

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

In the Matter of

**Certain Video Capable Electronic
Devices, Including Computers,
Streaming Devices, Televisions, and
Components and Modules Thereof**

Investigation No. 337-TA-_____

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

Complainants:

Nokia Technologies Oy
Karakaari 7
FIN-02610
Espoo, Finland
Telephone: 358 (0) 7180-08000

Nokia Corporation
Karakaari 7
FIN-02610
Espoo, Finland
Telephone: 358 (0) 7180-08000

Counsel for Complainants:

Adam D. Swain
Alston & Bird LLP
950 F Street NW
Washington, DC 20004
Telephone: (202) 239-3300
Facsimile: (202) 239-3333

John D. Haynes
Nicholas T. Tsui
Lindsay Church
Shawn Gannon
Alston & Bird LLP
1201 West Peachtree Street
Atlanta, GA 30309
Telephone: (404) 881-7000
Facsimile: (404) 881-7777

Proposed Respondents:

HP, Inc.
1501 Page Mill Road
Palo Alto, CA 94304
Telephone: (650) 857-1501

Amazon.com, Inc.
410 Terry Avenue North,
Seattle, WA 98109
Telephone: (206) 266-1000

Amazon.com Services, LLC.
410 Terry Avenue North
Seattle, WA 98109
Telephone: (206) 266-1000

Theodore Stevenson
Alston & Bird LLP
2200 Ross Avenue, Suite 2300
Dallas, TX 75201
Phone: (214) 922-3400
Fax: (214) 922-3899

Warren Lipschitz
Alexandra F. Easley
McKool Smith P.C.
300 Crescent Court
Suite 1200
Dallas, Texas 75201
Telephone: (214) 978-4000
Facsimile: (214) 978-4044

R. Mitch Verboncoeur
McKool Smith P.C.
303 Colorado, Suite 2100
Austin, Texas 78701
Telephone: (512) 692-8700
Facsimile: (214) 978-8744

Josh Newcomer
McKool Smith P.C.
600 Travis St., Suite 7000
Houston, Texas 77002
Telephone: (713) 485-7300
Facsimile: (713) 485-7344

Kevin Burgess
McKool Smith P.C.
104 East Houston St., Suite 300
Marshall, Texas 75670
Telephone: (903) 923-9000
Facsimile: (903) 923-9099

TABLE OF CONTENTS

EXHIBIT & APPENDIX LISTS	VI
I. INTRODUCTION	1
II. COMPLAINANTS	3
III. RESPONDENTS	7
A. HP Respondent.....	7
1. HP, Inc.	7
B. Amazon Respondents.....	8
1. Amazon.com, Inc.	8
2. Amazon.com Services, LLC	9
IV. NOKIA’S COMPLIANCE WITH ITU LICENSING POLICIES	10
A. The ITU and the H.264/H.265 Standardization Process.....	10
B. Nokia’s Compliance with the ITU Common Patent Policy and Nokia’s Relevant Declarations	13
C. HP’s Behavior as an Unwilling Licensee	14
D. Amazon’s Behavior as An Unwilling Licensee.....	17
V. THE ASSERTED PATENTS AND NON-TECHNICAL DESCRIPTION OF THE INVENTIONS	19
A. U.S. Patent No. 7,724,818.....	19
1. Identification of the Patent and Ownership by Complainant.....	19
2. Foreign Counterparts to the ’818 Patent	20
3. Non-Technical Description of the Patented Inventions	20
B. U.S. Patent No. 10,536,714.....	22
1. Identification of the Patent and Ownership by Complainant.....	22
2. Foreign Counterparts to the ’714 Patent	23
3. Non-Technical Description of the Patented Inventions	23

C.	U.S. Patent No. 11,805,267.....	27
1.	Identification of the Patent and Ownership by Complainant.....	27
2.	Foreign Counterparts to the '267 Patent.....	28
3.	Non-Technical Description of the Patented Inventions	28
D.	U.S. Patent No. 8,077,991.....	31
1.	Identification of the Patent and Ownership by Complainant.....	31
2.	Foreign Counterparts to the '991 Patent	32
3.	Non-Technical Description of the Patented Inventions	32
E.	U.S. Patent No. 8,050,321 (“the '321 Patent”)	35
1.	Identification of the Patent and Ownership by Complainant.....	35
2.	Foreign Counterparts to the '321 Patent	36
3.	Non-Technical Description of the Patented Inventions	36
VI.	LICENSES.....	39
VII.	THE RESPONDENTS’ UNLAWFUL AND UNFAIR ACTS	39
A.	Infringement of the '818 Patent	39
1.	HP	39
2.	Amazon.....	46
B.	Infringement of the '714 Patent	56
1.	HP	56
2.	Amazon	63
C.	Infringement of the '267 Patent	73
1.	HP	73
2.	Amazon.....	80
D.	Infringement of the '991 Patent	89
1.	HP	89

2.	Amazon	96
E.	Infringement of the '321 Patent	107
1.	HP	107
2.	Amazon	114
VIII.	SPECIFIC INSTANCES OF UNFAIR IMPORTATION AND SALE	124
A.	HP	124
B.	Amazon	125
IX.	HARMONIZED TARIFF SCHEDULE NUMBERS.....	126
X.	RELATED LITIGATION	127
XI.	DOMESTIC INDUSTRY	127
A.	Technical Prong - Products that Practice the Asserted Patents.....	128
B.	Economic Prong - Domestic Investments in the United States Relating to Products that Practice the Asserted Patents	129
1.	Microsoft Corporation	129
2.	Samsung.....	135
XII.	REQUEST FOR RELIEF	144

EXHIBIT & APPENDIX LISTS

PUBLIC EXHIBITS	
EX. NO.	DESCRIPTION
1	818 Patent Certified Copy
2	818 Patent Assignment Certified Copy
3	List of foreign counterparts to the 818 Patent
4	818 Accused Product List
5a	Claim Chart Mapping HP H.264-Compliant Products to The 818 Patent
5b	Claim Chart Mapping HP H.265-Compliant Products to The 818 Patent
6a	Claim Chart Mapping Amazon H.264-Compliant Products to The 818 Patent
6b	Claim Chart Mapping Amazon H.265-Compliant Products to The 818 Patent
7	818 Domestic Industry Product List
8a	Claim Chart Mapping Microsoft H.264 Domestic Industry Products to The 818 Patent
8b	Claim Chart Mapping Microsoft H.265 Domestic Industry Products to The 818 Patent
9a	Claim Chart Mapping Samsung H.264 Domestic Industry Products to The 818 Patent
9b	Claim Chart Mapping Samsung H.265 Domestic Industry Products to The 818 Patent
10	714 Patent Certified Copy
11	714 Patent Assignment Certified Copy
12	List of foreign counterparts to the 714 Patent
13	714 Accused Product List
14	Claim Chart Mapping HP Products to The 714 Patent
15	Claims Chart Mapping Amazon Products to The 714 Patent
16	714 Domestic Industry Product List
17	Claim Chart Mapping Microsoft Domestic Industry Products to The 714 Patent
18	Claim Chart Mapping Samsung Domestic Industry Products to The 714 Patent

PUBLIC EXHIBITS	
EX. NO.	DESCRIPTION
19	267 Patent Uncertified Copy ¹
20	267 Patent Assignment Uncertified Copy ²
21	List of foreign counterparts to the 267 Patent
22	267 Accused Product List
23	Claim Chart Mapping HP Products to The 267 Patent
24	Claim Chart Mapping Amazon Products to The 267 Patent
25	267 Domestic Industry Product List
26	Claim Chart Mapping Microsoft Domestic Industry Products to The 267 Patent
27	Claim Chart Mapping Samsung Domestic Industry Products to The 267 Patent
28	991 Patent Certified Copy
29	991 Patent Assignment Certified Copy
30	List of foreign counterparts to the 991 Patent
31	991 Accused Product List
32	Claim Chart Mapping HP Products to The 991 Patent
33	Claim Chart Mapping Amazon Products to The 991 Patent
34	991 Domestic Industry Product List
35	Claim Chart Mapping Microsoft Domestic Industry Products to The 991 Patent
36	Claim Chart Mapping Samsung Domestic Industry Products to The 991 Patent
37	321 Patent Certified Copy
38	321 Patent Assignment Uncertified Copy ³

¹ A Certified Copy will be filed as soon as it is available.

² A Certified Copy will be filed as soon as it is available.

³ A Certified Copy will be filed as soon as it is available.

PUBLIC EXHIBITS	
EX. NO.	DESCRIPTION
39	List of foreign counterparts to the 321 Patent
40	321 Accused Product List
41a	Claim Chart Mapping HP H.264 Compliant Products to The 321 Patent
41b	Claim Chart Mapping HP H.254 Compliant Products to The 321 Patent
42a	Claim Chart Mapping Amazon H.264 Compliant Products to The 321 Patent
42b	Claim Chart Mapping Amazon H.265 Compliant Products to The 321 Patent
43	321 Domestic Industry Product List
44a	Claim Chart Mapping Microsoft H.264 Domestic Industry Products to The 321 Patent
44b	Claim Chart Mapping Microsoft H.265 Domestic Industry Products to The 321 Patent
45a	Claim Chart Mapping Samsung H.264 Domestic Industry Products to The 321 Patent
45b	Claim Chart Mapping Samsung H.265 Domestic Industry Products to The 321 Patent
46	Full Accused Product List
47	Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-T/ISO/IEC
48	ITU Common Patent Policy
49	H.264 Standard
50	H.265 Standard
51	Nokia General Licensing declaration
52	List of Licensees Licensed under each assigned patent
53	License Agreement between Nokia and Microsoft
54A	License Agreement between Nokia and Samsung
54B	License Agreement between Nokia and Samsung
55	INTENTIONALLY OMITTED

PUBLIC EXHIBITS	
EX. NO.	DESCRIPTION
56	Nokia Licensing Page
57	Stipulation and Exhibit A, <i>Certain Video Processing Devices and Components Thereof</i> , Inv. No. 337-TA-1343, Dkt. No. 3651
58	HP Spectre X360 Homepage
59	Intel Graphics Tech Specs
60	HP Spectre X360 Advertisement
61	HP Spectre X360 Device Reviews
62	HP Pavilion Homepage
63	Intel 11 th and 12 th Generation Tech Specs
64	Intel Graphics Supported Codecs
65	AMD Radeon Supported Codecs
66	HP Pavilion Reviews
67	Amazon Fire Max Tablet Tech Specs
68	Amazon Fire Max Tablet Advertisement
69	Amazon Fire Max Reviews
70	Amazon Fire Stick Tech Specs
71	Amazon Fire Stick Advertisement
72	Amazon Fire TV Tech Specs
73	Amazon Fire TV Advertisement
74	Amazon Fire TV Reviews
75	INTENTIONALLY OMITTED
76	INTENTIONALLY OMITTED
77	INTENTIONALLY OMITTED

PUBLIC EXHIBITS	
EX. NO.	DESCRIPTION
78	HP 2023 Financial Report
79	Nikkei Announcement re: HP
80	Reuters HP India Report
81	HP Bills of Lading
82	HP Product Packaging
82.a	HP Products (October 31, 2023)
83	Nikkei Announcement re: Amazon
84	Reuters Amazon India Announcement
85	Amazon Bills of Lading
86	Amazon Product Packaging
86.a	Amazon Products (October 31, 2023)
87	Microsoft 2023 10-K
88	Microsoft 2022 10-K
89	Microsoft 2021 10-K
90	Microsoft 2021 10-Q1
91	Microsoft 2023 10-Q1
92	Microsoft 2022 10-Q3
93	CNBC Article regarding Microsoft Surface
94	Microsoft Job Openings
95	Samsung Q1 2023 Interim Report
96	SRA Homepage
97	Samsung 2022 Annual Report
98	SEA LinkedIn “About” Page

PUBLIC EXHIBITS	
EX. NO.	DESCRIPTION
99	SEA Homepage
100	SEC 2022 Consolidated Financial Statement
101	SEC 2021 Consolidated Financial Statement
102	Amended Complaint, <i>Certain Active Matrix Organic Light-Emitting Diode Display Panels and Modules For Mobile Devices, and Components Thereof Certain Active Matrix Organic Light-Emitting Diode Display Panels and Modules For Mobile Devices, and Components Thereof</i> , Inv. No. 337-TA-1351, Dkt. No. 3661
103	SRA LinkedIn “About” Page
104	SRA “Digital Media” Page
105	SRA “Next Generation Communication” Page
106	Press Release: Samsung Researcher Named Chair of ITU-R 6G Vision Group
107	SAS: History Page
108	SAS: Taylor Page
109	List of Samsung Phones that use the Exynos Processor
110	Tech Specs of Exynos Automobile and Mobile Processors
111	Complaint, <i>Certain Semiconductor Devices, Wireless Infrastructure Equipment Containing the Same, and Components Thereof</i> , Inv. No. 337-TA-1254, Dkt. No. 3532 (Feb. 4, 2021)
112	SAS: US Fab Page
113	Job Postings for SAS Engineers
114	SEA “Life at Samsung” Page
115	SEA “Locations” Page
116	SEA “Where We Work” Page
117	Samsung “Fast Facts” Page
118	SRA “Careers” Listing

PUBLIC EXHIBITS	
EX. NO.	DESCRIPTION
119	SEA “Careers” Listing
120	SRA Job Listings regarding Video Coding
121	SEA Smart TV LinkedIn Profiles
122	SEA LinkedIn Announcement
123	Articles Regarding Samsung United States Investments

CONFIDENTIAL EXHIBITS	
EX. NO.	DESCRIPTION
52C	List of Licensees Licensed under Each Assigned Patent
53C	License Agreement between Microsoft and Nokia

APPENDICES	
APPENDIX	DESCRIPTION
A	Certified copy of the prosecution history of U.S. Patent No. 7,724,818 and copies of each technical reference identified therein
B	Certified copy of the prosecution history of U.S. Patent No. 10,536,714 and copies of each technical reference identified therein
C	Uncertified copy of the prosecution history of U.S. Patent No. 11,805,267 and copies of each technical reference identified therein ⁴
D	Certified copy of the prosecution history of U.S. Patent No. 8,077,991 and copies of each technical reference identified therein
E	Certified copy of the prosecution history of U.S. Patent No. 8,050,321 and copies of each technical reference identified therein

⁴ A Certified Copy will be filed as soon as it is available.

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 video-capable electronic devices, including laptop computers, desktop computers, tablet computers, streaming devices, televisions, and components and modules thereof (the “Accused Products”).

2. The Proposed Respondents are HP Inc.; Amazon.com, Inc.; and Amazon.com Services, LLC (collectively, “Respondents”).

3. Respondents have each 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 the Accused Products that infringe one or more of claims of U.S. Patent No. 7,724,818 (“the ’818 Patent”), U.S. Patent No. 10,536,714 (“the ’714 Patent”), U.S. Patent No. 11,805,267 (“the ’267 Patent”), U.S. Patent 8,077,991, (“the ’991 Patent”), and U.S. Patent No. 8,050,321 (“the ’321 Patent”) (collectively, the “Asserted Patents”).

4. Specifically, and in accordance with 19 C.F.R. § 210.12(a)(12), the Accused Products are laptop computers, desktop computers, tablet computers, streaming devices, televisions, and components and modules thereof. Non-limiting examples of the Accused Products include the HP Pavilion Desktops, HP Envy laptops, HP OMEN gaming desktops, Amazon Fire tablets, Amazon Fire Sticks, and Amazon Fire TVs (including, for example, the Echo Show). *See also* Ex. 46, Full Accused Products List.

5. Nokia asserts that Respondents directly infringe, contributorily infringe, and/or induce the infringement of at least the following claims of the Asserted Patents (independent claims identified in bold):

U.S. Patent No.	Asserted Claims	Exemplary Accused Products ⁵
7,724,818	Claims 6 , 7-9, 11 , 15 , 21 , 23	Products in Ex. 4
10,536,714	Claims 1-8, 9 -14, 15 -22, 23 -28, 29 , 30	Products in Ex. 13
11,805,267	Claims 1-6, 7-12, 13 -18, 19 -24, 25 -30, 31 -36	Products in Ex. 22
8,077,991	Claims 1 , 5, 6, 8, 9, 10, 11, 12 13 , 17, 18, 20, 21, 22 , 23, 24, 26, 29, 30, 31 , 32, 33, 35, 38	Products in Ex. 31
8,050,321	Claims 8 -9, 10 , 11	Products in Ex. 40

6. 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 Respondents' behalf.

7. A domestic 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.

8. Nokia seeks as relief a permanent limited exclusion order prohibiting entry into the United States of Respondents' infringing Accused Products. Nokia requests that such an exclusion order prohibit Respondents from importing into the United States components and modules of the accused electronic devices to prevent Respondents from circumventing any exclusion order directed to its electronic devices. The components and modules, for example, would include

⁵ The full list of Accused Products is identified in Ex. 46.

graphic processing unit (GPU) and video coding core hardware and/or software. Thus, reference to “Accused Products” herein additionally includes at least these components and modules.

9. Nokia also requests permanent cease and desist orders, pursuant to 19 U.S.C. § 1337(f), prohibiting Respondents 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 Accused Products. Nokia also seeks the imposition of a bond if Respondents continue to import infringing articles during the 60-day Presidential review period, pursuant to 19 U.S.C. § 1337(j).

II. COMPLAINANTS

10. **Complainant Nokia Technologies Oy** (“Nokia Tech”) is a corporation organized under the laws of Finland, located at Karakaari 7, FIN-02610, Espoo, Finland.

11. Nokia Tech is a wholly owned subsidiary of Complainant Nokia Corporation and is the sole owner by assignment of all right, title, and interest in each of the Asserted Patents. *See* Exs. 2, 11, 20, 29, and 38. 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.*

12. Nokia Tech develops and licenses innovations—including video and communications technologies—that advance an increasingly connected world.

13. **Complainant Nokia Corporation** (“Nokia Corp.”) is a Finnish company and leading innovator in the telecommunications and video industries. 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.”

14. 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.

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

16. Nokia Corp.’s innovations 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.

17. The new century saw Nokia advance even further. 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.

18. 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.

19. In addition to developing mobile phones, Nokia Corp. has consistently been one of the major contributors to wireless communication standards and audio and video standards and technologies that enable many features that are commonplace and expected of today’s consumer electronics.

20. By the mid-1990s, Nokia Corp. was developing its own proprietary video technologies, referred to as the MobiVideo Codec. In early 1998, the Video Coding Experts Group (“VCEG”) of the International Telecommunication Union-Telecommunication Standardization Sector (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 coding efficiency in comparison to any other existing video coding standards for a broad variety of applications.

