsung Galaxy S20 5G UW, Samsung Galaxy S20 5G, Samsung Galaxy S20, Samsung Galaxy S10 Lite, Samsung Galaxy S10 5G, Samsung Galaxy S10+, Samsung Galaxy S10, Samsung Galaxy S10e, Samsung Galaxy S9, Samsung Galaxy S8, Samsung Galaxy S7, Samsung Galaxy S7 Edge, Samsung Galaxy S7 Active, Samsung Galaxy S6, Samsung Galaxy S6 Edge+, Samsung Galaxy S5, Samsung Galaxy A21s, Samsung Galaxy A21, Samsung Galaxy A Quantum, Samsung Galaxy A71 5G, Samsung Galaxy A51 5G, Samsung Galaxy A31, Samsung Galaxy A41, Samsung Galaxy A11, Samsung Galaxy A01, Samsung Galaxy A71, Samsung Galaxy A51, Samsung Galaxy A70s, Samsung Galaxy A20s, Samsung Galaxy A90 5G, Samsung Galaxy A10s, Samsung Galaxy A40, Samsung Galaxy A90, Samsung Galaxy A30s, Samsung Galaxy A50s, Samsung Galaxy A10e, Samsung Galaxy A2 Core, Samsung Galaxy A80, Samsung Galaxy A70, Samsung Galaxy A60, Samsung Galaxy A50, Samsung Galaxy A30, Samsung Galaxy A20e, Samsung Galaxy A20, Samsung Galaxy A10, Samsung Galaxy A8s, Samsung Galaxy A6s, Samsung Galaxy A9, Samsung Galaxy A7, Samsung Galaxy A8 Star, Samsung Galaxy A6, Samsung Galaxy A8, Samsung Galaxy A9 Pro, Samsung Galaxy A5, Samsung Galaxy A3, Samsung Galaxy C7, Samsung Galaxy C5 Pro, Samsung Galaxy C7 Pro, Samsung Galaxy C9 Pro, Samsung Galaxy C10, Samsung Galaxy C7, Samsung Galaxy C5, Samsung Galaxy J2 Core, Samsung Galaxy J8, Samsung Galaxy J6, Samsung Galaxy J4, Samsung Galaxy J7 Duo, Samsung Galaxy J2 Pro, Samsung Galaxy J2, Samsung Galaxy J7 V, Samsung Galaxy J7 Max, Samsung Galaxy J7 Pro, Samsung Galaxy J7, Samsung Galaxy J5, Samsung Galaxy J1 mini prime, Samsung Galaxy J2 Prime, Samsung Galaxy M01, Samsung Galaxy M11, Samsung Galaxy M21, Samsung Galaxy M31, Samsung Galaxy M10s, Samsung Galaxy M30s, Samsung Galaxy M40, Samsung Galaxy M30, Samsung Galaxy M20, Samsung Galaxy M10, Samsung Galaxy Note10 Lite, Samsung Galaxy Note10+ 5G, Samsung Galaxy Note10+, Samsung Galaxy Note 10 5G, Samsung Galaxy Note 10, Samsung Galaxy Note 8, Samsung Galaxy Note 7, Samsung Galaxy Note 5, Samsung Galaxy Note Edge, Samsung Galaxy Note 4, Samsung Galaxy Note 3, Samsung Galaxy XCover Pro, Samsung Galaxy XCover FieldPro, Samsung Galaxy XCover 4s, Samsung Galaxy Z Flip, Samsung</p>
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	<p>Galaxy Tab S6 Lite, Samsung Galaxy Tab S6 5G, Samsung Galaxy Tab Active Pro, Samsung Galaxy Tab A 8.0, Samsung Galaxy View2, Samsung Galaxy Tab S5e, Samsung Galaxy Tab A 10.1, Samsung Galaxy Tab A 8.0, Samsung Galaxy Tab S4 10.5, Galaxy Tab S6, Samsung Galaxy Tab A, Samsung Galaxy Tab S5e, Samsung Galaxy Tab S3, Samsung Galaxy TabPro S, Samsung Galaxy Tab S2, Samsung Galaxy View, Samsung Galaxy Tab A, Samsung Galaxy Tab E, Samsung Galaxy Tab E Lite, Samsung Kids Tab E Lite, Samsung Galaxy Tab, Samsung Galaxy Tab 2, Samsung Galaxy Tab 3, Samsung Galaxy Tab 4, Samsung Plus 2-in-1 Chromebook, Samsung Galaxy Book S, Samsung Galaxy Book 2, Samsung Galaxy Book</p> <p>Panasonic Toughpad FZ-M1, Panasonic Toughpad FZ-G1, Panasonic Toughpad FZ-X1, Panasonic Toughpad FZ-A1, Panasonic Toughpad JT-B1, Panasonic Toughbook L1, Panasonic Toughbook 55, Panasonic Toughbook 54, Panasonic Toughbook 31, Panasonic Toughbook 20, Panasonic Toughbook 33, Panasonic Toughbook T1, and Panasonic Toughbook N1, Lumix LX100 II, Lumix TS7, Lumix 4K Digital Camera ZS200, Lumix ZS80 20.3MP Digital Camera, Lumix DC-ZS70 4K Digital Camera, Lumix FZ80 4K Point and Shoot Long Zoom Camera, Lumix FZ2500 Digital Camera, Lumix 4K Digital Camera LX10, Lumix 4K Digital Camera ZS100, Lumix FZ300 4K 24X F2.8 Long Zoom Digital Camera, Lumix 30X Travel Zoom Camera, Lumix Active Lifestyle Tough, Lumix LX100 Integrated Leica DC Lens Camera, Lumix FZ1000 4K QFHD/HD 16X Long Zoom Digital Camera, Lumix FZ1000M2 20.1MP Digital Camera, Lumix S1H Digital Mirrorless Camera, Lumix G95 20.3MP Mirrorless Camera, Lumix S1R Body Digital Mirrorless Camera, Lumix S1 Body Digital Mirrorless Camera, Lumix GX9 Mirrorless Camera, Lumix GX85 4K Mirrorless Camera, Lumix GH5s 4K Mirrorless ILC Camera, Lumix G9 Mirrorless Camera, Lumix GH5 4K Mirrorless Camera, Lumix GX850 4K Mirrorless ILC Camera, Lumix GH5 4K Mirrorless ILC Camera, Lumix GX8 4K Mirrorless Interchangeable Lens Camera, Lumix G7 4K Mirrorless Interchangeable Lens Camera Kit, Lumix GH4 Professional 4K Mirrorless Interchangeable Lens Camera, Panasonic Full HD Camcorder with 20X Stabilized Lens and WiFi Smartphone Twin Video Capture, Panasonic 4K 24p Cinema/60p Video</p>
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PUBLIC VERSION