21. The development of H.26L eventually led to ITU-T Recommendation H.264 Advanced Video Coding for Generic Audiovisual Services (“the H.264 Standard”). Nokia, a video

coding innovator, contributed numerous innovations to the development of the H.264 Standard. In addition, Nokia has developed many other video coding technologies, including the successor to the H.264 Standard, which published as ITU-T Recommendation H.265 High Efficiency Video Coding (“the H.265 Standard”).

22. The H.264 and H.265 Standards enable efficient and reliable video decoding in millions of devices, including smartphones, computers, and tablets. The H.264 and H.265 Standards reduce the amount of data needed to decode digital video and are the two most prominent video decoding standards in the world. These advances in video coding technology were made possible by the work of Nokia and other video coding innovators.

23. Over the last few decades, internet traffic has evolved from simple, text-based interfaces to a plethora of media, including video. As technology has evolved, the importance and use of video has skyrocketed. Video coding technologies, including the H.264 and H.265 Standards, are crucial to the development and evolution of modern communication particularly as video traffic has become an increasingly outsized share of total consumer Internet traffic.

24. Video coding technologies have enabled the rise of video communications to allow people to consume not only traditional broadcast programming, including news, sports, movies, shows, and other entertainment on demand, but also newer technologies including short-form video, streaming video services, video calling and conferencing, live streaming, video sharing on social media, and video messaging on televisions, computers, and mobile devices. In particular, over the past five years, video has become the main form of internet traffic, coinciding with the rise in popularity of internet and social media apps and streaming video service subscriptions. In 2022, video made up a significant majority of global consumer internet traffic.

25. Nokia Corp., together with its wholly owned subsidiaries, has cumulatively invested over €140 billion in research and development relating to mobile communications and video coding technologies, and because of this commitment, currently owns more than 20,000 patent families worldwide. Ex. 56, Nokia Licensing Page. These include many patents with standard essential claims relating to the H.264 and H.265 Standard.

26. Even after the sale of Nokia's Devices and Services business unit to a subsidiary of Microsoft Corporation ("Microsoft") in 2013, Nokia Corp. continues to invest heavily in research and development, as well as expansion of its industry-leading patent portfolio, including patents related to the H.264 and H.265 Standards.

27. Beyond licensing Microsoft and the sale of the Devices and Services business unit, which resulted in continued significant domestic industry investments (see Section XI *infra*), Nokia maintains a strong patent licensing program with dozens of licensees, including large brands such as Samsung Electronics Company and its affiliates ("Samsung") (see Sections XI.B.1–2 *infra*).

III. RESPONDENTS

A. HP Respondent

1. HP, Inc.

28. **HP, Inc.** is a Delaware corporation with its principal place of business at 1501 Page Mill Road, Palo Alto, California 94304-1112.

29. On information and belief, HP, Inc. specializes in the manufacture of personal computers (including certain Accused Products)⁶ as well as printers and printer cartridges.

⁶ Accused Products manufactured or imported by HP are hereinafter referenced as "HP Accused Products."

30. On information and belief, HP, Inc. is engaged in the design, manufacturing, research, development, testing, marketing, distribution, shipping, importation, sale for importation, and/or sale within the United States after importation of HP Accused Products that infringe the Asserted Patents. On information and belief, HP is also engaged in contributing to (or instructing others regarding) the use, manufacture, sale, and/or importation of such products.

31. On information and belief, the HP Accused Products are manufactured abroad.

32. Therefore, on information and belief, HP, Inc. itself and/or through its subsidiaries and corporate relatives, imports into the United States, sells for importation in the United States, and/or sells in the United States after importation the HP Accused Products.

B. Amazon Respondents

1. Amazon.com, Inc.

33. **Amazon.com, Inc.** is a Delaware corporation with a principal place of business at 410 Terry Avenue North, Seattle, WA 98109.

34. On information and belief, Amazon.com, Inc. operates the e-commerce website “Amazon.com,” which sells products manufactured outside of the United States, including, without limitation, tablet computers, streaming devices, and televisions, for example, the Amazon Accused Products such as the Amazon Fire products.

35. On information and belief, Amazon.com, Inc. is engaged in the design, manufacturing, research, development, testing, marketing, distribution, shipping, importation, sale for importation, and/or sale within the United States after importation of Accused Products that infringe the Asserted Patents.⁷ On information and belief, Amazon.com, Inc. is also engaged in

⁷ Accused Products manufactured or imported by Amazon are hereinafter referenced as “Amazon Accused Products.”

contributing to (or instructing others regarding) the use, manufacture, sale, and/or importation of such products. *See*, Ex. 57, Stipulation and Exhibit A, *Certain Video Processing Devices and Components Thereof*, Inv. No. 337-TA-1343, Dkt. No. 3651 (July 28, 2023) (“Amazon stipulates that the importation requirements of 19 U.S.C. § 1337(a)(1)(B) are met as to each of the Amazon Accused Products”) (including many of the same Amazon Accused Products as in this Complaint).

36. On information and belief, the Amazon Accused Products are manufactured abroad.

37. Therefore, on information and belief, Amazon.com, Inc., itself and/or through its subsidiaries and corporate relatives, imports into the United States, sells for importation in the United States, and/or sells in the United States after importation the Amazon Accused Products.

2. Amazon.com Services, LLC

38. **Amazon.com Services, LLC** (“Amazon Services”) is a wholly owned subsidiary of Amazon.com, Inc.

39. Amazon Services is a Delaware limited liability company with a principal place of business at 410 Terry Avenue North, Seattle, WA 98109.

40. On information and belief, Amazon Services makes and sells products and services that provide digital content management, including data synchronization, including without limitation, tablet computers, streaming devices, and televisions, including, for example, Amazon Fire products.

41. On information and belief, Amazon Services is engaged in the designing, manufacturing, research, development, testing, marketing, distribution, shipping, importation, sale for importation, and/or sale within the United States after importation of Amazon Accused Products that infringe the Asserted Patents. On information and belief, Amazon Services is also

engaged in contributing to (or instructing others regarding) the use, manufacture, sale, and/or importation of such products.

42. On information and belief, the Amazon Accused Products are manufactured abroad.

43. Therefore, on information and belief, Amazon Services, itself and/or through its subsidiaries and corporate relatives, imports into the United States, sells for importation in the United States, and/or sells in the United States after importation the Amazon Accused Products.

IV. NOKIA'S COMPLIANCE WITH ITU LICENSING POLICIES

A. The ITU and the H.264/H.265 Standardization Process

44. Certain claims of the Asserted Patents relate to the H.264 and H.265 Standards developed by the International Telecommunication Union ("ITU").

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

46. Following publication of the H.264 Standard, the JVT began work on the H.265 Standard. The H.265 Standard, which is also known as "MPEG-H Part 2" or "High Efficiency Video Coding," represents the next step for video quality and coding efficiency after the widely successful H.264 Standard.

47. The ITU was formed in 1865 at the International Telegraph Convention and, in 1947 it became a specialized agency of the United Nations, responsible for issues that concern information and communication technologies. The ITU handles a variety of matters and thus is organized into various sectors. One of the sectors is 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.”

48. Within ITU-T, members come together in various teams or groups to propose technology that best meets the aim of the organization and to 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 detailed in the H.264 Recommendation, and the H.265 Standard is detailed in the H.265 Recommendation.

49. In order to facilitate the widespread adoption of its standards, the ITU must ensure manufacturers have access to the standards and 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 may not be standards at all; companies would need to rely on a multiplicity of proprietary technologies; or larger companies could coerce smaller ones to adopt certain technologies in the absence of collaborative and merit-focused standard-setting processes.

50. As the ITU searches for the best available technical solutions, it 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.

51. 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. 47

at 1, “*Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC*,” ITU, Rev. 4 (Dec. 16, 2022).

52. 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. 48, “*Common Patent Policy for ITU-T/ITU-R/ISO/IEC*,” ITU (2022).

53. 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. 47 at 2, “*Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC*,” ITU, Rev. 4 (Dec. 16, 2022). 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 the H.264 or H.265 standards. 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.

54. 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. 49 at 7, Recommendation ITU-T H.264. It does not, however, specify the implementation of encoders.

55. Similarly, the H.265 Recommendation only specifies the implementation of decoders. *See* Ex. 50 at 5–6, Recommendation ITU-T H.265 (defining (i) “decoding process” as “[t]he process specified in this Specification that reads a *bitstream* and derives *decoded pictures* from it” and (ii) “encoding process” as “[a] process not specified in this Specification that produces a *bitstream* conforming to this Specification.”).

B. Nokia’s Compliance with the ITU Common Patent Policy and Nokia’s Relevant Declarations

56. Nokia protects its investments in research and development with intellectual property. Nokia owns many patents related to video decoding technology, and it continues to develop and secure intellectual property as it innovates in this industry. By voluntarily contributing its research and development innovations to the standard-setting process at the ITU—through technical contributions in standardization meetings—Nokia has a large number of patent claims essential to the H.264 and H.265 Standards. Industry members attending the standardization meetings chose to adopt Nokia’s technology into the standards because of its benefits and merit.

57. Nokia has committed that it is prepared to grant licenses to any patent claims essential to the H.264 and H.265 Standards on reasonable and non-discriminatory (“RAND”) terms and conditions.

58. Consistent with the ITU Common Patent Policy, Nokia timely notified standard setting participants that Nokia may obtain patents on its contributions, including by submitting Patent Statement and Licensing Declarations to the ITU in which Nokia declares in good faith that it is prepared to grant licenses to the essential claims of the relevant patents on RAND terms and conditions. Ex. 51, Nokia’s General Licensing Declaration to the ITU.

59. Nokia has executed dozens of agreements related to its video portfolios. Nokia’s agreements cover an array of product types, including mobile phones, computers, tablet computers, televisions, security devices, and medical products. Due to the range of applications of video technologies, Nokia’s existing licensees were executed with sophisticated companies across a wide variety of businesses and industries.

60. Nokia has negotiated in good faith and made substantial efforts to enter into license agreements, including for its H.264 and H.265 standard essential patent claims, with Respondents, as proven by Nokia’s conduct in licensing negotiations.

61. On the other hand, Respondents have each refused to take a license to Nokia’s Asserted Patents despite months of extensive discussions and Nokia’s multiple offers.

C. HP’s Behavior as an Unwilling Licensee

62. Nokia has been negotiating with HP in a good faith effort to license Nokia’s H.264- and H.265-related patents (“Nokia’s Video Patents”) since 2019. In that time, HP has sold hundreds of millions of infringing products but has paid no royalties. Nokia has made offers to HP

consistent with licenses agreed to by over 50 companies, but the parties have been unable to reach agreement.

63. In November 2019, Nokia contacted HP regarding its infringement of Nokia's patents related to the H.264 standard ("Nokia's H.264 Patents"). Nokia proposed that the parties enter into a non-disclosure agreement ("NDA") so Nokia could share confidential information regarding HP's infringement, and so the parties could share commercially sensitive information, including HP's past sales volumes and projections. HP refused to agree that any technical information exchanged should be covered by NDA. Although the parties were in the process of negotiating the provisions of the NDA, Nokia proceeded with delivering a presentation to HP on March 12, 2020 that summarized certain aspects of the H.264 standard and Nokia's related patents.

64. On July 22, 2020, Nokia sent HP a list of exemplary Nokia H.264 Patents and the corresponding sections of the H.264 standard, as well as identification of infringing HP products. Nokia also sent six exemplary H.264 decoding claim charts.

65. On December 8, 2020, an NDA was executed. Following execution of the NDA, Nokia sent HP a license offer covering the decoding claims of its H.264 Patents at its well-established rate. Nokia also sent the terms and conditions corresponding with the license offer and requested a call with HP on December 17 or 18 to discuss.

66. On January 15, 2021, the parties finally spoke by phone. Over the next several weeks, Nokia provided HP with additional materials, including seven claim charts for claims relating to encoding video into H.264-compliant formats and an anonymized list of twelve exemplary licenses supporting Nokia's offer. Nokia also sent HP lists of patents with claims relating to H.264 decoding and to encoding video into H.264-compliant formats.

67. On May 13, 2021, Nokia sent HP an additional 32 claim charts showing HP's infringement of encoding and decoding patent claims in Nokia patents relating to the H.264 standard. It also sent license offers for H.264 decoding and encoding video into H.264-compliant formats at its well-established rates.

68. On July 9, 2021, Nokia sent HP 24 claim charts showing HP's infringement of encoding and decoding patent claims in Nokia patents related to the H.265 Standard.

69. On August 13, 2021, Nokia also extended offers for Nokia's claims relating to encoding video into H.265-compliant formats, decoding H.265-compliant video, and a combined offer for both, all at Nokia's well-established rates.

70. On August 27, 2021, Nokia sent HP a list of exemplary Nokia H.265 patents claims and HP products, and on September 28, 2021, Nokia sent an additional list of decoding and encoding patent claims infringed by HP's products. On October 1, 2021, Nokia sent HP an additional anonymized list of H.264 and H.265 licenses supporting its offers.

71. From January to March 2022, the parties engaged in extensive technical discussions over Nokia's patents, meeting seven times. Once the technical meetings concluded, Nokia sent HP an additional offer, this one a lump sum offer covering its H.264 and H.265 decoding and encoding patent claims, based on Nokia's well-established rates for its patents.

72. Despite Nokia's extensive efforts, the parties have still been unable to reach agreement on a license to Nokia's patents. HP continues to sell and profit from technology that infringes Nokia's patents. HP's actions as an unwilling licensee, HP's refusal to negotiate in good faith, and its continued unauthorized use of Nokia's video coding technology have prompted Nokia to seek the relief detailed in this Complaint.

D. Amazon's Behavior as An Unwilling Licensee

73. Nokia has been negotiating with Amazon in good faith to license various standard essential patent ("SEP") claims since 2009. During this time, Amazon has sold millions of infringing products and offered services that infringe Nokia's patents to millions of subscribers, yet Amazon has not taken a license to any of Nokia's standard essential patent claims. Nokia has at all times been prepared to grant a license to Amazon under its standard essential patent claims.

74. The negotiations between the parties initially focused on cellular and Wi-Fi technologies, but shifted to Nokia's patent portfolio relating to Nokia's Video Patents after Amazon reduced its sales of cellular devices and increased its use of video technologies.

75. In April 2015, Nokia notified Amazon that Amazon was infringing Nokia's H.264 Patents. Nokia notified Amazon of its established industry rate for its H.264 decoding portfolio, which had already been accepted by other companies.

76. Given the parties' years of negotiations on cellular and Wi-Fi technologies, Nokia attempted to finalize an agreement with Amazon relating to cellular and Wi-Fi essential patent claims before turning to Nokia's H.264 Patents. However, despite Nokia's good faith efforts, Amazon would not agree to a license.

77. In August, 2020, Nokia sent Amazon a list of its Video Patents and extended an offer that included a license to Nokia's Video Patents, Wi-Fi patents, and cellular patents. Nokia's offer was a lump sum structure, including a past release and license. Given Amazon's reduction of its cellular product business, Nokia's offer also included a license for Nokia's cellular patents capped at particular number of units. Nokia calculated its offer based on Nokia's standard per unit rates for its Video Patents. Over 50 companies had previously licensed Nokia's Video Patents at this rate.

78. Over the next five months, Nokia repeatedly followed up with Amazon, but Nokia's offer was never accepted.

79. In March 2021, Nokia made a new offer and provided Amazon with a spreadsheet showing exactly how Nokia calculated its offer, based on Nokia's established rates for its Video Patents.

80. After many more rounds of negotiations, on October 21, 2022, Nokia made a counteroffer that appeared to bridge the gap between the parties. Nokia offered a license to Nokia's Video Patents and cellular SEPs for Amazon end-user devices for 5 years, plus certain grant-back licenses to Nokia and release provisions, among other provisions.

81. The parties appeared close to finalizing a deal. Nokia sent several drafts of the proposed documents in November and December, and on December 21, 2022, Nokia agreed to go back to its management for final approval and execution of the deal. Nokia's negotiator emailed Amazon stating "[o]nce Amazon's contact info is added to Section F and you confirm the correct contracting party, we believe this is ready for Amazon's signature." Nokia sent Amazon an executable copy.

82. However, the December 2022 license was never executed. Nokia continued to negotiate in good faith to reach an agreement given the prolonged negotiations and that Amazon had yet to pay a single royalty. On March 20, 2023, Nokia extended a revised version of the compromise offer, which maintained the same payment amount.

83. Given the parties inability to reach an agreement on a lump sum arrangement that included a license to Nokia's Video Patents and W-Fi and cellular essential patent claims, Nokia decided to make Amazon separate running royalty offers for Amazon's video-related products. Specifically, on July 19, 2023, Nokia sent Amazon an offer for a license to Nokia's Video Patents

for Amazon end-user devices at Nokia's well-established rates. Nokia also sent Amazon a list of anonymized licenses showing other companies that have agreed to these same rates.

84. On October 24, 2023, Nokia sent Amazon an expanded list of anonymized licenses showing that a large number of companies have agreed to Nokia's well-established rates.

85. Then, on October 25, 2023, Nokia sent Amazon lists of Nokia's Video Patents and identified Amazon's products, including the Accused Products, which infringe Nokia's Video Patents.

86. Amazon has not accepted any of Nokia's offers. To this day, Amazon has not paid a single royalty for its infringement despite Nokia's good faith efforts to negotiate.

V. THE ASSERTED PATENTS AND NON-TECHNICAL DESCRIPTION OF THE INVENTIONS

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

1. Identification of the Patent and Ownership by Complainant

87. Nokia Tech owns by assignment the entire right, title, and interest in and to 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 No. 10/426,928, filed on April 30, 2003, and expires on May 3, 2026.

88. A certified copy of the '818 Patent is attached as Ex. 1.

89. A certified copy of the assignment for the '818 Patent is attached as Ex. 2.

90. Pursuant to 19 CFR § 210.12(c), a certified copy of the prosecution history of the '818 Patent and a copy of the applicable pages of each reference mentioned in the prosecution history of the '818 Patent are included in Appx A.

91. The '818 Patent has 23 claims, twelve of which are independent claims. Complainants are asserting Claims 6, 7-9, 11, 15, 21, and 23.

2. Foreign Counterparts to the '818 Patent

92. Ex. 3 lists each foreign patent and each pending foreign patent application (not already issued as a patent), and each foreign patent application that has been denied, abandoned or withdrawn, corresponding to the '818 Patent, with an indication of the prosecution status of each such patent application. Nokia is aware of no other foreign patents or patent applications corresponding to the '818 Patent that have been filed, abandoned, withdrawn, or rejected.