	<p>Camcorder HC-X1000, Panasonic Full HD Camcorder, Panasonic 4K Cinema-Like Camcorder, Panasonic 4K Camcorder, Panasonic HD Camcorder, Panasonic 4K Cinema-Like Camcorder, Panasonic 4K Ultra HD Camcorder, Panasonic 4K HD Camcorder, Panasonic Next Series Inflight Entertainment System, Panasonic EX1 Inflight Entertainment System, Panasonic EX2 Inflight Entertainment System, Panasonic EX3 Inflight Entertainment System</p>
6,950,469	<p>Xbox One, Xbox One X, Xbox One S, Surface 2, Surface Pro 2, Surface 3, Surface Pro 3, Surface Pro 4, Surface Pro 5, Surface Pro 6, Surface Pro 7, Surface Pro X, Surface Go 2, Surface Go, Surface Studio 2, Surface Laptop 2, Surface Book 3, Surface Book 2, HoloLens 2, HoloLens</p> <p>Samsung Galaxy Fold 5G, Samsung Galaxy Fold, Samsung Galaxy S20 Ultra 5G, Samsung Galaxy S20 Ultra, Samsung Galaxy S20+ 5G, Samsung Galaxy S20+, Samsung Galaxy S20 5G UW, Samsung Galaxy S20 5G, Samsung Galaxy S20, Samsung Galaxy S10 Lite, Samsung Galaxy S10 5G, Samsung Galaxy S10+, Samsung Galaxy S10, Samsung Galaxy S10e, Samsung Galaxy S9, Samsung Galaxy S8, Samsung Galaxy S7, Samsung Galaxy S7 Edge, Samsung Galaxy S7 Active, Samsung Galaxy S6, Samsung Galaxy S6 Edge+, Samsung Galaxy S5, Samsung Galaxy A21s, Samsung Galaxy A21, Samsung Galaxy A Quantum, Samsung Galaxy A71 5G, Samsung Galaxy A51 5G, Samsung Galaxy A31, Samsung Galaxy A41, Samsung Galaxy A11, Samsung Galaxy A01, Samsung Galaxy A71, Samsung Galaxy A51, Samsung Galaxy A70s, Samsung Galaxy A20s, Samsung Galaxy A90 5G, Samsung Galaxy A10s, Samsung Galaxy A40, Samsung Galaxy A90, Samsung Galaxy A30s, Samsung Galaxy A50s, Samsung Galaxy A10e, Samsung Galaxy A2 Core, Samsung Galaxy A80, Samsung Galaxy A70, Samsung Galaxy A60, Samsung Galaxy A50, Samsung Galaxy A30, Samsung Galaxy A20e, Samsung Galaxy A20, Samsung Galaxy A10, Samsung Galaxy A8s, Samsung Galaxy A6s, Samsung Galaxy A9, Samsung Galaxy A7, Samsung Galaxy A8 Star, Samsung Galaxy A6, Samsung Galaxy A8, Samsung Galaxy A9 Pro, Samsung Galaxy A5, Samsung Galaxy A3, Samsung Galaxy C7, Samsung Galaxy C5 Pro, Samsung Galaxy C7 Pro, Samsung Galaxy C9 Pro, Samsung Galaxy C10, Samsung Galaxy C7, Samsung Galaxy C5, Samsung Galaxy J2 Core,</p>

	<p> Samsung Galaxy J8, Samsung Galaxy J6, Samsung Galaxy J4, Samsung Galaxy J7 Duo, Samsung Galaxy J2 Pro, Samsung Galaxy J2, Samsung Galaxy J7 V, Samsung Galaxy J7 Max, Samsung Galaxy J7 Pro, Samsung Galaxy J7, Samsung Galaxy J5, Samsung Galaxy J1 mini prime, Samsung Galaxy J2 Prime, Samsung Galaxy M01, Samsung Galaxy M11, Samsung Galaxy M21, Samsung Galaxy M31, Samsung Galaxy M10s, Samsung Galaxy M30s, Samsung Galaxy M40, Samsung Galaxy M30, Samsung Galaxy M20, Samsung Galaxy M10, Samsung Galaxy Note10 Lite, Samsung Galaxy Note10+ 5G, Samsung Galaxy Note10+, Samsung Galaxy Note 10 5G, Samsung Galaxy Note 10, Samsung Galaxy Note 8, Samsung Galaxy Note 7, Samsung Galaxy Note 5, Samsung Galaxy Note Edge, Samsung Galaxy Note 4, Samsung Galaxy Note 3, Samsung Galaxy XCover Pro, Samsung Galaxy XCover FieldPro, Samsung Galaxy XCover 4s, Samsung Galaxy Z Flip, Samsung Galaxy Tab S6 Lite, Samsung Galaxy Tab S6 5G, Samsung Galaxy Tab Active Pro, Samsung Galaxy Tab A 8.0, Samsung Galaxy View2, Samsung Galaxy Tab S5e, Samsung Galaxy Tab A 10.1, Samsung Galaxy Tab A 8.0, Samsung Galaxy Tab S4 10.5, Galaxy Tab S6, Samsung Galaxy Tab A, Samsung Galaxy Tab S5e, Samsung Galaxy Tab S3, Samsung Galaxy TabPro S, Samsung Galaxy Tab S2, Samsung Galaxy View, Samsung Galaxy Tab A, Samsung Galaxy Tab E, Samsung Galaxy Tab E Lite, Samsung Kids Tab E Lite, Samsung Galaxy Tab, Samsung Galaxy Tab 2, Samsung Galaxy Tab 3, Samsung Galaxy Tab 4, Samsung Plus 2-in-1 Chromebook, Samsung Galaxy Book S, Samsung Galaxy Book 2, Samsung Galaxy Book </p> <p> Panasonic Toughpad FZ-M1, Panasonic Toughpad FZ-G1, Panasonic Toughpad FZ-X1, Panasonic Toughpad FZ-A1, Panasonic Toughpad JT-B1, Panasonic Toughbook L1, Panasonic Toughbook 55, Panasonic Toughbook 54, Panasonic Toughbook 31, Panasonic Toughbook 20, Panasonic Toughbook 33, Panasonic Toughbook T1, and Panasonic Toughbook N1, Lumix LX100 II, Lumix TS7, Lumix 4K Digital Camera ZS200, Lumix ZS80 20.3MP Digital Camera, Lumix DC-ZS70 4K Digital Camera, Lumix FZ80 4K Point and Shoot Long Zoom Camera, Lumix FZ2500 Digital Camera, Lumix 4K Digital Camera LX10, Lumix 4K Digital Camera ZS100, Lumix FZ300 4K 24X F2.8 Long Zoom Digital Camera, Lumix 30X Travel Zoom </p>
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	<p>Camera, Lumix Active Lifestyle Tough, Lumix LX100 Integrated Leica DC Lens Camera, Lumix FZ1000 4K QFHD/HD 16X Long Zoom Digital Camera, Lumix FZ1000M2 20.1MP Digital Camera, Lumix S1H Digital Mirrorless Camera, Lumix G95 20.3MP Mirrorless Camera, Lumix S1R Body Digital Mirrorless Camera, Lumix S1 Body Digital Mirrorless Camera, Lumix GX9 Mirrorless Camera, Lumix GX85 4K Mirrorless Camera, Lumix GH5s C4K Mirrorless ILC Camera, Lumix G9 Mirrorless Camera, Lumix GH5 4K Mirrorless Camera, Lumix GX850 4K Mirrorless ILC Camera, Lumix GH5 4K Mirrorless ILC Camera, Lumix GX8 4K Mirrorless Interchangeable Lens Camera, Lumix G7 4K Mirrorless Interchangeable Lens Camera Kit, Lumix GH4 Professional 4K Mirrorless Interchangeable Lens Camera, Panasonic Full HD Camcorder with 20X Stabilized Lens and WiFi Smartphone Twin Video Capture, Panasonic 4K 24p Cinema/60p Video Camcorder HC-X1000, Panasonic Full HD Camcorder, Panasonic 4K Cinema-Like Camcorder, Panasonic 4K Camcorder, Panasonic HD Camcorder, Panasonic 4K Cinema-Like Camcorder, Panasonic 4K Ultra HD Camcorder, Panasonic 4K HD Camcorder, Panasonic Next Series Inflight Entertainment System, Panasonic EX1 Inflight Entertainment System, Panasonic EX2 Inflight Entertainment System, Panasonic EX3 Inflight Entertainment System</p>
8,144,764	<p>Xbox One, Xbox One X, Xbox One S, Surface 2, Surface Pro 2, Surface 3, Surface Pro 3, Surface Pro 4, Surface Pro 5, Surface Pro 6, Surface Pro 7, Surface Pro X, Surface Go 2, Surface Go, Surface Studio 2, Surface Laptop 2, Surface Book 3, Surface Book 2, HoloLens 2, HoloLens</p> <p>Samsung Galaxy Fold 5G, Samsung Galaxy Fold, Samsung Galaxy S20 Ultra 5G, Samsung Galaxy S20 Ultra, Samsung Galaxy S20+ 5G, Samsung Galaxy S20+, Samsung Galaxy S20 5G UW, Samsung Galaxy S20 5G, Samsung Galaxy S20, Samsung Galaxy S10 Lite, Samsung Galaxy S10 5G, Samsung Galaxy S10+, Samsung Galaxy S10, Samsung Galaxy S10e, Samsung Galaxy S9, Samsung Galaxy S8, Samsung Galaxy S7, Samsung Galaxy S7 Edge, Samsung Galaxy S7 Active, Samsung Galaxy S6, Samsung Galaxy S6 Edge+, Samsung Galaxy S5, Samsung Galaxy A21s, Samsung Galaxy A21, Samsung Galaxy A Quantum, Samsung Galaxy A71 5G, Samsung Galaxy A51 5G,</p>

	<p> Samsung Galaxy A31, Samsung Galaxy A41, Samsung Galaxy A11, Samsung Galaxy A01, Samsung Galaxy A71, Samsung Galaxy A51, Samsung Galaxy A70s, Samsung Galaxy A20s, Samsung Galaxy A90 5G, Samsung Galaxy A10s, Samsung Galaxy A40, Samsung Galaxy A90, Samsung Galaxy A30s, Samsung Galaxy A50s, Samsung Galaxy A10e, Samsung Galaxy A2 Core, Samsung Galaxy A80, Samsung Galaxy A70, Samsung Galaxy A60, Samsung Galaxy A50, Samsung Galaxy A30, Samsung Galaxy A20e, Samsung Galaxy A20, Samsung Galaxy A10, Samsung Galaxy A8s, Samsung Galaxy A6s, Samsung Galaxy A9, Samsung Galaxy A7, Samsung Galaxy A8 Star, Samsung Galaxy A6, Samsung Galaxy A8, Samsung Galaxy A9 Pro, Samsung Galaxy A5, Samsung Galaxy A3, Samsung Galaxy C7, Samsung Galaxy C5 Pro, Samsung Galaxy C7 Pro, Samsung Galaxy C9 Pro, Samsung Galaxy C10, Samsung Galaxy C7, Samsung Galaxy C5, Samsung Galaxy J2 Core, Samsung Galaxy J8, Samsung Galaxy J6, Samsung Galaxy J4, Samsung Galaxy J7 Duo, Samsung Galaxy J2 Pro, Samsung Galaxy J2, Samsung Galaxy J7 V, Samsung Galaxy J7 Max, Samsung Galaxy J7 Pro, Samsung Galaxy J7, Samsung Galaxy J5, Samsung Galaxy J1 mini prime, Samsung Galaxy J2 Prime, Samsung Galaxy M01, Samsung Galaxy M11, Samsung Galaxy M21, Samsung Galaxy M31, Samsung Galaxy M10s, Samsung Galaxy M30s, Samsung Galaxy M40, Samsung Galaxy M30, Samsung Galaxy M20, Samsung Galaxy M10, Samsung Galaxy Note10 Lite, Samsung Galaxy Note10+ 5G, Samsung Galaxy Note10+, Samsung Galaxy Note 10 5G, Samsung Galaxy Note 10, Samsung Galaxy Note 8, Samsung Galaxy Note 7, Samsung Galaxy Note 5, Samsung Galaxy Note Edge, Samsung Galaxy Note 4, Samsung Galaxy Note 3, Samsung Galaxy XCover Pro, Samsung Galaxy XCover FieldPro, Samsung Galaxy XCover 4s, Samsung Galaxy Z Flip, Samsung Galaxy Tab S6 Lite, Samsung Galaxy Tab S6 5G, Samsung Galaxy Tab Active Pro, Samsung Galaxy Tab A 8.0, Samsung Galaxy View2, Samsung Galaxy Tab S5e, Samsung Galaxy Tab A 10.1, Samsung Galaxy Tab A 8.0, Samsung Galaxy Tab S4 10.5, Galaxy Tab S6, Samsung Galaxy Tab A, Samsung Galaxy Tab S5e, Samsung Galaxy Tab S3, Samsung Galaxy TabPro S, Samsung Galaxy Tab S2, Samsung Galaxy View, Samsung Galaxy Tab A, Samsung Galaxy Tab E, Samsung Galaxy Tab E Lite, Samsung Kids Tab E Lite, Samsung Galaxy Tab, Samsung Galaxy Tab 2, Samsung Galaxy Tab 3, Samsung Galaxy Tab </p>
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PUBLIC VERSION