3. Non-Technical Description of the Patented Inventions

93. Per 19 CFR § 210.12(a)(9)(vi), the following is a non-technical description of the '818 Patent. The '818 Patent provides techniques for encoding and decoding sequences of pictures by way of parameters defined in both sequence and picture parameter sets.

94. The '818 Patent is not directed to merely an abstract idea or any patent-ineligible concept. Instead, the '818 Patent provides improvements over conventional video coding techniques that result in substantial benefits to video decompression, video quality, and video playback. These substantial benefits are enjoyed by users of the Accused Products when, for example, watching video over the Internet.

95. A coded picture may consist of one or more slices, and a slice may consist of, for example, macroblocks of pixel values. '818 Patent at 1:51-55. Conventional video coding standards before the '818 Patent involved a structure for a bitstream that consisted of several layers, including a sequence layer, picture layer, slice layer, and macroblock layer. *Id.* at 2:6-13. These conventional video coding standards also included the use of headers in the bitstream at the slice layer and below. *Id.* at 2:49-51. However, the data at the picture level and sequence level were included in a parameter set instead of using headers. *Id.* at 2:51-56. Each parameter set included a unique identifier, and each slice header included a reference to a parameter set identifier so that

the decoder could use the parameter values of the identified parameter set when decoding the slice. *Id.* at 2:56-59.

96. Prior to the '818 Patent, one significant problem with the single parameter set structure was that many sequence-level parameters remain unchanged over parameter sets and are repeated. *Id.* at 6:54-57. In order to be able to change picture parameters (such as the picture size) without having to receive an updated parameter set, decoders maintained multiple parameter sets. *Id.* at 3:5-9. Receiving the multiple parameter sets with repetitive information was overburdening and caused latency and reliability issues. *Id.* at 3:17-24. Further, since the parameter sets were transmitted frequently to accommodate changes in users watching video, the redundant transmission was inefficient and very costly from a bit-rate point of view. *Id.* at 3:24-29.

97. The '818 Patent overcame these technical challenges in the prior systems by splitting the parameter set structure and inventing multiple parameter set structures according to the persistency and target of parameters, including a sequence parameter set and a picture parameter set. *Id.* at 4:3-5, 4:15-19. The '818 Patent employs the unconventional solution of receiving parameter values that may change in every slice or will likely change in every picture in a slice header, including parameter values that will likely remain unchanged in multiple pictures in a picture parameter set, and including parameter values that are not allowed to change in a sequence parameter set. *Id.* at 4:24-28.

98. The '818 Patent therefore provides a specific technological improvement to the functionality and capabilities of video decoding technology that results in increased compression efficiency and significant reduction in transmission bit-rate. *Id.* at 3:56-58, 6:50-59.

99. Conventional technology prior to the '818 Patent did not recognize that video coding parameters may change at different rates and that some parameters may change much more

frequently than others. Conventional technology prior to the '818 Patent was not capable of utilizing parameter values with multiple parameter set structures according to the persistency and target of parameters, including a sequence parameter set and a picture parameter set.

100. The '818 Patent recognizes and solves these specific technological problems with the conventional technology at the time. The '818 Patent's ability to recognize parameter values in a sequence parameter set for a sequence of pictures, parameter values in a picture parameter set for a picture, and at least one picture parameter value in a slice header, the picture parameter value remaining unchanged at least in all slice headers of one picture, was a significant advancement over existing technology.

101. The novel solution of the '818 Patent, including recognizing parameter values in a sequence parameter set for a sequence of pictures, parameter values in a picture parameter set for a picture, and at least one picture parameter value in a slice header, the picture parameter value remaining unchanged at least in all slice headers of one picture, was not well-understood, routine, or conventional, nor was it simply comprised of well-understood, routine, and conventional activities previously known to the industry. Furthermore, the ordered combination of elements, including recognizing parameter values in a sequence parameter set for a sequence of pictures, parameter values in a picture parameter set for a picture, and at least one picture parameter value in a slice header, the picture parameter value remaining unchanged at least in all slice headers of one picture, was not well-understood, routine, or conventional.

B. U.S. Patent No. 10,536,714

1. Identification of the Patent and Ownership by Complainant

102. Nokia Tech owns by assignment the entire right, title, and interest in and to the '714 Patent entitled "Method for Coding and an apparatus" issued on January 14, 2020, to inventors Mehmet Oguz Bici, Jani Lainema, and Kemal Ugur. The '714 Patent issued from U.S. Patent

Application No. 16/356,733, filed on March 18, 2019, which is a continuation of application No. 15/681,725, filed on August 21, 2017 (now U.S. Patent No. 10,237,574), which is a continuation of application No. 15/426,822, filed on February 7, 2017 (now U.S. Pat. No. 9,743,105), which is a continuation of application No. 13/666,680, filed on November 1, 2012 (now U.S. Patent No. 9,571,833), which claims priority to U.S. Provisional Application No. 61/555,703, filed on November 4, 2011. The '714 Patent expires on November 1, 2032.

103. A certified copy of the '714 Patent is attached as Ex. 10.

104. A certified copy of the assignment for the '714 Patent is attached as Ex. 11.

105. A certified copy of the prosecution history of the '714 Patent and copies of the references cited in the '714 Patent and its prosecution history are included in Appx. B.

106. The '714 Patent has thirty claims, six of which are independent claims. Complainants are asserting Claims 1-30.

2. Foreign Counterparts to the '714 Patent

107. Ex. 12 lists each foreign patent and each pending foreign patent application (not already issued as a patent), and each foreign patent application that has been denied, abandoned or withdrawn, corresponding to the '714 Patent, with an indication of the prosecution status of each such patent application. Nokia is aware of no other foreign patents or patent applications corresponding to the '714 Patent that have been filed, abandoned, withdrawn, or rejected.

3. Non-Technical Description of the Patented Inventions

108. The '714 Patent is not directed to merely an abstract idea or any patent-ineligible concept. Instead, the '714 Patent provides improvements over conventional video coding motion compensation techniques that result in substantial benefits to video compression, video quality,

and video playback. These substantial benefits are enjoyed by users of the Accused Products when, for example, watching video over the Internet.

109. Encoders compress video into a representation suitable for storage or transmission. '714 Patent at 1:32-36. Decoders can decompress the compressed representation into viewable form. *Id.* As described in the '714 Patent, decoders reconstruct output video by applying a prediction mechanism “using the motion or spatial information ... stored in the compressed representation of the image” and prediction error decoding “the inverse operation of the prediction error coding to recover the quantized prediction error signal in the spatial domain.” *Id.* at 2:4-12. The decoder “may also apply additional filtering processes in order to improve the quality of the output video.” *Id.* at 2:16-18.

110. Typical encoders encode video information in two phases. In the first phase, pixel values can be predicted, for example, by motion compensation mechanisms, which involve finding and indicating an area in one of the previously coded video frames that corresponds closely to the block being coded. *Id.* at 1:43-49. Additionally, pixel values can be predicted via by spatial mechanisms, which involve using the pixel values around the block to be coded in a specified manner. *Id.* at 1:49-52. The second phase involves coding the prediction error (*i.e.*, the difference between the predicted block of pixels and the original block of pixels), which involves transforming the difference in pixel values using a specified transform (*e.g.*, a Discrete Cosine Transform (DCT) or a variant thereof), quantizing the coefficients, and entropy coding the quantized coefficients. *Id.* at 1:58-64.

111. As described in the '714 Patent, motion information is indicated by motion vectors associated with each motion compensated image block. *Id.* at 2:59-65. One method used by conventional systems to create the predicted motion vectors was to calculate them in a predefined

way, for example by calculating the median of the motion vectors of the adjacent blocks. *Id.* at 2:67-3:4. Another method used by conventional systems was to generate a list or a set of candidate predictions from blocks in the current frame and/or co-located or other blocks in temporal reference pictures and signaling the chosen candidate as the motion vector prediction. *Id.* at 3:5-9.

112. Prior to the '714 Patent, one significant problem was that after a list of the motion vector prediction candidates was generated, some of the motion vector prediction candidates may have the same motion information, which created redundancy. *Id.* at 3:66-4:3. Another problem arose when temporal motion vector prediction information was unavailable, for example, due to loss of a reference frame. *Id.* at 4:3-7. Conventional technology could not address whether the temporal motion vector prediction candidates in the list should be removed. *Id.* Therefore, methods that determined the inclusion or removal of motion vector prediction candidates based on comparing motion information with temporal motion vector prediction resulted in the false assignment of motion vector prediction candidates, which caused degradation in picture quality. *Id.* at 4:7-15.

113. The '714 Patent overcame these technical challenges in the prior systems by inventing a method that recognized that the size of the motion vector prediction candidates list could be reduced and associated signaling cost could be reduced by eliminating motion vector prediction candidates based on the geometry of the region being predicted and by using a limited number of candidate comparisons. *Id.* at 4:19-39. The '714 Patent employs the unconventional solution of obtaining spatial candidates from the motion information of spatial neighbor blocks, for example, and performing a limited number of motion information comparisons between candidate pairs to remove the redundant candidates rather than comparing every available candidate pair, which reduces complexity and redundancy. *Id.* at 4:19-39.

114. The '714 Patent therefore provides specific technological improvements to the functionality and capabilities of video decoding and encoding technologies that result in reduced complexity and improved prediction accuracy, which in turn reduces the information to be transmitted and received. *Id.* at 4:20-23, 8:24-27.

115. Conventional technology prior to the '714 Patent was not capable of selecting spatial motion vector prediction candidates based on a location of the block associated with a first spatial motion vector prediction candidate or determining to include or exclude the first spatial motion vector prediction candidate in the motion vector prediction list based on comparing motion information of the first spatial motion vector prediction candidate with motion information of a limited number of other spatial motion vector prediction candidates without making a comparison of each pair from the set of spatial motion vector prediction candidates.

116. The '714 Patent recognizes and solves these specific technological problems with the conventional technology at the time. The '714 Patent's ability to determine spatial motion vector prediction candidates based on a location of the block associated with a first spatial motion vector prediction candidate and ability to determine to include or exclude the first spatial motion vector prediction candidate in the motion vector prediction list based on comparing motion information of the first spatial motion vector prediction candidate with motion information of a limited number of other spatial motion vector prediction candidates without making a comparison of each pair from the set of spatial motion vector prediction candidates was a significant advancement over existing technology.

117. The novel solution of the '714 Patent, including determining spatial motion vector prediction candidates based on a location of the block associated with a first spatial motion vector prediction candidate and determining to include or exclude the first spatial motion vector

prediction candidate in the motion vector prediction list based on comparing motion information of the first spatial motion vector prediction candidate with motion information of a limited number of other spatial motion vector prediction candidates without making a comparison of each pair from the set of spatial motion vector prediction candidates, was not well-understood, routine, or conventional, nor was it simply comprised of well-understood, routine, and conventional activities previously known to the industry. Furthermore, the ordered combination of elements, including determining spatial motion vector prediction candidates based on a location of the block associated with a first spatial motion vector prediction candidate and determining to include or exclude the first spatial motion vector prediction candidate in the motion vector prediction list based on comparing motion information of the first spatial motion vector prediction candidate with motion information of a limited number of other spatial motion vector prediction candidates without making a comparison of each pair from the set of spatial motion vector prediction candidates, was not well-understood, routine, or conventional.

C. U.S. Patent No. 11,805,267

1. Identification of the Patent and Ownership by Complainant

118. Nokia Tech owns by assignment the entire right, title, and interest in and to the '267 Patent entitled "Motion Prediction in Video Coding" issued on October 31, 2023, to inventors Kemal Ugar, Jani Lainema, and Antti Hallapuro. The '267 Patent issued from U.S. Patent Application No. 21/281,869, filed on May 24, 2021. The '267 Patent is a continuation of application No. 16/729,974, filed on Dec. 30, 2019 (now Pat. No. 11,019,354), which is a continuation of application No. 15/876,495, filed on Jan. 22, 2018 (now Pat. No. 10,523,960), which is a continuation of application No. 15/490,469, filed on Apr. 18, 2017, (now Pat. No. 9,877,037), which is a continuation of application No. 15/250,124, filed on Aug. 29, 2016, (now Pat. No. 9,628,816), which is a continuation of application No. 13/344,893, filed on Jan. 6, 2012,

(now Pat. No. 9,432,693), which claims priority to U.S. Provisional Application No. 61/430,694, filed on Jan. 7, 2011. The '267 Patent expires on January 6, 2032.

119. A copy of the '267 Patent is attached as Ex. 19.⁸

120. A copy of the assignment for the '267 Patent is attached as Ex. 20.⁹

121. Pursuant to 19 CFR § 210.12(c), a copy of the prosecution history of the '267 Patent is included in Appx. C and a copy of each reference mentioned in the prosecution history of the '267 Patent is included in Appx. C.¹⁰

122. The '267 Patent has thirty-six claims, six of which are independent claims. Complainants are asserting Claims 1-36.

2. Foreign Counterparts to the '267 Patent

123. Ex. 21 lists each foreign patent and each pending foreign patent application (not already issued as a patent), and each foreign patent application that has been denied, abandoned or withdrawn, corresponding to the '267 Patent, with an indication of the prosecution status of each such patent application. Nokia is aware of no other foreign patents or patent applications corresponding to the '267 Patent that have been filed, abandoned, withdrawn, or rejected.

3. Non-Technical Description of the Patented Inventions

124. Per 19 CFR § 210.12(a)(9)(vi), the following is a non-technical description of the '267 Patent.

125. The '267 Patent is not directed to merely an abstract idea or any patent-ineligible concept. Instead, the '267 Patent provides improvements over conventional video coding

⁸ The '267 Patent issued on October 31, 2023. Complainants will provide a certified copy of the '267 Patent as soon as possible.

⁹ Complainants will provide a certified copy as soon as possible.

¹⁰ Complainants will provide a certified copy as soon as possible.

techniques that result in substantial benefits to video compression, video quality, and video playback. These substantial benefits are enjoyed by users of the Accused Products when, for example, watching video over the Internet.

126. Encoders compress video into a representation suitable for storage or transmission. '267 Patent at 1:26-33. Decoders can decompress the compressed video representation into viewable form. *Id.* One compression technique used to reduce the size of an encoded bitstream is called "Motion Compensated Prediction (MCP)." *Id.* at 2:20-34. In MCP, a prediction for a current frame is formed using a previously coded frame or using multiple previously coded frames. *Id.* An example of a frame that is predicted using multiple previously coded frames is called a "B-picture." B-pictures are bi-predicted (or bi-directional prediction) pictures which use two other pictures as reference pictures, or two prediction blocks within one reference picture. *Id.* at 2:34-45.

127. As described in the '267 Patent, in bi-directional prediction, the prediction signal of the block may be formed by averaging two motion compensated prediction blocks, followed by either up or down rounding, which may introduce rounding errors. *Id.* at 3:49-55.

128. Prior to the '267 Patent, one significant problem was that the accumulation of rounding errors in bi-directional prediction degraded the coding efficiency. *Id.* at 3:56-65. Conventional technology attempted to remove or decrease this rounding error accumulation by signaling whether rounding up or rounding down was used or, alternatively, by alternating the usage of the rounding up and rounding down for each frame. *Id.* However, such prior methods increased the complexity of the process, as two separate code branches were required and the motion estimation routines in the encoder had to be doubled for both cases of rounding and truncating. *Id.* at 4:21-26.

129. The '267 Patent overcame these technical challenges in the prior systems by inventing a method of maintaining the prediction signals at a higher precision during the prediction calculation and then reducing the precision after the two or more prediction signals have been combined with each other. *Id.* at 4:29-35. The '267 Patent employs the unconventional solution of maintaining a higher accuracy until the prediction signals have been combined to obtain the bi-directional or multidirectional prediction signal, which eliminates the need for including a rounding direction indicator in the bitstream or the added complexity of alternating the rounding directions between frames. *Id.* at 4:36-43, 6:51-57. With the invention of the '267 Patent, the encoder can transmit residual data based on the difference between the combined prediction and the block of pixels, and the decoder can reconstruct the block of pixels based on the combined prediction. *Id.* at 14:51-59, 15:14-24, 16:14-24.

130. The '267 Patent therefore provides a specific technological improvement to the functionality and capabilities of video coding technology that results in increased efficiency and significant reduction in the information to be transmitted and received. *Id.* at 7:31-38.

131. Conventional technology prior to the '267 Patent was not capable of reducing the accumulation of rounding errors in bi-directional or multi-directional prediction without signaling the rounding offset or using different methods for rounding for different frames. *Id.* at 6:51-57.

132. The '267 Patent recognizes and solves these specific technological problems with the conventional technology at the time. The '267 Patent's ability to obtain a first prediction and a second prediction, each having a precision which is higher than the precision of the reference pixel values, and after combining the first prediction and the second prediction, decreasing the precision of said combined prediction by shifting bits of the combined prediction to the right such that the residual data in the bitstream is based on the difference between the combined prediction and the

block of pixels, and such that the combined prediction is used by the decoder to reconstruct the block of pixels, was a significant advancement over existing technology.

133. The novel solution of the '267 Patent, including obtaining a first prediction and a second prediction, each having a precision which is higher than the precision of the reference pixel values, and after adding the first prediction and the second prediction with a rounding value, decreasing the precision of said combined prediction by shifting bits of the combined prediction to the right such that the residual data in the bitstream is based on the difference between the combined prediction and the block of pixels, and such that the combined prediction is used by the decoder to reconstruct the block of pixels, was not well-understood, routine, or conventional, nor was it simply comprised of well-understood, routine, and conventional activities previously known to the industry. Furthermore, the ordered combination of elements, including obtaining a first prediction and a second prediction, each having a precision which is higher than the precision of the reference pixel values, and after adding the first prediction and the second prediction with a rounding value, decreasing the precision of said combined prediction by shifting bits of the combined prediction to the right such that the residual data in the bitstream is based on the difference between the combined prediction and the block of pixels, and such that the combined prediction is used by the decoder to reconstruct the block of pixels, was not well-understood, routine, or conventional.

D. U.S. Patent No. 8,077,991

1. Identification of the Patent and Ownership by Complainant

134. Nokia Tech owns by assignment the entire right, title, and interest in and to the '991 Patent entitled "Spatially Enhanced Transform Coding" issued on December 13, 2011, to inventor Jani Lainema. The '991 Patent issued from U.S. Patent Application No. 12/101,019, filed on April

10, 2008. It therefore claims priority to April 10, 2008. The '991 Patent expires on October 12, 2030.