	<p>4, Samsung Plus 2-in-1 Chromebook, Samsung Galaxy Book S, Samsung Galaxy Book 2, Samsung Galaxy Book</p> <p>Panasonic Toughpad FZ-M1, Panasonic Toughpad FZ-G1, Panasonic Toughpad FZ-X1, Panasonic Toughpad FZ-A1, Panasonic Toughpad JT-B1, Panasonic Toughbook L1, Panasonic Toughbook 55, Panasonic Toughbook 54, Panasonic Toughbook 31, Panasonic Toughbook 20, Panasonic Toughbook 33, Panasonic Toughbook T1, and Panasonic Toughbook N1, Lumix LX100 II, Lumix TS7, Lumix 4K Digital Camera ZS200, Lumix ZS80 20.3MP Digital Camera, Lumix DC-ZS70 4K Digital Camera, Lumix FZ80 4K Point and Shoot Long Zoom Camera, Lumix FZ2500 Digital Camera, Lumix 4K Digital Camera LX10, Lumix 4K Digital Camera ZS100, Lumix FZ300 4K 24X F2.8 Long Zoom Digital Camera, Lumix 30X Travel Zoom Camera, Lumix Active Lifestyle Tough, Lumix LX100 Integrated Leica DC Lens Camera, Lumix FZ1000 4K QFHD/HD 16X Long Zoom Digital Camera, Lumix FZ1000M2 20.1MP Digital Camera, Lumix S1H Digital Mirrorless Camera, Lumix G95 20.3MP Mirrorless Camera, Lumix S1R Body Digital Mirrorless Camera, Lumix S1 Body Digital Mirrorless Camera, Lumix GX9 Mirrorless Camera, Lumix GX85 4K Mirrorless Camera, Lumix GH5s C4K Mirrorless ILC Camera, Lumix G9 Mirrorless Camera, Lumix GH5 4K Mirrorless Camera, Lumix GX850 4K Mirrorless ILC Camera, Lumix GH5 4K Mirrorless ILC Camera, Lumix GX8 4K Mirrorless Interchangeable Lens Camera, Lumix G7 4K Mirrorless Interchangeable Lens Camera Kit, Lumix GH4 Professional 4K Mirrorless Interchangeable Lens Camera, Panasonic Full HD Camcorder with 20X Stabilized Lens and WiFi Smartphone Twin Video Capture, Panasonic 4K 24p Cinema/60p Video Camcorder HC-X1000, Panasonic Full HD Camcorder, Panasonic 4K Cinema-Like Camcorder, Panasonic 4K Camcorder, Panasonic HD Camcorder, Panasonic 4K Cinema-Like Camcorder, Panasonic 4K Ultra HD Camcorder, Panasonic 4K HD Camcorder, Panasonic Next Series Inflight Entertainment System, Panasonic EX1 Inflight Entertainment System, Panasonic EX2 Inflight Entertainment System, Panasonic EX3 Inflight Entertainment System</p>
7,724,818	Surface 2, Surface Pro 2, Surface 3, Surface Pro 3, Surface

	<p>Pro 4, Surface Pro 5, Surface Pro 6, Surface Pro 7, Surface Pro X, Surface Go 2, Surface Go, Surface Studio 2, Surface Laptop 2, Surface Book 3, Surface Book 2, HoloLens 2, HoloLens</p> <p>Samsung Galaxy Fold 5G, Samsung Galaxy Fold, Samsung Galaxy S20 Ultra 5G, Samsung Galaxy S20 Ultra, Samsung Galaxy S20+ 5G, Samsung Galaxy S20+, Samsung Galaxy S20 5G UW, Samsung Galaxy S20 5G, Samsung Galaxy S20, Samsung Galaxy S10 Lite, Samsung Galaxy S10 5G, Samsung Galaxy S10+, Samsung Galaxy S10, Samsung Galaxy S10e, Samsung Galaxy S9, Samsung Galaxy S8, Samsung Galaxy S7, Samsung Galaxy S7 Edge, Samsung Galaxy S7 Active, Samsung Galaxy S6, Samsung Galaxy S6 Edge+, Samsung Galaxy S5, Samsung Galaxy A21s, Samsung Galaxy A21, Samsung Galaxy A Quantum, Samsung Galaxy A71 5G, Samsung Galaxy A51 5G, Samsung Galaxy A31, Samsung Galaxy A41, Samsung Galaxy A11, Samsung Galaxy A01, Samsung Galaxy A71, Samsung Galaxy A51, Samsung Galaxy A70s, Samsung Galaxy A20s, Samsung Galaxy A90 5G, Samsung Galaxy A10s, Samsung Galaxy A40, Samsung Galaxy A90, Samsung Galaxy A30s, Samsung Galaxy A50s, Samsung Galaxy A10e, Samsung Galaxy A2 Core, Samsung Galaxy A80, Samsung Galaxy A70, Samsung Galaxy A60, Samsung Galaxy A50, Samsung Galaxy A30, Samsung Galaxy A20e, Samsung Galaxy A20, Samsung Galaxy A10, Samsung Galaxy A8s, Samsung Galaxy A6s, Samsung Galaxy A9, Samsung Galaxy A7, Samsung Galaxy A8 Star, Samsung Galaxy A6, Samsung Galaxy A8, Samsung Galaxy A9 Pro, Samsung Galaxy A5, Samsung Galaxy A3, Samsung Galaxy C7, Samsung Galaxy C5 Pro, Samsung Galaxy C7 Pro, Samsung Galaxy C9 Pro, Samsung Galaxy C10, Samsung Galaxy C7, Samsung Galaxy C5, Samsung Galaxy J2 Core, Samsung Galaxy J8, Samsung Galaxy J6, Samsung Galaxy J4, Samsung Galaxy J7 Duo, Samsung Galaxy J2 Pro, Samsung Galaxy J2, Samsung Galaxy J7 V, Samsung Galaxy J7 Max, Samsung Galaxy J7 Pro, Samsung Galaxy J7, Samsung Galaxy J5, Samsung Galaxy J1 mini prime, Samsung Galaxy J2 Prime, Samsung Galaxy M01, Samsung Galaxy M11, Samsung Galaxy M21, Samsung Galaxy M31, Samsung Galaxy M10s, Samsung Galaxy M30s, Samsung Galaxy M40, Samsung Galaxy M30, Samsung Galaxy M20, Samsung Galaxy M10, Samsung Galaxy Note10 Lite, Samsung Galaxy Note10+ 5G, Samsung Galaxy Note10+,</p>
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	<p>Samsung Galaxy Note 10 5G, Samsung Galaxy Note 10, Samsung Galaxy Note 8, Samsung Galaxy Note 7, Samsung Galaxy Note 5, Samsung Galaxy Note Edge, Samsung Galaxy Note 4, Samsung Galaxy Note 3, Samsung Galaxy XCover Pro, Samsung Galaxy XCover FieldPro, Samsung Galaxy XCover 4s, Samsung Galaxy Z Flip, Samsung Galaxy Tab S6 Lite, Samsung Galaxy Tab S6 5G, Samsung Galaxy Tab Active Pro, Samsung Galaxy Tab A 8.0, Samsung Galaxy View2, Samsung Galaxy Tab S5e, Samsung Galaxy Tab A 10.1, Samsung Galaxy Tab A 8.0, Samsung Galaxy Tab S4 10.5, Galaxy Tab S6, Samsung Galaxy Tab A, Samsung Galaxy Tab S5e, Samsung Galaxy Tab S3, Samsung Galaxy TabPro S, Samsung Galaxy Tab S2, Samsung Galaxy View, Samsung Galaxy Tab A, Samsung Galaxy Tab E, Samsung Galaxy Tab E Lite, Samsung Kids Tab E Lite, Samsung Galaxy Tab, Samsung Galaxy Tab 2, Samsung Galaxy Tab 3, Samsung Galaxy Tab 4, Samsung Plus 2-in-1 Chromebook, Samsung Galaxy Book S, Samsung Galaxy Book 2, Samsung Galaxy Book</p> <p>Panasonic Toughpad FZ-M1, Panasonic Toughpad FZ-G1, Panasonic Toughpad FZ-X1, Panasonic Toughpad FZ-A1, Panasonic Toughpad JT-B1, Panasonic Toughbook L1, Panasonic Toughbook 55, Panasonic Toughbook 54, Panasonic Toughbook 31, Panasonic Toughbook 20, Panasonic Toughbook 33, Panasonic Toughbook T1, and Panasonic Toughbook N1, Lumix LX100 II, Lumix TS7, Lumix 4K Digital Camera ZS200, Lumix ZS80 20.3MP Digital Camera, Lumix DC-ZS70 4K Digital Camera, Lumix FZ80 4K Point and Shoot Long Zoom Camera, Lumix FZ2500 Digital Camera, Lumix 4K Digital Camera LX10, Lumix 4K Digital Camera ZS100, Lumix FZ300 4K 24X F2.8 Long Zoom Digital Camera, Lumix 30X Travel Zoom Camera, Lumix Active Lifestyle Tough, Lumix LX100 Integrated Leica DC Lens Camera, Lumix FZ1000 4K QFHD/HD 16X Long Zoom Digital Camera, Lumix FZ1000M2 20.1MP Digital Camera, Lumix S1H Digital Mirrorless Camera, Lumix G95 20.3MP Mirrorless Camera, Lumix S1R Body Digital Mirrorless Camera, Lumix S1 Body Digital Mirrorless Camera, Lumix GX9 Mirrorless Camera, Lumix GX85 4K Mirrorless Camera, Lumix GH5s C4K Mirrorless ILC Camera, Lumix G9 Mirrorless Camera, Lumix GH5 4K Mirrorless Camera, Lumix GX850 4K Mirrorless ILC Camera, Lumix GH5 4K Mirrorless ILC</p>
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PUBLIC VERSION

	<p>Camera, Lumix GX8 4K Mirrorless Interchangeable Lens Camera, Lumix G7 4K Mirrorless Interchangeable Lens Camera Kit, Lumix GH4 Professional 4K Mirrorless Interchangeable Lens Camera, Panasonic Full HD Camcorder with 20X Stabilized Lens and WiFi Smartphone Twin Video Capture, Panasonic 4K 24p Cinema/60p Video Camcorder HC-X1000, Panasonic Full HD Camcorder, Panasonic 4K Cinema-Like Camcorder, Panasonic 4K Camcorder, Panasonic HD Camcorder, Panasonic 4K Cinema-Like Camcorder, Panasonic 4K Ultra HD Camcorder, Panasonic 4K HD Camcorder</p>
8,583,706	<p>Surface 2, Surface Pro 2, Surface 3, Surface Pro 3, Surface Pro 4, Surface Pro 5, Surface Pro 6, Surface Pro 7, Surface Pro X, Surface Go, Surface Studio 2, Surface Laptop 2, Surface Book 2</p> <p>Samsung Galaxy Fold, Samsung Galaxy S10, Samsung Galaxy S10e, Samsung Galaxy S9, Samsung Galaxy S8, Samsung Galaxy S7, Samsung Galaxy S7 Edge, Samsung Galaxy S7 Active, Samsung Galaxy S6, Samsung Galaxy S6 Edge+, Samsung Galaxy S5, Samsung Galaxy A90, Samsung Galaxy A30s, Samsung Galaxy A50s, Samsung Galaxy A10e, Samsung Galaxy A2 Core, Samsung Galaxy A80, Samsung Galaxy A70, Samsung Galaxy A60, Samsung Galaxy A50, Samsung Galaxy A30, Samsung Galaxy A20e, Samsung Galaxy A20, Samsung Galaxy A10, Samsung Galaxy A8s, Samsung Galaxy A6s, Samsung Galaxy A9, Samsung Galaxy A7, Samsung Galaxy A8 Star, Samsung Galaxy A6, Samsung Galaxy A8, Samsung Galaxy A9 Pro, Samsung Galaxy A5, Samsung Galaxy A3, Samsung Galaxy C7, Samsung Galaxy C5 Pro, Samsung Galaxy C7 Pro, Samsung Galaxy C9 Pro, Samsung Galaxy C10, Samsung Galaxy C7, Samsung Galaxy C5, Samsung Galaxy J8, Samsung Galaxy J6, Samsung Galaxy J4, Samsung Galaxy J7 Duo, Samsung Galaxy J2 Pro, Samsung Galaxy J2, Samsung Galaxy J7 V, Samsung Galaxy J7 Max, Samsung Galaxy J7 Pro, Samsung Galaxy J7, Samsung Galaxy J5, Samsung Galaxy J1 mini prime, Samsung Galaxy J2 Prime, Samsung Galaxy M30s, Samsung Galaxy M40, Samsung Galaxy M30, Samsung Galaxy M20, Samsung Galaxy M10, Samsung Galaxy Note 10, Samsung Galaxy Note 8, Samsung Galaxy Note 7, Samsung Galaxy Note 5, Samsung Galaxy Note Edge, Samsung Galaxy Note 4, Samsung Galaxy Note 3, Galaxy Tab S6, Samsung Galaxy Tab A, Samsung Galaxy</p>

	Tab S5e, Samsung Galaxy Tab S3, Samsung Galaxy TabPro S, Samsung Galaxy Tab S2, Samsung Galaxy View, Samsung Galaxy Tab A, Samsung Galaxy Tab E, Samsung Galaxy Tab E Lite, Samsung Kids Tab E Lite, Samsung Galaxy Tab, Samsung Galaxy Tab 2, Samsung Galaxy Tab 3, Samsung Galaxy Tab 4, Samsung Galaxy Chromebook, Samsung Chromebook 4+ 15.6", Samsung Chromebook Plus V2, Samsung Chromebook 4 11.6", Samsung Chromebook Plus, and Samsung Chromebook 3 11.6", Samsung Plus 2-in-1 Chromebook, Samsung Galaxy Book S, Samsung Galaxy Book 2, Samsung Galaxy Book
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194. Exs. 51 through 53 contains claim charts showing that the Microsoft, Samsung, and Panasonic, Domestic Industry Products practice at least Claim 15 the '764 Patent through the use of a decoder.