135. A certified copy of the '991 Patent is attached as Ex. 28.

136. A certified copy of the assignment for the '991 Patent is attached as Ex. 29.

137. Pursuant to 19 CFR § 210.12(c), a certified copy of the prosecution history of the '991 Patent is included in Appx. D and a copy of each reference mentioned in the prosecution history of the '991 Patent is included in Appx. D.

138. The '991 Patent has thirty-nine claims, five of which are independent claims. Complainants are asserting Claims 1, 5, 6, 8, 9, 10, 11, 12, 13, 17, 18, 20, 21, 22, 23, 24, 26, 29, 30, 31, 32, 33, 35, and 38.

2. Foreign Counterparts to the '991 Patent

139. Ex. 30 lists each foreign patent and each pending foreign patent application (not already issued as a patent), and each foreign patent application that has been denied, abandoned or withdrawn, corresponding to the '991 Patent, with an indication of the prosecution status of each such patent application. Nokia is aware of no other foreign patents or patent applications corresponding to the '991 Patent that have been filed, abandoned, withdrawn, or rejected.

3. Non-Technical Description of the Patented Inventions

140. Per 19 CFR § 210.12(a)(9)(vi), the following is a non-technical description of the '991 Patent.

141. The '991 Patent is not directed to merely an abstract idea or any patent-ineligible concept. Instead, the '991 Patent provides improvements over conventional video coding techniques that result in substantial benefits to video compression, video quality, and video

playback. These substantial benefits are enjoyed by users of the Accused Products when, for example, watching video over the Internet.

142. As described in the '991 Patent, typical decoders reconstruct video by applying prediction mechanisms and prediction error decoding. *Id.* at 1:49-54. For example, the decoder “sums up the prediction and prediction error signals (i.e., the pixel values) to form the output video frame.” *Id.* at 1:56-59. Typical encoders compress video information in two phases. In the first phase, pixel values can be predicted, for example, by motion compensation mechanisms, which involve finding and indicating an area in one of the previously coded video frames that corresponds closely to the block being coded. *Id.* at 1:29-34. Additionally, pixel values can be predicted via by spatial mechanisms, which involve using the pixel values around the block to be coded in a specified manner. *Id.* at 1:35-37. The second phase involves coding the prediction error (i.e., the difference between the predicted block of pixels and the original block of pixels), which involves transforming the difference in pixel values using a specified transform (e.g., a Discrete Cosine Transform (DCT) or a variant thereof), quantizing the coefficients, and entropy coding the quantized coefficients. *Id.* at 1:37-44.

143. Prior to the '991 Patent, one significant problem was that transform coding was only efficient under certain circumstances. More specifically, when the prediction error values were less correlated with one another, the transform coding performance deteriorated and caused suboptimal performance. *Id.* at 2:29-38.

144. The '991 Patent overcame these technical challenges in the prior systems by inventing a novel method of using both transform coding and spatial coding to construct the prediction error signal. *Id.* at 2:64-3:2. The '991 Patent employs the unconventional solution of performing both transform coding and spatial coding to allow for the efficient spatial

representation of those components of the prediction error signal of the same image block that are not well correlated with the transform basis functions (such as, for example, certain types of sensor noise, high frequency texture and edge information). *Id.* at 3:18-21, 3:6-12.

145. The '991 Patent therefore provides a specific technological improvement to the functionality and capabilities of video coding technology that results in increased efficiency and video quality. *Id.* at 3:35-37. For instance, the '991 Patent describes an example where four scalar values are to be coded, in which the invention of the '991 Patent results in compression efficiency improvement, as the signal is represented by a single transform coefficient and a single spatial sample instead of four transform coefficients. *Id.* at 4:44-58.

146. Conventional technology prior to the '991 Patent was not capable of using both transform coding and spatial coding to construct the prediction error signal to allow for the efficient spatial representation of those components of the prediction error signal of the same image block that are not well correlated with the transform basis functions.

147. The '991 Patent recognizes and solves these specific technological problems with the conventional technology at the time. The '991 Patent's techniques for performing transform coding to the difference signal, performing spatial coding to the difference signal, and joining the two representations to form a coded prediction error signal was a significant advancement over existing technology. The '991 Patent's techniques for receiving a coded prediction error signal including transform coefficients and spatial samples, decoding the transformed coefficients into decoded transform information, decoding the plurality of spatial samples into decoded spatial information, and adding the decoded transform information, the decoded spatial information, and a reconstructed prediction of a block of data, thereby forming a decoded representation of the block of data are likewise a significant advancement over existing technology.

148. The novel solutions of the '991 Patent, including receiving a coded prediction error signal, decoding the plurality of transformed coefficient, decoding the plurality of spatial samples, and adding the decoded transform information, the decoded spatial information and a reconstructed prediction of the block of data, was not well-understood, routine, or conventional, nor was it simply comprised of well-understood, routine, and conventional activities previously known to the industry. Furthermore, the ordered combination of elements, including performing transform coding to the difference signal, performing spatial coding to the difference signal, and joining the two representations to form a coded prediction error signal, was not well-understood, routine, or conventional.

E. U.S. Patent No. 8,050,321 (“the ’321 Patent”)

1. Identification of the Patent and Ownership by Complainant

149. Nokia Tech owns by assignment the entire right, title, and interest in and to the '321 Patent, entitled “Grouping of Image Frames In Video Coding,” issued on November 1, 2011, to inventor Miska Hannuksela. The '321 Patent issued from U.S. Patent Application No. 11/338,934, filed on January 25, 2006, and claims priority to U.S. Provisional Application No. No. 10/306,942, filed on November 29, 2002. The '321 Patent expires on May 19, 2027.

150. A certified copy of the '321 Patent is attached as Ex. 37.

151. A certified copy of the assignment for the '321 Patent is attached as Ex. 38.

152. Pursuant to 19 CFR § 210.12(c), a certified copy of the prosecution history of the '991 Patent is included in Appx. E and a copy of each reference mentioned in the prosecution history of the '991 Patent is included in Appx. E.

153. The '321 Patent has eleven claims, six of which are independent claims. Complainants are asserting Claims 8-9, 10, and 11.

2. Foreign Counterparts to the '321 Patent

154. Ex. 39 lists each foreign patent and each pending foreign patent application (not already issued as a patent), and each foreign patent application that has been denied, abandoned or withdrawn, corresponding to the '321 Patent, with an indication of the prosecution status of each such patent application. Nokia is aware of no other foreign patents or patent applications corresponding to the '321 Patent that have been filed, abandoned, withdrawn, or rejected.

3. Non-Technical Description of the Patented Inventions

155. The '321 Patent is not directed to merely an abstract idea or any patent-ineligible concept. Instead, the '321 Patent is directed to novel and unconventional improvements to the process of video coding. The '321 Patent provides improvements over prior video coding techniques that result in substantial benefits to video compression, video quality, user experience, and video playback. These substantial benefits are enjoyed by users of the Accused Products when, for example, watching video over the Internet.

156. Digital video files are comprised of still image frames, which are displayed rapidly in succession to create an impression of a moving image. '321 Patent at 1:55-58. The image frames typically comprise a number of stationary background objects and few moving objects, such that the information in consecutively displayed image frames is typically largely similar. *Id.* at 1:58-65. Many video coding methods make use of this so-called “temporal redundancy” by using “motion-compensated temporal prediction,” in which the contents of an image frame are predicted from other frames. *Id.* at 2:16-23. Frames that use motion-compensated temporal prediction are also called INTER-frames. *Id.* at 2:27-29. Frames that do not use motion-compensated temporal prediction are also called INTRA-frames or I-frames. *Id.* at 2:23-26.

157. Both INTER-frames and INTRA-frames may be used in the motion-compensated prediction of another frame. However, if a frame that is used in the motion-compensated prediction of another frame is lost or corrupted, the frames dependent on it can no longer be correctly decoded. *Id.* at 2:32-33.

158. For example, prior to the '321 Patent, one significant problem occurred when a user wanted to stream or browse a video from somewhere other than the beginning of the video (e.g., the user wishes to start from a certain position such as the middle or where the user left off from a previous viewing). *Id.* at 3:62-4:4. Prior systems did not include a numbering scheme that allowed the decoder to recognize the first I-frame in a sequence of pictures. *Id.* at 11:11-21. Therefore, when streaming or browsing a video file from a point other than the beginning, the decoder would interpret this an unintentional loss of image frames and unnecessarily try to reconstruct the image frames suspected as lost. *Id.* at 11:20-25.

159. The '321 Patent overcame these technical challenges in the prior systems by inventing a novel independent sequence of image frames that includes an indication of a first picture in an independently decodable group of pictures. *Id.* at 4:16-35. The '321 Patent employs the unconventional solution of indicating the first picture in an independently decodable group of pictures so that it is possible for the decoder to start decoding from that first picture and continue the decoding process without needing prediction from any image frame prior to that first picture. *Id.* at 4:16-38.

160. The '321 Patent therefore provides a specific technological improvement to the functionality and capabilities of video decoding technology that results in increased efficiency and improved video playback. For example, the encoder can now enable the decoder to begin decoding from a random point in a video stream without any prediction from any prior picture and without

storing any pictures decoded prior to the first picture of the independent sequence in its memory. *Id.* at 4:48-58. For another example, the indication by an encoder of a first picture in an independently decodable group of pictures enables the decoder to identify a loss of a picture that is unlikely to allow satisfactory image quality without retransmission or picture refresh. *Id.* at 4:64-5:5.

161. Conventional technology prior to the '321 Patent was not capable of identifying the first picture of an independently decodable group of pictures.

162. The '321 Patent recognizes and solves these specific technological problems with the conventional technology at the time. The '321 Patent's ability to recognize at the decoder an indication of at least one image frame, which is the first image frame, in decoding order, of the independent sequence and to recognize a reset identifier value for the indicated first image frame of the independent sequence was a significant advancement over existing technology.

163. The novel solution of the '321 Patent, including decoding from the video sequence an indication of at least one image frame, which is the first image frame, in decoding order, of the independent sequence and starting the decoding sequence from the first image frame of the independent sequence, was not well-understood, routine, or conventional, nor was it simply comprised of well-understood, routine, and conventional activities previously known to the industry. Furthermore, the ordered combination of elements, including decoding from the video sequence an indication of at least one image frame, which is the first image frame, in decoding order, of the independent sequence and starting the decoding sequence from the indicated first image frame of the independent sequence, was not well-understood, routine, or conventional.

VI. LICENSES

164. Pursuant to Commission Rule 210.12(a)(9)(iii), a list identifying each licensee licensed under each Asserted Patent is attached as Confidential Ex. 52.

VII. THE RESPONDENTS' UNLAWFUL AND UNFAIR ACTS

165. Importation of the Accused Products and use and sale of the Accused Products after importation infringes the Asserted Patents, based on at least the Accused Products' practice of the H.264 and H.265 Standards, as shown in the attached claim charts. *See* Exs. 5-6, 14-15, 23-24, 32-33, and 41-42; *see also* Ex. 46, Full Accused Product List.

166. HP imports, owns, operates, and/or sells the Accused Products which perform decoding processes and include decoders that practice the H.264 and H.265 Standards. *See, e.g.*, Exs. 5, 14, 23, 32, and 41. HP imports, uses, operates, sells, and/or offers to sell its H.264 and H.265-compliant Accused Products to consumers. *See, e.g., Id.*

167. Additionally, as shown by the testing evidence in the attached claim charts for the '714 and '991 Patents, the HP Accused Products perform encoding processes and include encoders covered by certain claims of the '714 and '991 Patents. Exs. 14 and 32.

168. Amazon imports, owns, operates, and/or sells the Accused Products which perform decoding processes and include decoders that practice the H.264 and H.265 Standards. *See, e.g.*, Exs. 6, 15, 24, 33, and 42. Amazon imports, uses, operates, sells, and/or offers to sell its H.264 and H.265-compliant Accused Products to consumers. *See, e.g., Id.*

A. Infringement of the '818 Patent

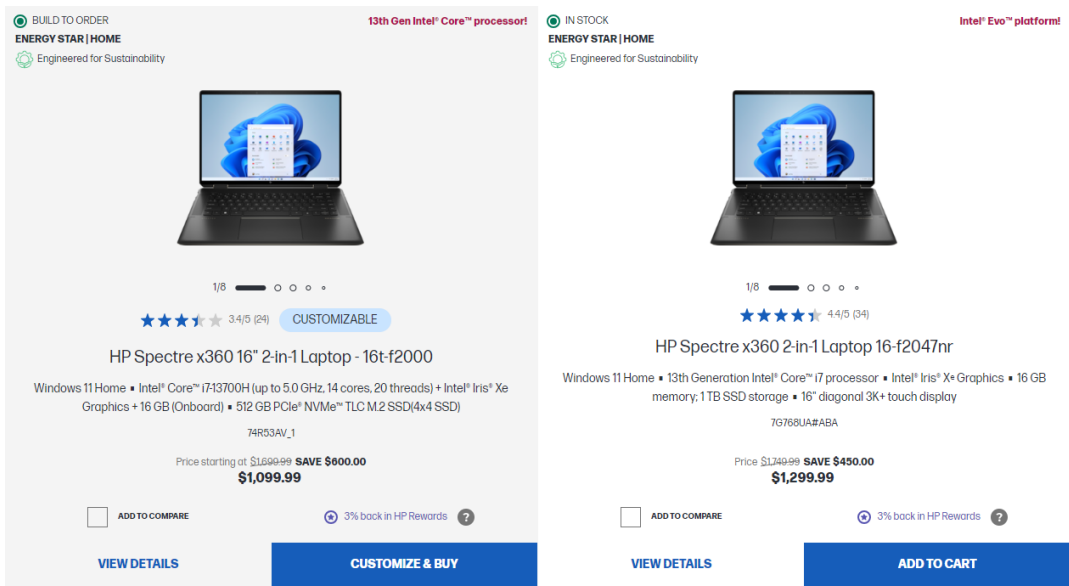
1. HP

169. On information and belief, the Accused Products that are sold for importation, imported, and/or sold within the United States after importation by HP infringe at least Claims 6, 7-9, 11, 15, 21, and 23 of the '818 Patent, either literally or under the doctrine of equivalents.

170. On information and belief, HP directly infringes one or more claims of the '818 Patent through its manufacture, sale for importation, importation, use, and sale after importation of one or more of the HP Accused Products.

171. Any implementation of the inventions in the HP Accused Products infringes the asserted claims of the '818 Patent. Because the asserted decoding claims of the '818 Patent are essential to the H.264 and H.265 Standards, the HP Accused Products' incorporation of the H.264 and H.265 Standards infringes the asserted decoding claims of the '818 Patent.

172. As just one example of HP's infringement, HP manufactures and sells laptops with graphics processing units that decode H.264 and H.265-compliant video (the "HP Laptop Accused Products"). An example of an HP Laptop Accused Product is the HP Spectre X360 laptop series, which includes an Intel Iris XE Graphics processor.



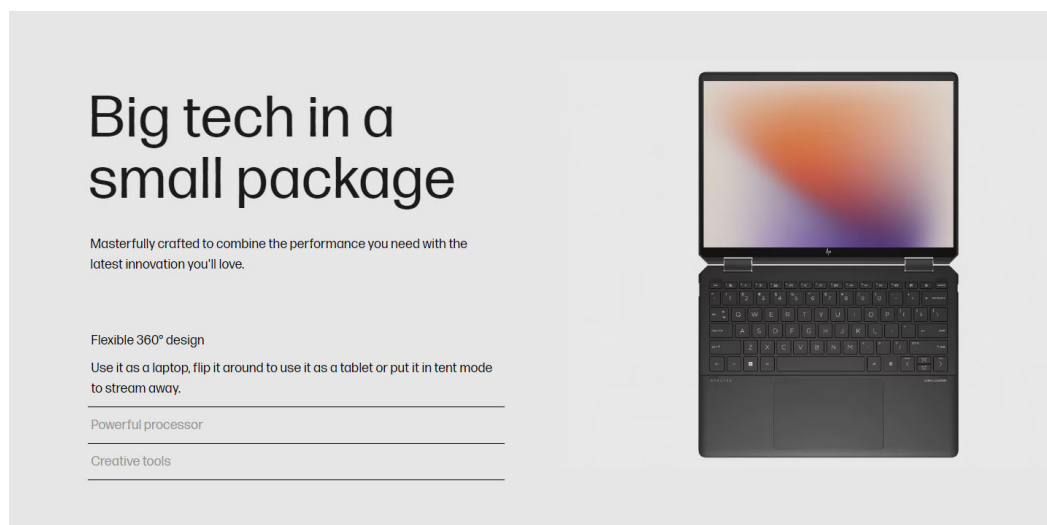
Source: Ex. 58, HP Spectre X360 Homepage

Table 1. Media codec support

Processor Graphics	JPEG	MJPEG	MPEG-2 (H.262)	MPEG-4 AVC ¹ (H.264) 8-bit 4K	MVC (H.265)	HEVC ^{1,2} (H.265) 8 bit 4:2:0	HEVC ^{1,2} (H.265) 10 bit 4:2:0	HEVC (H.265) 12 bit
Intel® Discrete Graphics								
Intel® Iris® Xe MAX Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
11th Generation Intel® Core™ Processors								
Intel® Iris® Xe Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only

Source: Ex. 59, Intel Tech Specs

173. Additionally, HP instructs and encourages users to use the HP Laptop Accused Products in a manner that infringes the Asserted Claims of the '818 Patent by advertising the products' ability to stream and watch video:



Source: Ex. 60, HP Spectre X360 Advertisement

174. Additionally, on information and belief, HP publishes customer reviews of the HP Laptop Accused Products that show its customers actually use the HP Laptop Accused Products to stream and watch video:

Valerie C.

Verified Purchaser

Roseville, CA

Review 1

Vote 1

★★★★★

My second HP Spectre

6 days ago

I've only had this laptop for a few days, so I'm not able to provide a complete review. I will say that I've owned another Spectre for 7 years and still love it. I only purchased this new one after the battery I purchased from Amazon to replace the original one overheated and caused the components to buckle and several keys no longer registered. I bought this at a great sale price no knowing if the other one would survive a repair. The old one also didn't accommodate Windows 11, so I'd likely have to replace it in a few years anyway. Specifically, I love the graphics, speed, storage space, soft touch keyboard and sleek design. I chose the 16" display again as I prefer a bigger screen over having a small, lighter laptop. The only thing I'd like more is having a dedicated numeric keypad. The Spectre is on the high end of HP laptops but worth it to me for the functionality I need. For the last 15+ years, I've had HP computers and printers exclusively and have been very happy with them. No major issues (except a failed printer head in one of my printers that was irreparable and had to be replaced). I will remain an HP customer as long as they continue to produce quality devices.

Yes, I recommend this product.

Originally posted on HP Spectre x360 2-in-1 Laptop 16-f2047nr

Helpful? (1) (0) Report

Source: Ex. 61, HP Spectre Device Reviews.

175. As another example of HP's infringement, HP manufactures and sells desktop computers with graphics processing units that decode H.264 and H.265-compliant video (the "HP Desktop Accused Products"). An example of an HP Desktop Accused Product is the HP Pavilion Series of Desktop PC, which includes either an Intel UHD Graphics 770 or an AMD Radeon Graphics processor.

IN STOCK

ENERGY STAR | HOME

Engineered for Sustainability



★★★★★ 4.4/5 (517)

HP Pavilion Desktop TP01-3055xt, Windows 11 Home, Intel® Core™ i7, 16GB RAM, 512GB SSD, 2TB HDD

Windows 11 Home • 12th Generation Intel® Core™ i7 processor • Intel® UHD Graphics 770 • 16 GB memory; 2 TB HDD storage; 512 GB SSD storage • DVD-Writer

22U58AA#ABA

IN STOCK

HOME



★★★★★ 4.4/5 (768)

HP Pavilion Desktop TP01-2165z, Windows 11 Home, AMD Ryzen™ 5, 16GB RAM, 256GB SSD, 2TB HDD

Windows 11 Home • AMD Ryzen™ 5 processor • AMD Radeon™ Graphics • 16 GB memory; 2 TB HDD storage; 256 GB SSD storage • DVD-Writer

20W71AA#ABA

Source: Ex. 62, HP Pavilion Home Page

Processor Graphics	JPEG	MJPEG	MPEG-2 (H.262)	MPEG-4 AVC ¹ (H.264) 8-bit 4K	MVC (H.265)	HEVC ^{1,2} (H.265) 8 bit 4:2:0	HEVC ^{1,2} (H.265) 10 bit 4:2:0	HEVC (H.265) 12 bit
Intel® Discrete Graphics								
Intel® Iris® Xe MAX Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
11th Generation Intel® Core™ Processors								
Intel® Iris® Xe Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
Intel® UHD Graphics for 11th Gen	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only

Source: Ex. 63, Intel Tech Specs

HEVC	8-bit, 4:2:0 (NV12)	✓16k
	10-bit, 4:2:0 (P010)	✓16k
	8-bit, 4:4:4 (AYUV)	✓16k
	10-bit, 4:4:4 (Y410)	✓16k
	I frame	✓16k
	Low Delay B	✓
	Random access B	✓
	Screen Content Coding (SCC)	✓
	BRC modes	• CBR • VBR • LA • LA_ICQ • LA_EXT • LA_HRD • QVBR

Id.

MODEL		H265/HEVC DECODE	H265/HEVC ENCODE
Compare		All	All
+ ☐	AMD Radeon™ RX 7900 XTX	Yes	Yes
+ ☐	AMD Radeon™ RX 7900 XT	Yes	Yes
+ ☐	AMD Radeon™ RX 7900 GRE	Yes	Yes
+ ☐	AMD Radeon™ RX 7600	Yes	Yes
+ ☐	AMD Radeon™ RX 7600M XT	Yes	Yes
+ ☐	AMD Radeon™ RX 7600M	Yes	Yes
+ ☐	AMD Radeon™ RX 7700S	Yes	Yes
+ ☐	AMD Radeon™ RX 7600S	Yes	Yes

Ex. 65, AMD Radeon Tech Specs

176. Additionally, HP publishes customer reviews of the HP Laptop Accused Products that show its customers actually use the HP Laptop Accused Products to stream and watch video:

Mark S., West Reading, PA

Verified Purchaser

Review 1

Votes 2

★★★★★

A Good Choice

15 days ago

Impressive hardware performance all around. The video is sharp, clear, and responsive; the audio has plenty of power and range. Most of my nitpicking would be along the lines of software and ergonomics, and both of those issues are a matter of getting used to a new machine and making settings tweaks, although going from Windows 10 to 11, along with trying to tame the insistent permission requests and find where they hid settings that used to be relatively instantly accessible, has proven a bit of a challenge. Of the machine itself, though, it's very much what I expected from the descriptions, and I'm very pleased with this choice.

Yes, I recommend this product.

Helpful?

👍 (2)

👎 (0)

Report

⬆

👤

Source: Ex. 66, HP Pavilion Reviews

177. HP knowingly and intentionally induces users of one or more of the HP Accused Products to directly infringe one or more claims of the '818 Patent by encouraging, instructing, and aiding one or more persons in the United States, including HP employees who test and operate Accused Products at the direction of HP, to make, use (including testing those devices and

methods), sell, or offer to sell one or more of the HP Accused Products, during or after such article's importation into the United States, in a manner that infringes the '818 Patent. *See* Ex. 46, Full Accused Product List.

178. For example, as seen in the HP publications above, HP advertises the HP Spectre X360 laptop and HP Pavilion desktop on its website so that consumers may purchase and use the products, thus inducing its customers to also infringe the '818 Patent. On information and belief, HP also advertises other HP products that infringe the '818 Patent on its website for consumer purchase.

179. On information and belief, HP was aware of the '818 Patent or acted with willful blindness as to the existence of the '818 Patent at least as a result of the filing and service of this complaint. Additionally, Nokia asserted the '818 Patent against HP in the United States District Court for the District of Delaware on October 31, 2023, before filing this Complaint. Nokia notified HP that it was infringing the '818 Patent when it sent a patent list that included the '818 patent and a corresponding list of infringing HP products to HP in July 2020.

180. On information and belief, HP contributes to the infringement of one or more claims of the '818 Patent by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

181. Claim charts each of the asserted independent claims of the '818 Patent to the HP Accused Products are attached as Ex. 5a and 5b. The H.264 and H.265 Standards referenced in these claim charts can be found in Exs. 49 and 50.

2. Amazon

182. On information and belief, the Accused Products that are sold for importation, imported, and/or sold within the United States after importation by Amazon infringe at least Claims 6, 7–9, 11, 15, 21, and 23 of the '818 Patent, either literally or under the doctrine of equivalents.

183. On information and belief, Amazon directly infringes one or more claims of the '818 Patent through its manufacture, sale for importation, importation, use, and sale after importation of one or more of the Amazon Accused Products.

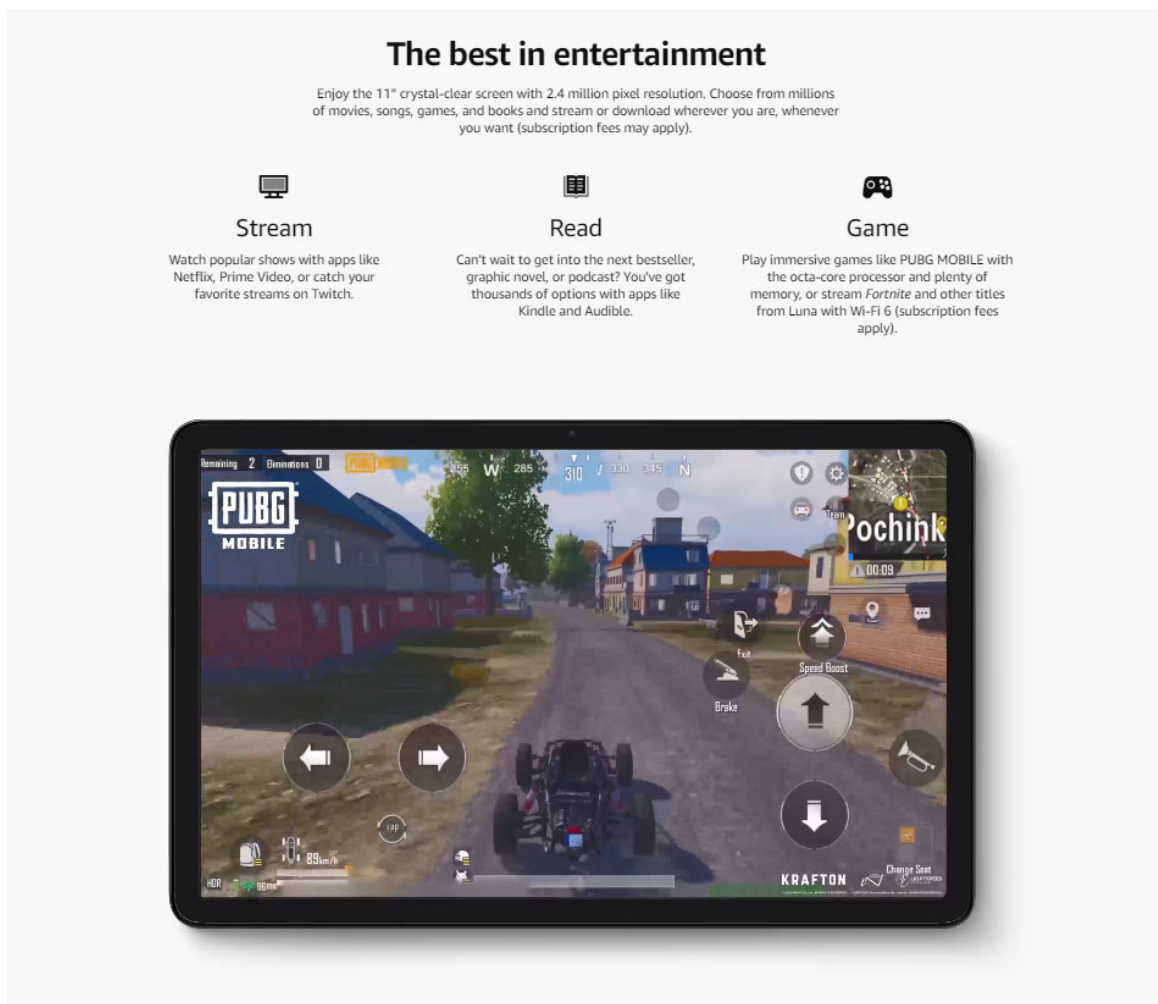
184. Any implementation of the inventions in the Amazon Accused Products infringes the asserted claims of the '818 Patent. For example, because the asserted decoding claims of the '818 Patent are essential to the H.264 and H.265 Standards, the Amazon Accused Products' incorporation of the H.264 and H.265 Standards infringes the asserted decoding claims of the '818 Patent.

185. As just one example of Amazon's infringement, Amazon manufactures and sells tablets with graphics processing units that decode H.264 and H.265-compliant video (the "Amazon Tablet Accused Products"). An example of an Amazon Tablet Accused Product is the Amazon Fire Max 11 tablet, which is capable of decoding H.264 and H.265-compliant video.

VIDEO CODECS	H.263	D (HW) baseline, 1080P@60fps
	H.264 AVC	D (HW) Constrained Baseline, Main Profile, High profile, L5.0 1080p@60FPS (secure) / 2K@60FPS (non-secure), E (HW)
	H.265 HEVC	D(HW) Main Profile, L5.0 1080p@60FPS (secure) / 2K@60FPS (non-secure)
	MPEG2	D (HW) Main Profile @High 1080P@60FPS
	MPEG4	D (HW) Advanced Simple Profile@L5, Simple Profile@L6 1080P@60FPS
	VP8	D (HW)
	VP9	D (HW) Profile 0/2 1080P@60FPS (secure) / 2K@60FPS (non-secure)
	AV1 with film grain	Supported
	VC-1	Not supported
VIDEO FEATURES	Low Latency Video	Supported
	H.264 DRM	Supported
	H.265 DRM	Supported
	OpenGL	ES 3.2

Source: Ex. 67, Amazon Fire Max Tech Specs

186. Additionally, Amazon instructs and encourages users to use the Amazon Tablet Accused Products in a manner that infringes the Asserted Claims of the '818 Patent by advertising the products' ability to stream and watch video:



Source: Ex. 68, Amazon Fire Tablet Max Advertisement

187. Additionally, on information and belief, Amazon publishes customer reviews of the Amazon Tablet Accused Products that show its customers actually use the Amazon Tablet Accused Products to stream and record video, and that customers choose the Amazon Tablet Accused Products specifically for their video streaming capabilities:



XRYche

★★★★★ **A surprisingly capable budget/low mid-range tablet focused on video entertainment.**

Reviewed in the United States on August 9, 2023

Digital Storage Capacity: 64 GB | Offer Type: With Lockscreen Ads | Color: Gray | Style: Amazon Fire Max 11 | **Verified Purchase**

Full disclosure.....I went from a Fire HD 8 (2020) (Tablet is still working btw and has been relegated to the closet shelf as a back-up.) tablet to this so the bias should be obvious. Regardless this tablet seems to be brighter and more vivid than my previous Fire tablet, the resolution is obviously better as well as it being much more powerful. It can even play some games more advanced than Candy Crush and such.

Now with that being said.....this tablet is NOT, by any means, a "productivity" tablet. It is mid-range budget tablet that is capable of performing some light productivity tasks. This tablet is also NOT an iPad competitor in any way, shape or form either. What it is is a seemingly well built Amazon-centric budget mid-range entertainment tablet which is what I am looking for (Minus the Amazon-centric part which I can overlook since there are methods to get around this. P.S. If Amazon put a stop to these methods I would never buy a Fire tablet.).

As far as the price goes though I would not pay a cent over 200 USD for this tablet. It simply isn't worth it, not for a budget/low-end mid-range tablet with a forked, obsolete and gimped Android OS. Luckily I only paid 150 USD on Prime Day and paying only 30 USD a month over a 5 month period using Amazon's interest-free financing service they offer on a lot of their branded products. Going this route this tablet is worth the price.



Julianna

★★★★★ **just WOW**

Reviewed in the United States on July 29, 2023

Digital Storage Capacity: 128 GB | Offer Type: Without Lockscreen Ads | Color: Gray | Style: Amazon Fire Max 11 | **Verified Purchase**

Ok...old woman (here again!) First, I must say, I have many Fire products. the old Fire HDX is my all time favorite, and I hoard them..still use them...i love the size, quality, and it is MY PREFERRED device. BUT...i have an iPad mini, which is the next fav, and a few others.

I got this on a whim (and to help prolong the lives of my old HDX's) because it sounded pretty good, and the price was great. I LOVE IT!

I've played around with it for a week or so now...Lots of time on my hands now, so I read a lot, lots of Brit mystery viewing, reading the Post and Times, playing Queen Bee...ha. point being I use it quite a bit. The battery lasts VERY long...at least the 10 hours or more. The quality of the **videos** is EXCELLENT!!!!!! I am veryyy pleased with that!! It doesn't stutter like a few of my Fire products, which is great. Fast!! Highly recommend it

Cons-- yeah, but they're just personal. It's a large device and awkward for my small hands. If there were a 7 inch of this quality, I'd have 3 of them....no lie. It does take a little time to charge tho....ah well.

Seriously thinking about the keyboard...we'll see.

Helpful

Report

Ex. 69, Amazon Fire Max Tablet Reviews

188. As another example of Amazon's infringement, Amazon manufactures and sells streaming devices with graphics processing units that decode H.264 and H.265-compliant video (the "Amazon Streaming Device Accused Products"). An example of such a Streaming Device Accused Product is the Amazon Fire TV Stick 4K, which Amazon advertises is capable of decoding H.264 and H.265-compliant video.

Size	99 mm x 30 mm x 14 mm (only housing) 108 mm x 30 mm x 14 mm (including the connector)
Weight	53.6 g
Processor	Quad-core 1.7 GHz
GPU	IMG GE8300
Storage	8 GB
Wifi	Dual-band, dual-antenna wifi (MIMO) for faster streaming and fewer dropped connections than standard wifi. Supports 802.11a/b/g/n/ac wifi networks.
Bluetooth	Bluetooth 5.0 + LE. Pair with compatible Bluetooth speakers, headphones, video game controllers, and more.
Voice support	Yes, with the Alexa Voice Remote (included) or free Fire TV app (available for download on Fire OS, Android, and iOS)
IR Device Control with included Alexa Voice remote	The included Alexa Voice Remote can control the Fire TV Stick 4K and certain functions (such as power and volume) on a wide range of compatible IR-enabled devices, including TVs, soundbars and A/V receivers. Note: Certain functions may not be available on some IR-enabled devices.
Cloud storage	Free cloud storage for digital content purchased from Amazon
Ports	HDMI output, micro-USB for power only.
Audio support	Dolby Atmos, 7.1 surround sound, 2-channel stereo, and HDMI audio pass through up to 5.1.
4K support	To watch movies and TV shows in 4K Ultra HD, you need a compatible Ultra HD TV. All services may not be available in 4K/HDR. Certain services are subject to change at any time, may not be available in all areas, or in 4K/HDR, and may require separate subscriptions. Learn more about services.
Content formats supported	Video: Dolby Vision, HDR 10, HDR10+, HLG, H.265, H.264, VP9 Audio: AAC-LC, AC3, eAC3 (Dolby Digital Plus), FLAC, MP3, PCM/Wave, Vorbis, Dolby Atmos (EC3_JOC), Photo: JPEG, PNG, GIF, BMP
Output resolution supported	2160p, 1080p and 720p up to 60 fps

Source: Ex. 70, Amazon Fire Stick Tech Specs.

189. Additionally, Amazon instructs and encourages users to use the Amazon Streaming Device Accused Products in a manner that infringes the Asserted Claims of the '818 Patent by advertising the products' ability to stream and watch video:



Watch live TV and free TV

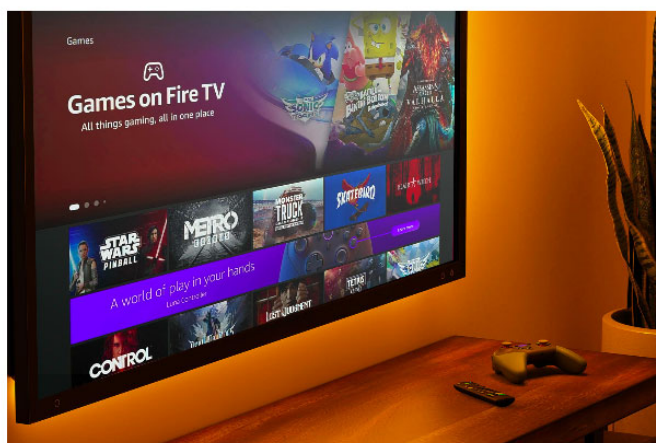
Stream live TV, including news and sports, with subscriptions to Hulu+ Live TV, SLING TV, YouTube TV, and others. Plus, watch movies and TV shows for free with ad-supported apps like Pluto TV, Amazon Freevee, and more.



TV is just the beginning

Fire TV is always getting smarter with new Alexa skills and voice functionality. View live camera feeds, check the weather, order a pizza, and stream music. Learn more about compatible smart home devices.