195. Exs. 54 through 56 contains claim charts showing that the Microsoft, Samsung, and Panasonic Domestic Industry Products practice at least Claim 7 of the '808 Patent through the use of a decoder.

196. Exs. 57 through 59 contains claim charts showing that the Microsoft, Samsung, and Panasonic Domestic Industry Products practice at least Claims 1 or 27 of the '469 Patent.

197. Exs. 60 through 62 contains claim charts showing that the Microsoft, Samsung, and Panasonic Domestic Industry Products practice at least Claim 6 of the '818 Patent through the use of a decoder.

198. Exs. 63 through 65 contains claim charts showing that the Microsoft and Samsung Domestic Industry Products practice at least Claim 6 of the '706 Patent.

B. Domestic Investments in the United States Relating to Products that Practice the Asserted Patents

199. Complainants' domestic industry is based on the investments in the development, readying-for-market, servicing, and support of the Domestic Industry Products in the United States. These investments were made by Complainants and licensees Microsoft, Samsung, and Panasonic.

200. These activities comprise a significant investment in plant and equipment, significant employment of labor or capital, and/or a substantial investment in the exploitation of the Asserted Patents through engineering and research and development.

1. Microsoft

201. Nokia additionally relies on Microsoft Surface, Xbox, and HoloLens devices ("Microsoft Domestic Industry Products") to establish domestic industry for all of the Asserted Patents. *See* paragraph 193.

202. Each of the Microsoft Domestic Industry Products practices at least one claim of each the H.264 Asserted Patents. *See* Exs. 51, 54, 57, 60. The Microsoft Surface also practices at least one claim of the '706 Patent. *See* Ex. 63.

203. Microsoft has spent, and continues to spend, significant sums on domestic facilities and equipment related to the Microsoft Domestic Industry Products. In fiscal years 2019, 2018, and 2017, Microsoft invested \$13.9 billion, \$11.6 billion, and \$8.1 billion, respectively, in additions to property and equipment. *See* Ex. 66, Microsoft 2019 10-K, at 54. Upon information and belief, this property and equipment is located primarily in the United States, as thirty-two of the total fifty-two properties owned or leased by Microsoft are located in the United States. *Id.* at 29.

204. For example, Microsoft has several facilities in the United States, including its headquarters in Redmond, Washington. As of June 30, 2019, Microsoft owns eighteen facilities and leases another fourteen in the United States. Ex. 66, Microsoft 2019 10-K, at 29. Upon information and belief, Microsoft employees at these sites perform a variety of tasks related to the Microsoft Domestic Industry Products, including development, service, and product support.

205. Microsoft has invested significant sums on domestic labor and capital, related to the Microsoft Domestic Industry Products. For example, upon information and belief, Microsoft has many employees in the United States who work on various activities related to the Microsoft Domestic Industry Products. As of June 30, 2019, Microsoft employs approximately 85,000 full-time employees in the United States. Ex. 66, Microsoft 2019 10-K, at 16.

206. Microsoft has also expended a significant amount of capital in various activities related to the Microsoft Domestic Industry Products in the United States. For example, Microsoft maintains \$33.8 billion in computer equipment and software. Ex. 66, Microsoft 2019 10-K, at 72. In fiscal years 2018 and 2017, Microsoft spent \$18.2 million and \$17.5 million, respectively, on sales and marketing costs, which includes investments in salary and employee benefits for related employees. *Id.* at 39.

207. Microsoft has made, and continues to make, substantial investments in engineering and research and development activities in the Microsoft Domestic Industry Products. *See* Ex. 66, Microsoft 2019 10-K, at 38. In each of the last three fiscal years, 2019, 2018, and 2017, Microsoft has invested \$16.9 billion, \$14.7 billion, and \$13.0 billion, respectively, in research and development. *Id.*

208. Microsoft's total revenue increased by \$13.8 billion from 2018 to 2019. Ex. 66, Microsoft 2019 10-K, at p. 34. Revenues generated from premium Surface devices account for \$1.1 billion of this increase. *Id.* at 36.

209. These investments comprise a significant investment in plant and equipment, significant employment of labor or capital, and/or a substantial investment in the exploitation of the Asserted Patents through engineering and research and development.

210. In addition, for the H.264 Asserted Patents, Microsoft's investments in the exploitation of the H.264 Asserted Patents through engineering and research and development for the Xbox and HoloLens further bolster Complainant's domestic industry in those patents.

211. For example, Microsoft operates domestic "Microsoft Research" facilities that develop the Xbox and HoloLens. For example, the Mountain View, California office employs engineers in the Hardware System Group (which develops software for Xbox and HoloLens devices and implements provisioning tools for manufacturing of these devices), HoloLens System Team (which engineers design and other components of the augmented reality of HoloLens devices), and Silicon Team (which builds custom silicon for hardware parts of Xbox and HoloLens devices). Ex. 67.

212. In addition, Microsoft's \$2.2 billion increase from 2018 to 2019 in research and development was, at least in part, due to investments in research relating to Microsoft Gaming devices and products. *See* Ex. 66, Microsoft 2019 10-K, at 38. Revenues generated from sales of Xbox devices and related gaming products account for \$1.0 billion increase to Microsoft's total revenue from 2018 to 2019. Ex. 66, Microsoft 2019 10-K, at p. 34.

213. Thus, Microsoft's significant investment for the Xbox and HoloLens in plant and equipment, significant employment of labor or capital, and/or a substantial investment in the exploitation of the H.264 Asserted Patents through engineering and research and development.

214. Microsoft is expected to provide additional bases and supporting information under this Section.

2. Samsung

215. In addition to the Microsoft devices, Nokia further relies on Samsung Galaxy devices and certain computers ("Samsung Domestic Industry Products") to establish domestic industry. *See* paragraph 193.

216. The Samsung Domestic Industry Products practice at least one claim of each Asserted Patent. *See* Exs. 52, 55, 58, 61, 64, 65.

217. Complainants' domestic industry based on the investments of Samsung is comprised of the development, readying-for-market, testing, deployment, and support of the Samsung Domestic Industry Products in the United States. These investments were largely made by Samsung Electronics America, Inc. ("SEA") and Samsung Austin Semiconductor ("SAS") a wholly-owned subsidiary of Samsung Electronics Co., Ltd., as described below.

218. Samsung has spent, and continues to spend, significant sums on domestic facilities and equipment related to its Galaxy devices and certain computers. In 2018 and 2017, Samsung spent \$26.9 billion and \$38.9 billion, respectively, on the "acquisition of property, plant and equipment." Ex. 68, Samsung Consolidated Financial Statement 2018, at 16. Upon information and belief, a substantial portion of these investments occurred in the United States.