"Alexa, show the nursery."



Games on Fire TV

No matter what kind of gaming you're into, Games on Fire TV has you covered. Play games like you stream movies with Amazon Luna or download games from the Appstore. If you're an Amazon Prime member, you can play a rotating selection of games free on Luna.

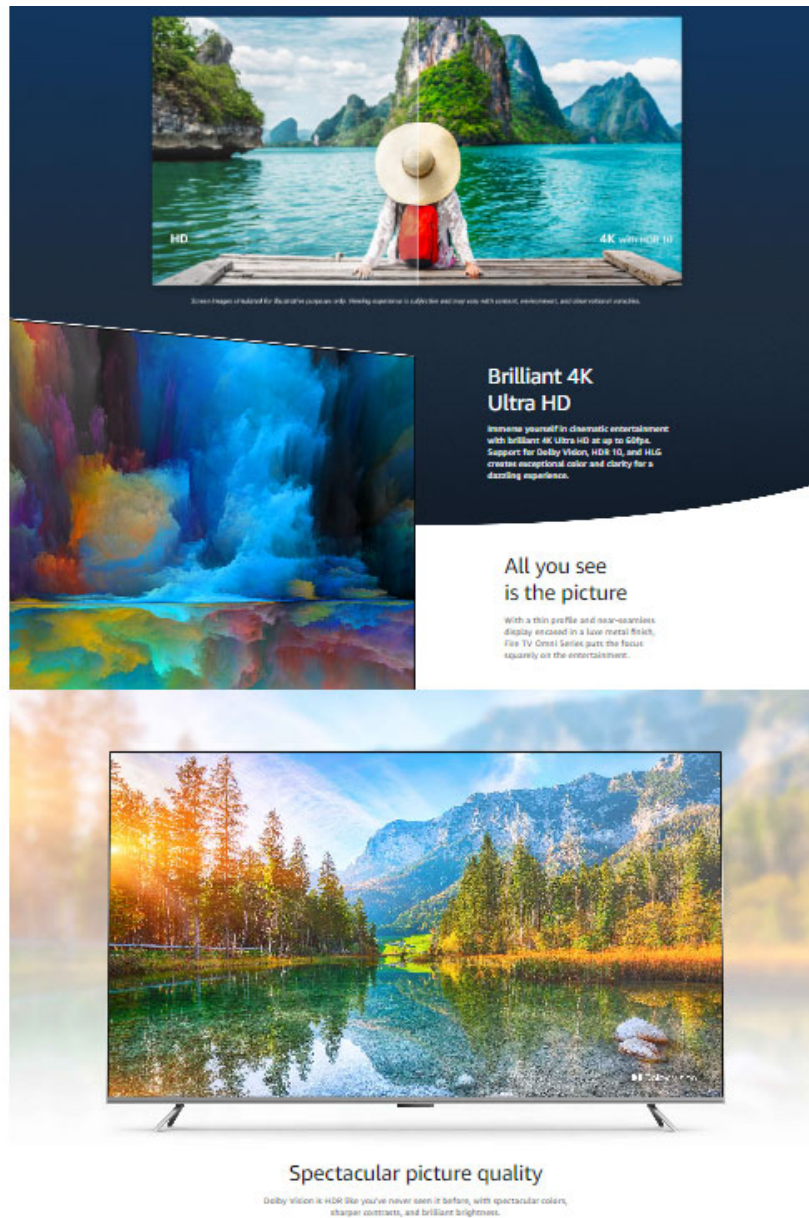
Source: Ex. 71, Amazon Fire Stick Advertisement

190. As an additional example of Amazon’s infringement, Amazon manufactures and sells televisions with graphics processing units that decode H.264 and H.265-compliant video (the “Amazon Television Accused Products”). An example of an Amazon Television Accused Product is the Amazon Fire TV.

Video codecs	• Dolby-Vision - Resolutions/frame rates: Up to UHD@60 - Profiles: 4-MEL, 5, 8, 9, and 10 - Codecs: AVC (profile 9), HEVC (profile 4-MEL, 5 and 8), AV1 (profile 10) - OTT four-character codes: hvc1, dvh1, hev1, dvhe, avc1 - Dolby Vision box types: dvcC, dvvC - Adaptive streaming formats: DASH, HLS, HLS using fMP4 • H.265 HEVC - Max Resolution: 2160p - Min Profile: Version 1, Main, Main 10, 10-bit support Min - Level: 5.1, Main Tier - Max frame rate: 720p @ 60fps, 1080p @ 60fps, 2160p @ 60fps - Secure (PlayReady and Widevine DRMs) and clear (non-secure) contexts - Support for dynamic resolution switch down to or up from lower resolution - Number of reference frames required will be based on level, profile, and resolution. Refer to Profiles (High Efficiency Video Coding) - Color Space: Rec. 601 & Rec. 709 (secure or unsecure), Rec. 2020 • H.264 AVC - Secure or un-secure - Max Resolution: 2160p - Min Profile/Level: Main Profile @ Level 5.1, High Profile @ Level 5.1 - Max frame rate: 720p @ 60fps, 1080p @ 30fps, 1080p @ 60fps, 2160p @ 30fps, 2160p @ 30fps (limited support) - Secure (PlayReady and Widevine DRMs) and clear (non-secure) contexts - Support for dynamic resolution switch down to or up from lower resolution - Number of reference frames required will be based on level, profile, and resolution. Refer to Levels (Advanced Video Coding)
----------------------------	---

Source: Ex. 72, Amazon Fire Stick Tech Specs

191. Additionally, Amazon instructs and encourages users to use the Amazon Television Accused Products in a manner that infringes the asserted decoding claims of the '818 Patent by advertising the products' ability to decode video:



Source: Ex. 73, Amazon Fire TV Advertisement

192. Additionally, on information and belief, Amazon publishes customer reviews of the Amazon Television Accused Products that show its customers actually use the Amazon Television Accused Products to stream video:

This is not a ginger ale!

★★★★★ **high-quality smart TV with an immersive viewing experience**

Reviewed in the United States on July 17, 2023

Size: 50-inch | Configuration: TV only | **Verified Purchase**

If you're looking for a feature-packed television that seamlessly integrates with your smart home devices and provides stunning picture quality, this TV is an excellent choice.

The first thing that impressed me about this smart TV is its picture quality. The 4K Ultra HD resolution delivers crystal-clear and vibrant visuals, bringing your favorite movies, TV shows, and streaming content to life. The colors are rich and accurate, and the contrast is excellent, providing a truly immersive viewing experience. Whether you're watching action-packed movies or enjoying nature documentaries, the picture quality of this TV is truly impressive.

Male in Atlanta

★★★★☆ **Impressive Tech, But There's a Catch!**

Reviewed in the United States on June 15, 2023

Size: 55-inch | Configuration: TV only | **Verified Purchase**

Hey all! Let's talk about the Amazon Fire TV 55" Omni Series. It's a strong contender in the Smart TV market, scoring a solid 4 out of 5 stars from me.

The picture quality on this 4K UHD TV is stunning, honestly, it's like being at the movies. Everything is crisp, vibrant and immersive, which is perfect for my binge-watching sessions!

One of the standout features is the hands-free Alexa. It's pretty cool being able to control your TV with voice commands. However, and this is where it loses a star, every time I switch on the TV, I have to physically select the Fire user profile with the remote. Kinda defeats the purpose of hands-free convenience, right? A bit of a bugbear for me.

The rest of the Fire interface is user-friendly, though, with easy access to Prime Video, Netflix, Disney+, and more. It's a breeze to navigate, once you get past the initial hiccup.

As for value, you're getting a lot of bang for your buck here. The price is reasonable when you consider the picture quality and smart features, minus that one little annoyance.

So there you have it. A pretty fantastic TV that needs to work out one small kink. If you can live with the manual profile selection issue, it's definitely a great choice. Four stars from me!

105 people found this helpful

Helpful | Report

Source: Ex. 74, Amazon Fire TV Reviews

193. Amazon knowingly and intentionally induces users of one or more of the Amazon Accused Products to directly infringe one or more claims of the '818 Patent by encouraging, instructing, and aiding one or more persons in the United States, including Amazon employees who test and operate Amazon Accused Products at the direction of Amazon, to make, use (including testing those devices and methods), sell, or offer to sell one or more Amazon Accused

Products, during or after such article's importation into the United States, in a manner that infringes the '818 Patent. *See* Ex. 46, Full Accused Product List.

194. For example, as seen in the Amazon publications above, Amazon advertises the Amazon Fire Tablet, Amazon Fire Stick 4K, and Amazon Fire TV on its website so that consumers may purchase and use the product, thus inducing its customers to also infringe the '818 Patent. On information and belief, Amazon also advertises other Amazon products that infringe the '818 Patent on its website for consumer purchase.

195. On information and belief, Amazon was aware of the '818 Patent or acted with willful blindness as to the existence of the '818 Patent at least as a result of the filing and service of this complaint. Additionally, Nokia asserted the '818 Patent against Amazon in the United States District Court for the District of Delaware on October 31, 2023, before filing this Complaint. Nokia notified Amazon that it was infringing the '818 Patent in 2015.

196. On information and belief, Amazon contributes to the infringement of one or more claims of the '818 Patent by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

197. Claim charts that apply each of the asserted independent claims of the '818 Patent to the Amazon Accused Products are attached as Exs. 6a and 6b. The H.264 and H.265 Standards referenced in these claim charts can be found in Exs. 49 and 50.

B. Infringement of the '714 Patent

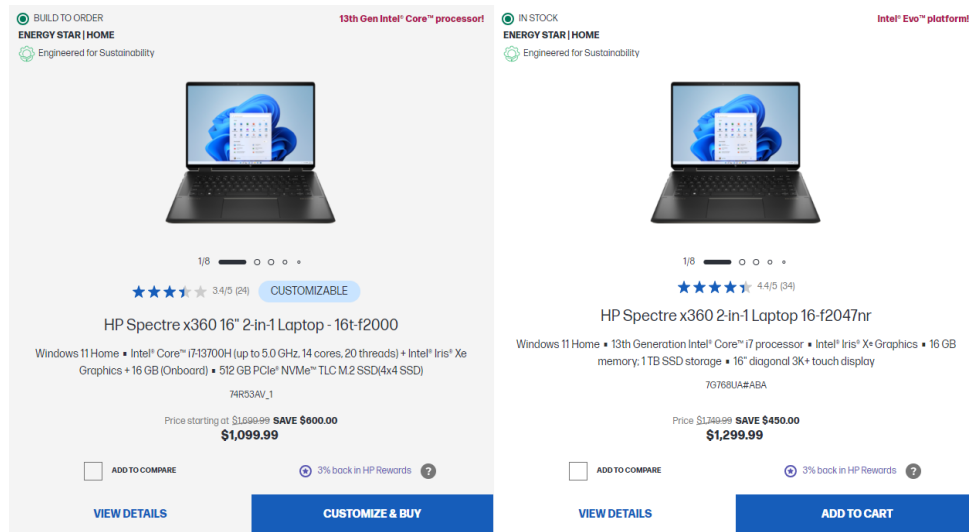
1. HP

198. On information and belief, the Accused Products that are sold for importation, imported, and/or sold within the United States after importation by HP infringe at least Claims 1–8, 9–14, 15–22, 23–28, 29, and 30 of the '714 Patent, either literally or under the doctrine of equivalents.

199. On information and belief, HP directly infringes one or more claims of the '714 Patent through its manufacture, sale for importation, importation, use, and sale after importation of one or more of the HP Accused Products.

200. Any implementation of the inventions in the HP Accused Products infringes the asserted claims of the '714 Patent. For example, because the asserted decoding claims of the '714 Patent are essential to the H.265 Standard, the HP Accused Products' incorporation of the H.265 Standard infringes the asserted decoding claims of the '714 Patent. Additionally, as shown by the testing evidence in the attached claim chart for the '714 Patent, the HP Accused Products perform encoding processes and include encoders covered by certain claims of the '714 Patent.

201. As just one example of HP's infringement, HP manufactures and sells laptops with graphics processing units that encode video into an H.265-compliant video format and/or decode H.265-compliant video (the "HP Laptop Accused Products"). An example of an HP Laptop Accused Product is the HP Spectre X360 laptop series, which includes an Intel Iris XE Graphics processor.



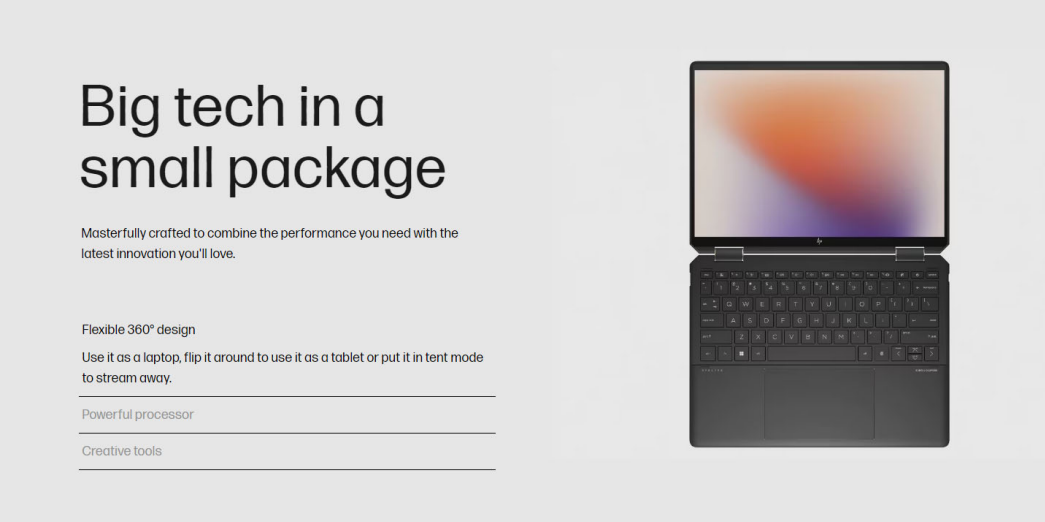
Source: Ex. 58, HP Spectre X360 Homepage

Table 1. Media codec support

Processor Graphics	JPEG	MJPEG	MPEG-2 (H.262)	MPEG-4 AVC ¹ (H.264) 8-bit 4K	MVC (H.265)	HEVC ^{1,2} (H.265) 8 bit 4:2:0	HEVC ^{1,2} (H.265) 10 bit 4:2:0	HEVC (H.265) 12 bit
Intel® Discrete Graphics								
Intel® Iris® Xe MAX Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
11th Generation Intel® Core™ Processors								
Intel® Iris® Xe Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only

Source: Ex. 59, Intel Tech specs

202. Additionally, HP instructs and encourages users to use the HP Laptop Accused Products in a manner that infringes the Asserted Claims of the '714 Patent by advertising the products' ability to stream and watch video:



Source: Ex. 60, HP Spectre X360 Advertisement

203. Additionally, on information and belief, HP publishes customer reviews of the HP Laptop Accused Products that show its customers actually use the HP Laptop Accused Products to stream and record video:

Valerie C.
Verified Purchaser
Roseville, CA
Review 1
Vote 1

★★★★★
My second HP Spectre
6 days ago

I've only had this laptop for a few days, so I'm not able to provide a complete review. I will say that I've owned another Spectre for 7 years and still love it. I only purchased this new one after the battery I purchased from Amazon to replace the original one overheated and caused the components to buckle and several keys no longer registered. I bought this at a great sale price no knowing if the other one would survive a repair. The old one also didn't accommodate Windows 11, so I'd likely have to replace it in a few years anyway. Specifically, I love the graphics, speed, storage space, soft touch keyboard and sleek design. I chose the 16" display again as I prefer a bigger screen over having a small, lighter laptop. The only thing I'd like more is having a dedicated numeric keypad. The Spectre is on the high end of HP laptops but worth it to me for the functionality I need. For the last 15+ years, I've had HP computers and printers exclusively and have been very happy with them. No major issues (except a failed printer head in one of my printers that was irreparable and had to be replaced). I will remain an HP customer as long as they continue to produce quality devices.

● Yes, I recommend this product.

Originally posted on HP Spectre x360 2-in-1 Laptop 16-f2047nr

Helpful? (1) (0) Report

Source: Ex. 61, HP Spectre X360 Device Reviews.

204. As another example of HP’s infringement, HP manufactures and sells desktop computers with graphics processing units that encode video into an H.265-compliant video format and/or decode H.265-compliant video (the “HP Desktop Accused Products”). An example of an

HP Desktop Accused Product is the HP Pavilion Series of Desktop PC, which includes either an Intel UHD Graphics 770 or an AMD Radeon Graphics processor.

IN STOCK

ENERGY STAR | HOME

Engineered for Sustainability



★★★★★ 4.4/5 (517)

HP Pavilion Desktop TP01-3055xt, Windows 11 Home, Intel® Core™ i7, 16GB RAM, 512GB SSD, 2TB HDD

Windows 11 Home • 12th Generation Intel® Core™ i7 processor • Intel® UHD Graphics 770 • 16 GB memory; 2 TB HDD storage; 512 GB SSD storage • DVD-Writer

22U58AA#ABA

IN STOCK

HOME



★★★★★ 4.4/5 (768)

HP Pavilion Desktop TP01-2165z, Windows 11 Home, AMD Ryzen™ 5, 16GB RAM, 256GB SSD, 2TB HDD

Windows 11 Home • AMD Ryzen™ 5 processor • AMD Radeon™ Graphics • 16 GB memory; 2 TB HDD storage; 256 GB SSD storage • DVD-Writer

20W71AA#ABA

Source: Ex. 62, HP Pavilion Homepage

Processor Graphics	JPEG	MJPEG	MPEG-2 (H.262)	MPEG-4 AVC ¹ (H.264) 8-bit 4K	MVC (H.265)	HEVC ^{1,2} (H.265) 8 bit 4:2:0	HEVC ^{1,2} (H.265) 10 bit 4:2:0	HEVC (H.265) 12 bit
Intel® Discrete Graphics								
Intel® Iris® Xe MAX Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
11th Generation Intel® Core™ Processors								
Intel® Iris® Xe Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
Intel® UHD Graphics for 11th Gen	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only

Source: Ex. 63, Intel Tech Specs

Encode Features for 11th and 12th Generation Intel® Core™ Processors

12th Generation Intel® Core™ Processors:

- Intel® UHD Graphics 770
- Intel® UHD Graphics 730
- Intel® UHD Graphics 710
- Intel® Iris® Xe MAX Graphics
- Intel® UHD Graphics

11th Generation Intel® Core™ Processors:

- Intel® Iris® Xe MAX Graphics
- Intel® UHD Graphics
- Intel® UHD Graphics 750

Ex. 63, Intel 11th and 12th Generation Tech Specs

HEVC	8-bit, 4:2:0 (NV12)	✓16k
	10-bit, 4:2:0 (P010)	✓16k
	8-bit, 4:4:4 (AYUV)	✓16k
	10-bit, 4:4:4 (Y410)	✓16k
	I frame	✓16k
	Low Delay B	✓
	Random access B	✓
	Screen Content Coding (SCC)	✓
	BRC modes	• CBR • VBR • LA • LA_ICQ • LA_EXT • LA_HRD • QVBR

Source: Ex. 64, Intel Supported Codecs

MODEL		H265/HEVC DECODE	H265/HEVC ENCODE
Compare		All	All
+	☒ AMD Radeon™ RX 7900 XTX	Yes	Yes
+	☐ AMD Radeon™ RX 7900 XT	Yes	Yes
+	☐ AMD Radeon™ RX 7900 GRE	Yes	Yes
+	☐ AMD Radeon™ RX 7600	Yes	Yes
+	☐ AMD Radeon™ RX 7600M XT	Yes	Yes
+	☐ AMD Radeon™ RX 7600M	Yes	Yes
+	☐ AMD Radeon™ RX 7700S	Yes	Yes
+	☐ AMD Radeon™ RX 7600S	Yes	Yes

Ex. 65, AMD Radeon Tech Specs.

205. Additionally, HP publishes customer reviews of the HP Desktop Accused Products that show its customers actually use the HP Desktop Accused Products to stream and record video:

Mark S., West Reading, PA

Verified Purchaser

Review 1

Votes 2

★★★★★

A Good Choice

15 days ago

Impressive hardware performance all around. The video is sharp, clear, and responsive; the audio has plenty of power and range. Most of my nitpicking would be along the lines of software and ergonomics, and both of those issues are a matter of getting used to a new machine and making settings tweaks, although going from Windows 10 to 11, along with trying to tame the insistent permission requests and find where they hid settings that used to be relatively instantly accessible, has proven a bit of a challenge. Of the machine itself, though, it's very much what I expected from the descriptions, and I'm very pleased with this choice.

☒ Yes, I recommend this product.

Helpful? (2) (0) [Report](#)

Source: Ex. 66, HP Pavilion Reviews

206. HP knowingly and intentionally induces users of one or more of the HP Accused Products to directly infringe one or more claims of the '714 Patent by encouraging, instructing, and aiding one or more persons in the United States, including HP employees who test and operate Accused Products at the direction of HP, to make, use (including testing those devices and

methods), sell, or offer to sell one or more of the HP Accused Products, during or after such article's importation into the United States, in a manner that infringes the '714 Patent. *See* Ex. 46, Full Accused Product List.

207. For example, as seen in the HP publications above, HP advertises the HP Spectre X360 laptop and HP Pavilion desktop on its website so that consumers may purchase and use the products, thus inducing its customers to also infringe the '714 Patent. On information and belief, HP also advertises other HP products that infringe the '714 Patent on its website for consumer purchase.

208. On information and belief, HP was aware of the '714 Patent or acted with willful blindness as to the existence of the '714 Patent at least as a result of the filing and service of this complaint. Additionally, Nokia asserted the '714 Patent against HP in the United States District Court for the District of Delaware on October 31, 2023, before filing this Complaint. Nokia informed HP that it was infringing '714 Patent in at least July 2021.

209. On information and belief, HP contributes to the infringement of one or more claims of the '714 Patent by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

210. A claim chart that applies each of the asserted independent claims of the '714 Patent to the HP Accused Products is attached as Ex. 14. The H.265 Standard referenced in this claim chart can be found in Ex. 50.

2. Amazon

211. On information and belief, the Accused Products that are sold for importation, imported, and/or sold within the United States after importation by Amazon infringe at least Claims 9–14, 23–28, and 30 of the '714 Patent, either literally or under the doctrine of equivalents.

212. On information and belief, Amazon directly infringes one or more claims of the '714 Patent through its manufacture, sale for importation, importation, use, and sale after importation of one or more of the Amazon Accused Products.

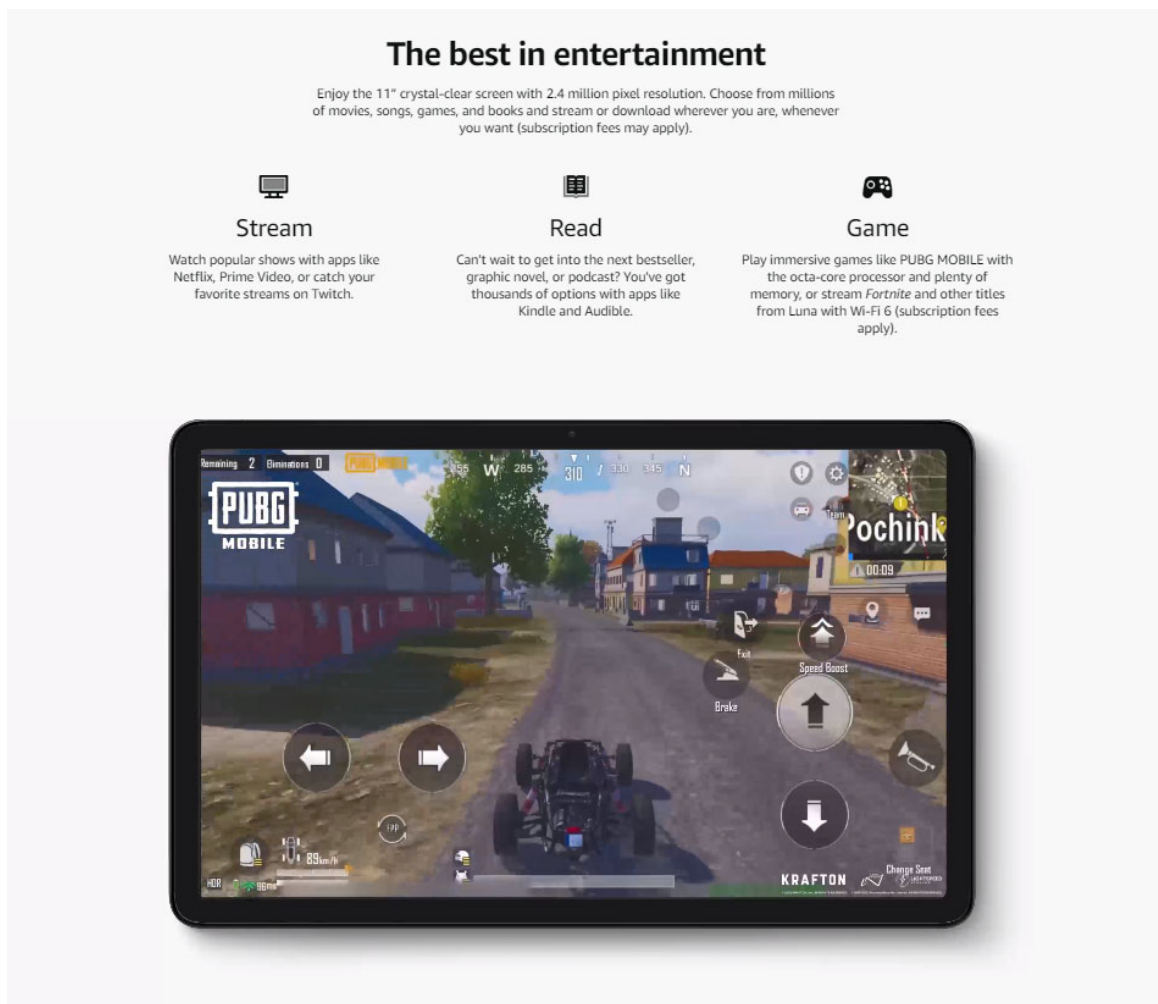
213. Any implementation of the inventions in the Amazon Accused Products infringes the asserted claims of the '714 Patent. For example, because the asserted decoding claims of the '714 Patent are essential to the H.265 Standard, the Amazon Accused Products' incorporation of the H.265 Standard infringes the asserted decoding claims of the '714 Patent.

214. As just one example of Amazon's infringement, Amazon manufactures and sells tablets with graphics processing units that decode H.265-compliant video (the "Amazon Tablet Accused Products"). An example of an Amazon Tablet Accused Product is the Amazon Fire Max 11 tablet.

VIDEO CODECS	H.263	D (HW) baseline, 1080P@60fps
	H.264 AVC	D (HW) Constrained Baseline, Main Profile, High profile, L5.0 1080p@60FPS (secure) / 2K@60FPS (non-secure), E (HW)
	H.265 HEVC	D(HW) Main Profile, L5.0 1080p@60FPS (secure) / 2K@60FPS (non-secure)
	MPEG2	D (HW) Main Profile @High 1080P@60FPS
	MPEG4	D (HW) Advanced Simple Profile@L5, Simple Profile@L6 1080P@60FPS
	VP8	D (HW)
	VP9	D (HW) Profile 0/2 1080P@60FPS (secure) / 2K@60FPS (non-secure)
	AV1 with film grain	Supported
	VC-1	Not supported
VIDEO FEATURES	Low Latency Video	Supported
	H.264 DRM	Supported
	H.265 DRM	Supported
	OpenGL	ES 3.2

Source: Ex. 67, Amazon Fire Max Tech Specs

215. Additionally, Amazon instructs and encourages users to use the Amazon Tablet Accused Products in a manner that infringes the Asserted Claims of the '714 Patent by advertising the products' ability to stream and watch video:



Source: Ex. 68, Amazon Fire Max Advertisement

216. Additionally, on information and belief, Amazon publishes customer reviews of the Amazon Tablet Accused Products that show its customers actually use the Amazon Tablet Accused Products to stream and watch video, and that customers choose the Amazon Tablet Accused Products specifically for their video streaming capabilities:



XRYche

★★★★★ **A surprisingly capable budget/low mid-range tablet focused on video entertainment.**

Reviewed in the United States on August 9, 2023

Digital Storage Capacity: 64 GB | Offer Type: With Lockscreen Ads | Color: Gray | Style: Amazon Fire Max 11 | **Verified Purchase**

Full disclosure.....I went from a Fire HD 8 (2020) (Tablet is still working btw and has been relegated to the closet shelf as a back-up.) tablet to this so the bias should be obvious. Regardless this tablet seems to be brighter and more vivid than my previous Fire tablet, the resolution is obviously better as well as it being much more powerful. It can even play some games more advanced than Candy Crush and such.

Now with that being said.....this tablet is NOT, by any means, a "productivity" tablet. It is mid-range budget tablet that is capable of performing some light productivity tasks. This tablet is also NOT an iPad competitor in any way, shape or form either. What it is is a seemingly well built Amazon-centric budget mid-range entertainment tablet which is what I am looking for (Minus the Amazon-centric part which I can overlook since there are methods to get around this. P.S. If Amazon put a stop to these methods I would never buy a Fire tablet.).

As far as the price goes though I would not pay a cent over 200 USD for this tablet. It simply isn't worth it, not for a budget/low-end mid-range tablet with a forked, obsolete and gimped Android OS. Luckily I only paid 150 USD on Prime Day and paying only 30 USD a month over a 5 month period using Amazon's interest-free financing service they offer on a lot of their branded products. Going this route this tablet is worth the price.



Julianna

★★★★★ **just WOW**

Reviewed in the United States on July 29, 2023

Digital Storage Capacity: 128 GB | Offer Type: Without Lockscreen Ads | Color: Gray | Style: Amazon Fire Max 11 | **Verified Purchase**

Ok...old woman (here again!) First, I must say, I have many Fire products. the old Fire HDX is my all time favorite, and I hoard them..still use them,..i love the size, quality, and it is MY PREFERRED device. BUT...i have an iPad mini, which is the next fav, and a few others.

I got this on a whim (and to help prolong the lives of my old HDX's) because it sounded pretty good, and the price was great. I LOVE IT!

I've played around with it for a week or so now...Lots of time on my hands now, so I read a lot, lots of Brit mystery viewing, reading the Post and Times, playing Queen Bee...ha. point being I use it quite a bit. The battery lasts VERY long...at least the 10 hours or more. The quality of the **videos** is EXCELLENT!!!!!! I am veryyy pleased with that!! It doesn't stutter like a few of my Fire products, which is great. Fast!! Highly recommend it

Cons-- yeah, but they're just personal. It's a large device and awkward for my small hands. If there were a 7 inch of this quality, I'd have 3 of them....no lie. It does take a little time to charge tho....ah well.

Seriously thinking about the keyboard...we'll see.

Helpful

Report

Source: Ex. 69, Amazon Fire Max Reviews

217. As another example of Amazon's infringement, Amazon manufactures and sells streaming devices with graphics processing units that decode H.265-compliant video (the "Amazon Streaming Device Accused Products"). An example of such a Streaming Device Product is the Amazon Fire TV Stick 4K, which Amazon advertises is capable of decoding H.265-compliant video.

Size	99 mm x 30 mm x 14 mm (only housing) 108 mm x 30 mm x 14 mm (including the connector)
Weight	53.6 g
Processor	Quad-core 1.7 GHz
GPU	IMG GE8300
Storage	8 GB
Wifi	Dual-band, dual-antenna wifi (MIMO) for faster streaming and fewer dropped connections than standard wifi. Supports 802.11a/b/g/n/ac wifi networks.
Bluetooth	Bluetooth 5.0 + LE. Pair with compatible Bluetooth speakers, headphones, video game controllers, and more.
Voice support	Yes, with the Alexa Voice Remote (included) or free Fire TV app (available for download on Fire OS, Android, and iOS)
IR Device Control with included Alexa Voice remote	The included Alexa Voice Remote can control the Fire TV Stick 4K and certain functions (such as power and volume) on a wide range of compatible IR-enabled devices, including TVs, soundbars and A/V receivers. Note: Certain functions may not be available on some IR-enabled devices.
Cloud storage	Free cloud storage for digital content purchased from Amazon
Ports	HDMI output, micro-USB for power only.
Audio support	Dolby Atmos, 7.1 surround sound, 2-channel stereo, and HDMI audio pass through up to 5.1.
4K support	To watch movies and TV shows in 4K Ultra HD, you need a compatible Ultra HD TV. All services may not be available in 4K/HDR. Certain services are subject to change at any time, may not be available in all areas, or in 4K/HDR, and may require separate subscriptions. Learn more about services.
Content formats supported	Video: Dolby Vision, HDR 10, HDR10+, HLG, H.265, H.264, VP9 Audio: AAC-LC, AC3, eAC3 (Dolby Digital Plus), FLAC, MP3, PCM/Wave, Vorbis, Dolby Atmos (EC3_JOC), Photo: JPEG, PNG, GIF, BMP
Output resolution supported	2160p, 1080p and 720p up to 60 fps

Source: Ex. 70, Amazon Fire Stick Tech Specs

218. Additionally, Amazon instructs and encourages users to use the Amazon Streaming Device Accused Products in a manner that infringes the Asserted Claims of the '714 Patent by advertising the products' ability to stream and watch video:



Watch live TV and free TV

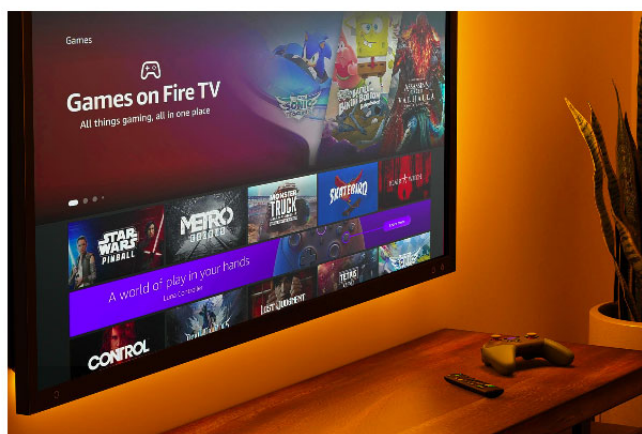
Stream live TV, including news and sports, with subscriptions to Hulu+ Live TV, SLING TV, YouTube TV, and others. Plus, watch movies and TV shows for free with ad-supported apps like Pluto TV, Amazon Freevee, and more.



TV is just the beginning

Fire TV is always getting smarter with new Alexa skills and voice functionality. View live camera feeds, check the weather, order a pizza, and stream music. Learn more about compatible smart home devices.

"Alexa, show the nursery."



Games on Fire TV

No matter what kind of gaming you're into, Games on Fire TV has you covered. Play games like you stream movies with Amazon Luna or download games from the Appstore. If you're an Amazon Prime member, you can play a rotating selection of games free on Luna.

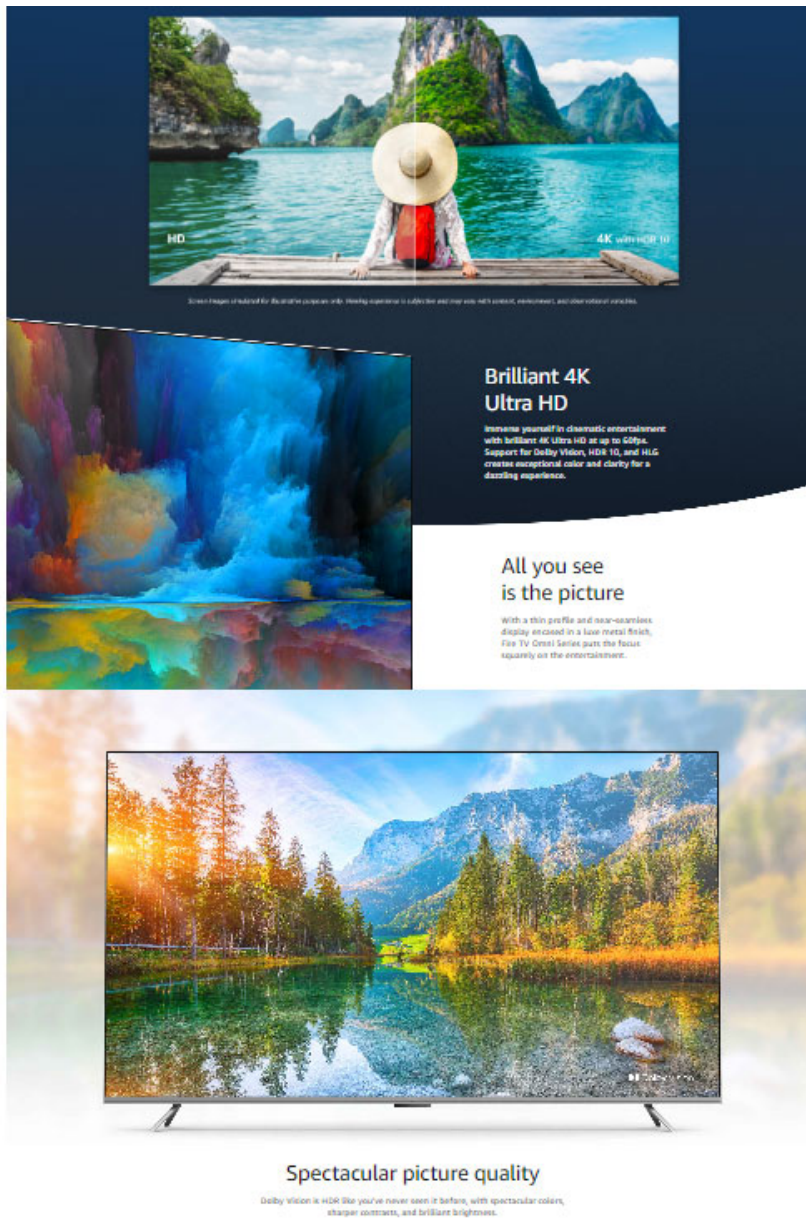
Source: Ex. 71, Amazon Fire Stick Advertisement

219. As an additional example of Amazon’s infringement, Amazon manufactures and sells televisions with graphics processing units that decode H.265-compliant video (the “Amazon Television Accused Products”). An example of an Amazon Television Accused Product is the Amazon Fire TV, which is capable of decoding H.265-compliant video.