219. For example, Samsung has several facilities in the United States, including regional offices in San Jose, California and manufacturing facilities in Austin, Texas and Newberry, South Carolina.

220. For example, SAS maintains a 2.3 million square-foot facility in Austin, Texas which is used for manufacturing and research and development. Ex. 69. Since 1997, Samsung has invested more than \$16 billion to expand and maintain this facility. *Id.* In 2018, Samsung committed \$291 million to updating this facility. Ex. 70.

221. Employees at the Austin, Texas facility manufacture chips, semiconductors, and NAND flash memory wafers which, upon information and belief, are necessary parts in Samsung Domestic Industry Products. Ex. 71.

222. Samsung has also invested a significant amount of money in equipment used to develop, ready-for-market, test, deploy, and support its Galaxy devices and certain computers, including, upon information and belief, the Samsung Domestic Industry Products. *See* Ex. 68, Samsung Consolidated Financial Statement 2018, at 10.

223. Samsung has spent, and continues to spend, significant sums on domestic labor and capital related to the Samsung Domestic Industry Products.

224. For example, Samsung has many employees in the United States who work on various activities related to its Galaxy devices and certain computers, including, upon information and belief, the Samsung Domestic Industry Products. The Austin, Texas location, alone, employs approximately 3,000 people. Ex. 70. Samsung employs approximated 18,500 employees in the United States, across forty-six states. Ex. 72. Details on the Samsung's expenditures for employees can be found in Ex. 68, Samsung Consolidated Financial Statement 2018, at 99.

225. SEA has also expended a significant amount of capital in various activities related to the Samsung Domestic Industry Products in the United States. Details on these capital expenditures can be found in Ex. 68, Samsung Consolidated Financial Statement 2018, at 79.

226. Samsung has made, and continues to make, substantial investments in engineering and research and development activities in its Galaxy devices and certain computers, including, upon information and belief, the Samsung Domestic Industry Products. *See* Ex. 68, Samsung Consolidated Financial Statement 2018, at 79.

227. Upon information and belief, Samsung engineers and other personnel located in the United States are engaged in the planning, development, commercialization, and support for Samsung's Domestic Industry Products. Samsung has made substantial investments in its research and development program, known as "Samsung Research America," including investments in its research facility in San Jose, California; Burlington, Massachusetts; Irvine, California; New York, New York; Plano, Texas; San Francisco, California; and Valencia, California. For example, in 2016, Samsung expanded its Austin facility, reserving 112,000 square feet for research and development. Ex. 73.

228. Samsung further employs substantial engineering staff and the necessary equipment to support such staff. For example, Samsung engineers in the U.S. offices conduct research for hardware and software development, research for audio and visual display systems, and research and collaboration in wireless communication, including for supporting MPEG platforms. Ex. 74.

229. Further, Samsung invests in U.S.-based personnel who provide technical support, service, warranty, and repair to Samsung customers in the United States who have purchased

Samsung's Galaxy devices and certain computers, including, upon information and belief, the Samsung Domestic Industry Products.

230. Samsung is expected to provide additional bases and supporting information under this Section.

3. Panasonic

231. In addition, Nokia further relies on Panasonic Toughpad devices, Toughbook devices, Lumix Cameras and Camcorders, and Inflight Entertainment Systems ("Panasonic Domestic Industry Products") to establish domestic industry. *See* paragraph 193.

232. The Panasonic Domestic Industry Products practice at least one claim of each H.264 Asserted Patent. *See* Exs. 53, 56, 59, 62.

233. Complainants' domestic industry based on the investments of Panasonic is comprised of the development, readying-for-market, testing, deployment, and support of the Panasonic Domestic Industry Products in the United States. Panasonic has two wholly-owned subsidiaries, Panasonic Corporation of North America and Panasonic Avionics Corporation, which oversee its operations in the United States. Ex. 75, Panasonic 2016 6-K Report, at 16.

234. Panasonic Avionics Corporation generates substantial revenue. For example, sales derived from Panasonic's Avionics business totaled \$2.4 and \$2.5 billion in fiscal years 2019 and 2018, respectively. Ex. 76, Panasonic Annual Report 2019, Supplement Financial Data at 2. Additionally, each year 2.7 billion customers use Panasonic's Inflight Entertainment systems, including upon information and belief Panasonic Domestic Industry Products. Ex. 77.

235. Panasonic has spent, and continues to spend, significant sums on domestic facilities and equipment related to its Toughpad devices, Toughbook devices, Lumix Cameras and Camcorders, and Inflight Entertainment Systems. In fiscal years 2019 and 2018, Panasonic

spent \$2.8 billion and \$3.6 billion, respectively, on the “purchase of property, plant and equipment.” Ex. 76, Panasonic Annual Report 2019, at 8. Upon information and belief, a substantial portion of these investments occurred in the United States. *See* Ex. 78, Panasonic Operating Results 2019, at 2.

236. Given that the U.S. market constituted approximately twenty percent of Panasonic’s worldwide sales in 2019, a significant number of Panasonic’s overall investments are attributable to its operations in the United States. *See* Ex. 78, Panasonic Operating Results 2019, at 2.

237. For example, Panasonic has several facilities in the United States, including regional headquarters in Newark, New Jersey. Ex. 79. Panasonic also maintains offices across the United States for research and development, for example, in Denver, Colorado; Lake Forest, California; Buffalo, New York; Harrison, New Jersey; and Peachtree City, Georgia; and for marketing, product advancement, and customer service support, for example, in Los Angeles, California; Bridgeton, Missouri; Mendota Heights, Minnesota; Kansas City, Missouri; and Oklahoma City, Oklahoma. Ex. 81.

238. Additionally, Panasonic Avionics, the subdivision of Panasonic responsible for all its Inflight Entertainment Systems, is headquartered in Lake Forest, California. Ex. 82.

239. Panasonic has also invested a significant amount of money in equipment used to develop, ready-for-market, test, deploy, and support its Panasonic Toughpad devices, Toughbook devices, Lumix Cameras and Camcorders, and Inflight Entertainment Systems, including, upon information and belief, the Panasonic Domestic Industry Products. *See* Ex. 76, Panasonic Annual Report 2019, at 3. For example, a segment of Panasonic North American Corporation, the Lumix Pro Services, maintains a team and membership service for customers of their Lumix

cameras, including upon information and belief Panasonic Domestic Industry Products. Ex. 83. Benefits of the Lumix Pro Services include a membership hotline, discounted and expedited repairs, and assistance with firmware updates. *Id.*

240. Panasonic has spent, and continues to spend, significant sums on domestic labor and capital related to the Panasonic Domestic Industry Products.

241. For example, Panasonic has many employees in the United States who work on various activities related to its Panasonic Toughpad devices, Toughbook devices, Lumix Cameras and Camcorders, and Inflight Entertainment Systems, including, upon information and belief, the Panasonic Domestic Industry Products. Panasonic employs more than 270,000 employees worldwide and more than 10,000 in the United States. Ex. 76, Panasonic Annual Report 2019, at 3; Ex. 80.

242. Panasonic has also expended a significant amount of capital in various activities related to the Panasonic Domestic Industry Products in the United States. Details on these capital expenditures can be found in Ex. 76, Panasonic Annual Report 2019, Supplemental Financial Data 2019, at 2.

243. Panasonic has made, and continues to make, substantial investments in engineering and research and development activities in its Panasonic Toughpad devices, Toughbook devices, Lumix Cameras and Camcorders, and Inflight Entertainment Systems, including, upon information and belief, the Panasonic Domestic Industry Products. *See* Ex. 76, Panasonic Annual Report 2019, at 3. For example, at Panasonic Avionics' headquarters in Lake Forest, California, engineers develop innovations in hardware, software, and production for Panasonic's Inflight Entertainment Systems, including upon information and belief for Panasonic Domestic Industry Products. Ex. 84.

244. Upon information and belief, Panasonic engineers and other personnel located in the United States are engaged in the planning, development, commercialization, and support for Panasonic's Domestic Industry Products. For example, employees in Panasonic's Peachtree City, Georgia office work with financial planning tools, analyze market data, and oversee product development by engineers. Ex. 85. Additionally, employees in the Bothell, Washington facility perform quality inspections and perform forecasting and budget analysis for Panasonic's Inflight Entertainment systems, including upon information and belief, Panasonic's Domestic Industry Products. Ex. 86.

245. Panasonic further employs substantial engineering staff and the necessary equipment to support such staff. For example, Panasonic engineers in the Denver, Colorado office research, develop, and manage Panasonic product designs, including, upon information and belief, Panasonic Domestic Industry Products. Ex. 87.

246. Further, Panasonic invests in U.S.-based personnel who provide technical support, service, warranty, and repair to Panasonic customers in the United States who have purchased Panasonic's devices, including, upon information and belief, the Panasonic Domestic Industry Products. For example, Panasonic engineers in Mendota Heights, Minnesota, Kansas City, Missouri, and Oklahoma City, Oklahoma resolve technical issues related to Panasonic hardware and software. Ex. 88. Additionally, employees in Panasonic's headquarters in Newark, New Jersey, provide customer support relating to Panasonic's Android devices. Ex. 89.

247. Panasonic is expected to provide additional bases and supporting information under this Section.

XII. REQUEST FOR RELIEF

248. In view of the fact that Respondents have refused to take a license to the Asserted Patents on reasonable and nondiscriminatory terms and are unwilling licensees, Complainants request that the U.S. International Trade Commission:

- a. Institute an immediate investigation, pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, with respect to violations of Section 337 based upon the sale for importation into the United States, the importation into the United States, and/or the sale within the United States after importation of Respondents' non-cellular electronic devices, including computers, tablet computers, and components and modules thereof that infringe one or more claims of the Asserted Patents;
- b. Determine that there has been a violation of Section 337 by Respondents;
- c. Issue a permanent exclusion order, pursuant to 19 U.S.C. § 1337(d), prohibiting entry into the United States of all of Respondents' non-cellular electronic devices, including computers, tablet computers, and components and modules thereof that infringe one or more claims of the Asserted Patents that are not essential to a standard;
- d. Issue a permanent exclusion order, pursuant to 19 U.S.C. § 1337(d), prohibiting entry into the United States of all of Respondents' non-cellular electronic devices, including computers, tablet computers, and components and modules thereof that infringe one or more claims of the Asserted Patents that are essential to a standard because Respondents are unwilling licensees;

- e. Issue permanent cease and desist orders, pursuant to 19 U.S.C. § 1337(f), prohibiting Respondents, or their parents, subsidiaries, or other affiliates, from importing, admitting or withdrawing from a foreign trade zone, marketing, advertising, demonstrating, warehousing inventory of, distributing, offering for sale, selling, licensing, repairing, programming, updating, soliciting U.S. agents or distributors for, or aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer, or distribution of Respondents' non-cellular electronic devices, including computers, tablet computers, and components and modules thereof that infringe one or more claims of the Asserted Patents that are not essential to a standard;
- f. Issue permanent cease and desist orders, pursuant to 19 U.S.C. § 1337(f), prohibiting Respondents, or their parents, subsidiaries, or other affiliates, from importing, admitting or withdrawing from a foreign trade zone, marketing, advertising, demonstrating, warehousing inventory of, distributing, offering for sale, selling, licensing, repairing, programming, updating, soliciting U.S. agents or distributors for, or aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer, or distribution of Respondents' non-cellular electronic devices, including computers, tablet computers, and components and modules thereof that infringe one or more claims of the Asserted Patents that are essential to a standard because Respondents are unwilling licensees; and

PUBLIC VERSION

- g. Grant such other and further relief as the Commission deems just and proper based on the facts determined by the investigation and the authority of the Commission.

Dated: July 2, 2020

Respectfully submitted,



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Nokia Technologies Oy and Nokia Corp.*

**U.S. INTERNATIONAL TRADE COMMISSION
WASHINGTON, DC**

In the Matter of

**Certain Electronic Devices, Including
Computers, Tablet Computers, and
Components and Modules Thereof**

Investigation No. 337-TA-_____

VERIFICATION OF COMPLAINT

I, Robert Gray, do hereby declare and state:

1. I am Director of Patent Licensing at Complainant Nokia Technologies Oy and
I am duly authorized to verify this Complaint;

2. I submit this verification in accordance with 19 C.F.R. §§ 210.4 and 210.12(a);

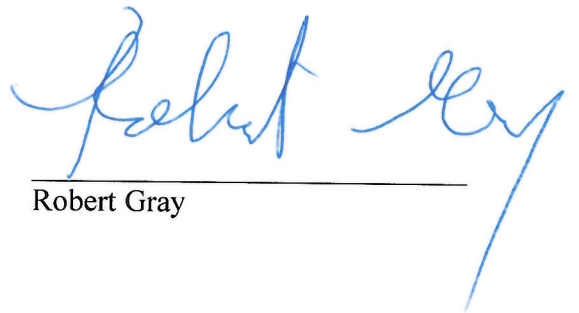
3. I have read the Complaint and am aware of its contents;

4. The complaint is not being presented for any improper purpose, such as to
harass or to cause unnecessary delay or needless increase in the cost of the investigation or
related proceeding;

5. To the best of my knowledge, information, and belief founded upon
reasonable inquiry, the claims and legal contentions of this Complaint are warranted by
existing law or a non-frivolous argument for the extension, modification, or reversal of
existing law or the establishment of new law; and

6. To the best of my knowledge, information and belief founded upon reasonable
inquiry, the allegations and other factual contentions in the Complaint have evidentiary support
or, if specifically so identified, are likely to have evidentiary support after a reasonable
opportunity for further investigation or discovery.

Executed on July 1, 2020.



Robert Gray