Video codecs	• Dolby-Vision - Resolutions/frame rates: Up to UHD@60 - Profiles: 4-MEL, 5, 8, 9, and 10 - Codecs: AVC (profile 9), HEVC (profile 4-MEL, 5 and 8), AV1 (profile 10) - OTT four-character codes: hvc1, dvh1, hev1, dvhe, avc1 - Dolby Vision box types: dvcC, dvvC - Adaptive streaming formats: DASH, HLS, HLS using fMP4 • H.265 HEVC - Max Resolution: 2160p - Min Profile: Version 1, Main, Main 10, 10-bit support Min - Level: 5.1, Main Tier - Max frame rate: 720p @ 60fps, 1080p @ 60fps, 2160p @ 60fps - Secure (PlayReady and Widevine DRMs) and clear (non-secure) contexts - Support for dynamic resolution switch down to or up from lower resolution - Number of reference frames required will be based on level, profile, and resolution. Refer to Profiles (High Efficiency Video Coding) - Color Space: Rec. 601 & Rec. 709 (secure or unsecure), Rec. 2020 • H.264 AVC - Secure or un-secure - Max Resolution: 2160p - Min Profile/Level: Main Profile @ Level 5.1, High Profile @ Level 5.1 - Max frame rate: 720p @ 60fps, 1080p @ 30fps, 1080p @ 60fps, 2160p @ 30fps, 2160p @ 30fps (limited support) - Secure (PlayReady and Widevine DRMs) and clear (non-secure) contexts - Support for dynamic resolution switch down to or up from lower resolution - Number of reference frames required will be based on level, profile, and resolution. Refer to Levels (Advanced Video Coding)
---------------------	---

Source: Ex. 72, Amazon Fire Stick Tech Specs

220. Additionally, Amazon instructs and encourages users to use the Amazon Television Accused Products in a manner that infringes the asserted decoding claims of the '714 Patent by advertising the products' ability to decode video:



Source: Ex. 73, Amazon Fire TV Advertisement

221. Additionally, on information and belief, Amazon publishes customer reviews of the Amazon Television Accused Products that show its customers actually use the Amazon Television Accused Products to stream and watch video:

 **This is not a ginger ale!**

★★★★★ **high-quality smart TV with an immersive viewing experience**

Reviewed in the United States on July 17, 2023

Size: 50-inch | Configuration: TV only | **Verified Purchase**

If you're looking for a feature-packed television that seamlessly integrates with your smart home devices and provides stunning picture quality, this TV is an excellent choice.

The first thing that impressed me about this smart TV is its picture quality. The 4K Ultra HD resolution delivers crystal-clear and vibrant visuals, bringing your favorite movies, TV shows, and streaming content to life. The colors are rich and accurate, and the contrast is excellent, providing a truly immersive viewing experience. Whether you're watching action-packed movies or enjoying nature documentaries, the picture quality of this TV is truly impressive.

 **Male in Atlanta**

★★★★☆ **Impressive Tech, But There's a Catch!**

Reviewed in the United States on June 15, 2023

Size: 55-inch | Configuration: TV only | **Verified Purchase**

Hey all! Let's talk about the Amazon Fire TV 55" Omni Series. It's a strong contender in the Smart TV market, scoring a solid 4 out of 5 stars from me.

The picture quality on this 4K UHD TV is stunning, honestly, it's like being at the movies. Everything is crisp, vibrant and immersive, which is perfect for my binge-watching sessions!

One of the standout features is the hands-free Alexa. It's pretty cool being able to control your TV with voice commands. However, and this is where it loses a star, every time I switch on the TV, I have to physically select the Fire user profile with the remote. Kinda defeats the purpose of hands-free convenience, right? A bit of a bugbear for me.

The rest of the Fire interface is user-friendly, though, with easy access to Prime Video, Netflix, Disney+, and more. It's a breeze to navigate, once you get past the initial hiccup.

As for value, you're getting a lot of bang for your buck here. The price is reasonable when you consider the picture quality and smart features, minus that one little annoyance.

So there you have it. A pretty fantastic TV that needs to work out one small kink. If you can live with the manual profile selection issue, it's definitely a great choice. Four stars from me!

105 people found this helpful

Source: Ex. 74, Amazon Reviews for Amazon Fire TV

222. Amazon knowingly and intentionally induces users of one or more of the Amazon Accused Products to directly infringe one or more claims of the '714 Patent by encouraging, instructing, and aiding one or more persons in the United States, including Amazon employees who test and operate Amazon Accused Products at the direction of Amazon, to make, use (including testing those devices and methods), sell, or offer to sell one or more Amazon Accused

Products, during or after such article's importation into the United States, in a manner that infringes the '714 Patent. *See* Ex. 46, Full Accused Product List.

223. For example, as seen in the Amazon publications above, Amazon advertises the Amazon Fire Tablet, Amazon Fire Stick 4K and Amazon Fire TV on its website so that consumers may purchase and use the product, thus inducing its customers to also infringe the '714 Patent. On information and belief, Amazon also advertises other Amazon products that infringe the '714 Patent on its website for consumer purchase.

224. On information and belief, Amazon was aware of the '714 Patent or acted with willful blindness as to the existence of the '714 Patent at least as a result of the filing and service of this complaint. Additionally, Nokia asserted the '714 Patent against Amazon in the United States District Court for the District of Delaware on October 31, 2023, before filing this Complaint. Nokia notified Amazon that it was infringing the '714 Patent on at least October 25, 2023.

225. On information and belief, Amazon contributes to the infringement of one or more claims of the '714 Patent by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

226. A claim chart that applies each of the asserted independent claims of the '714 Patent to the Amazon Accused Products is attached as Ex. 15. The H.265 Standard referenced in this claim chart can be found in Ex. 50.

C. Infringement of the '267 Patent

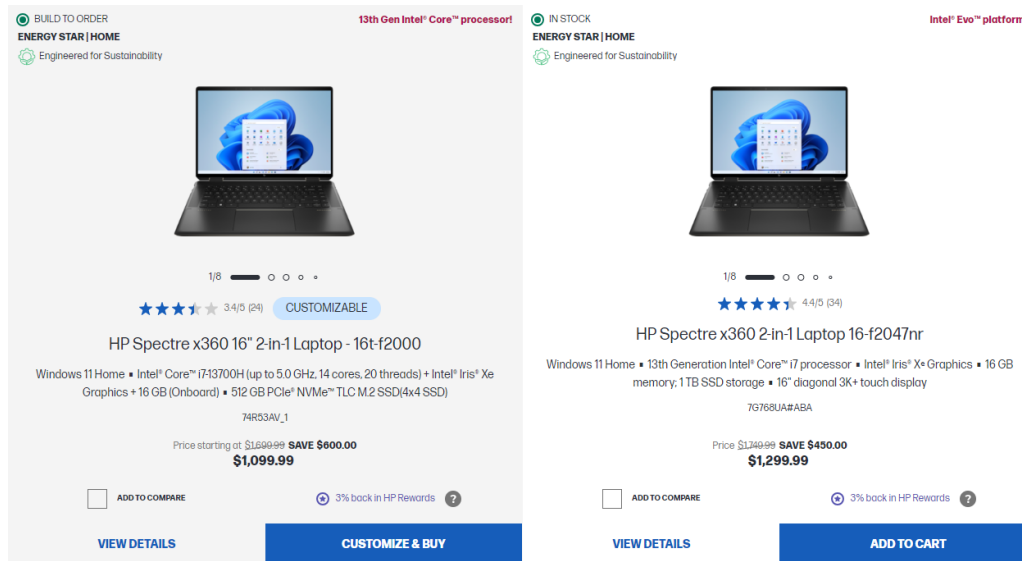
1. HP

227. On information and belief, the Accused Products that are sold for importation, imported, and/or sold within the United States after importation by HP infringe at least Claims 1–6, 7–12, 13–18, 19–25, and 31–36 of the '267 Patent, either literally or under the doctrine of equivalents.

228. On information and belief, HP directly infringes one or more claims of the '267 Patent through its manufacture, sale for importation, importation, use, and sale after importation of one or more of the HP Accused Products.

229. Any implementation of the inventions in the HP Accused Products infringes the asserted claims of the '267 Patent. For example, because the asserted decoding claims of the '267 Patent are essential to the H.265 Standard, the HP Accused Products' incorporation of the H.265 Standard infringes the asserted decoding claims of the '267 Patent. Additionally, as shown by the testing evidence in the attached claim chart for the '267 Patent, the HP Accused Products perform encoding processes and include encoders covered by certain claims of the '267 Patent.

230. As just one example of HP's infringement, HP manufactures and sells laptops with graphics processing units that decode H.265-compliant video (the "HP Laptop Accused Products"). An example of an HP Laptop Accused Product is the HP Spectre X360 laptop series, which includes an Intel Iris XE Graphics processor.



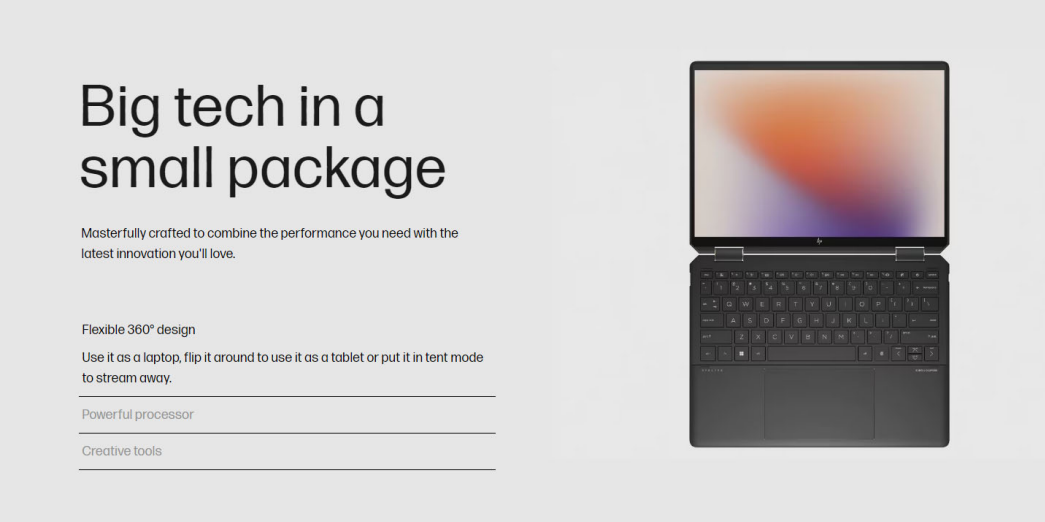
Source: Ex. 58, HP Spectre X360 Homepage

Table 1. Media codec support

Processor Graphics	JPEG	MJPEG	MPEG-2 (H.262)	MPEG-4 AVC ¹ (H.264) 8-bit 4K	MVC (H.265)	HEVC ^{1,2} (H.265) 8 bit 4:2:0	HEVC ^{1,2} (H.265) 10 bit 4:2:0	HEVC (H.265) 12 bit
Intel® Discrete Graphics								
Intel® Iris® Xe MAX Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
11th Generation Intel® Core™ Processors								
Intel® Iris® Xe Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only

Source: Ex. 59, Intel Tech Specs

231. Additionally, HP instructs and encourages users to use the HP Laptop Accused Products in a manner that infringes the Asserted Claims of the '267 Patent by advertising the products' ability to stream and watch video:



Source: Ex. 60, HP Spectre Advertisement

232. Additionally, on information and belief, HP publishes customer reviews of the HP Laptop Accused Products that show its customers actually use the HP Laptop Accused Products to stream and watch video:

Valerie C.
Verified Purchaser
Roseville, CA
Review 1
Vote 1

★★★★★
My second HP Spectre
6 days ago

I've only had this laptop for a few days, so I'm not able to provide a complete review. I will say that I've owned another Spectre for 7 years and still love it. I only purchased this new one after the battery I purchased from Amazon to replace the original one overheated and caused the components to buckle and several keys no longer registered. I bought this at a great sale price no knowing if the other one would survive a repair. The old one also didn't accommodate Windows 11, so I'd likely have to replace it in a few years anyway. Specifically, I love the graphics, speed, storage space, soft touch keyboard and sleek design. I chose the 16" display again as I prefer a bigger screen over having a small, lighter laptop. The only thing I'd like more is having a dedicated numeric keypad. The Spectre is on the high end of HP laptops but worth it to me for the functionality I need. For the last 15+ years, I've had HP computers and printers exclusively and have been very happy with them. No major issues (except a failed printer head in one of my printers that was irreparable and had to be replaced). I will remain an HP customer as long as they continue to produce quality devices.

☒ Yes, I recommend this product.

Originally posted on HP Spectre x360 2-in-1 Laptop 16-f2047nr

Helpful? (1) (0) [Report](#)

Source: Ex. 61, HP Spectre Device Reviews

233. As another example of HP’s infringement, HP manufactures and sells desktop computers with graphics processing units that decode H.265-compliant video (the “HP Desktop Accused Products”). An example of an HP Desktop Accused Product is the HP Pavilion Series of

Desktop PC, which includes either an Intel UHD Graphics 770 or an AMD Radeon Graphics processor.

IN STOCK

ENERGY STAR | HOME

Engineered for Sustainability



★★★★★ 4.4/5 (517)

HP Pavilion Desktop TP01-3055xt, Windows 11 Home, Intel® Core™ i7, 16GB RAM, 512GB SSD, 2TB HDD

Windows 11 Home • 12th Generation Intel® Core™ i7 processor • Intel® UHD Graphics 770 • 16 GB memory; 2 TB HDD storage; 512 GB SSD storage • DVD-Writer

22U58AA#ABA

IN STOCK

HOME



★★★★★ 4.4/5 (768)

HP Pavilion Desktop TP01-2165z, Windows 11 Home, AMD Ryzen™ 5, 16GB RAM, 256GB SSD, 2TB HDD

Windows 11 Home • AMD Ryzen™ 5 processor • AMD Radeon™ Graphics • 16 GB memory; 2 TB HDD storage; 256 GB SSD storage • DVD-Writer

20W71AA#ABA

Source: Ex. 62, HP Pavilion Homepage

Processor Graphics	JPEG	MJPEG	MPEG-2 (H.262)	MPEG-4 AVC ¹ (H.264) 8-bit 4K	MVC (H.265)	HEVC ^{1,2} (H.265) 8 bit 4:2:0	HEVC ^{1,2} (H.265) 10 bit 4:2:0	HEVC (H.265) 12 bit
Intel® Discrete Graphics								
Intel® Iris® Xe MAX Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
11th Generation Intel® Core™ Processors								
Intel® Iris® Xe Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
Intel® UHD Graphics for 11th Gen	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only

Source: Ex. 63, Intel 11th and 12th Generation Tech Specs

Encode Features for 11th and 12th Generation Intel® Core™ Processors

12th Generation Intel® Core™ Processors:

- Intel® UHD Graphics 770
- Intel® UHD Graphics 730
- Intel® UHD Graphics 710
- Intel® Iris® Xe MAX Graphics
- Intel® UHD Graphics

11th Generation Intel® Core™ Processors:

- Intel® Iris® Xe MAX Graphics
- Intel® UHD Graphics
- Intel® UHD Graphics 750

Ex. 64 Intel Supported Codecs

HEVC	8-bit, 4:2:0 (NV12)	✓16k
	10-bit, 4:2:0 (P010)	✓16k
	8-bit, 4:4:4 (AYUV)	✓16k
	10-bit, 4:4:4 (Y410)	✓16k
	I frame	✓16k
	Low Delay B	✓
	Random access B	✓
	Screen Content Coding (SCC)	✓
	BRC modes	• CBR • VBR • LA • LA_ICQ • LA_EXT • LA_HRD • QVBR

Ex. 64 Intel Supported Codecs

MODEL		4K H264 DECODE	4K H264 ENCODE
Compare		All	All
☐	AMD Radeon™ RX 7900 XTX	Yes	Yes
☒	AMD Radeon™ RX 7900 XT	Yes	Yes
☐	AMD Radeon™ RX 7900 GRE	Yes	Yes
☐	AMD Radeon™ RX 7600	Yes	Yes
☐	AMD Radeon™ RX 7600M XT	Yes	Yes
☐	AMD Radeon™ RX 7600M	Yes	Yes
☐	AMD Radeon™ RX 7700S	Yes	Yes
☐	AMD Radeon™ RX 7600S	Yes	Yes
☐	AMD Radeon™ RX 6950 XT	Yes	Yes

Ex. 65, AMD Radeon Tech Specs

234. Additionally, HP publishes customer reviews of the HP Desktop Accused Products that show its customers actually use the HP Desktop Accused Products to stream and watch video:

Mark S., West Reading, PA

Verified Purchaser

Review 1

Votes 2

★★★★★

A Good Choice

15 days ago

Impressive hardware performance all around. The video is sharp, clear, and responsive; the audio has plenty of power and range. Most of my nitpicking would be along the lines of software and ergonomics, and both of those issues are a matter of getting used to a new machine and making settings tweaks, although going from Windows 10 to 11, along with trying to tame the insistent permission requests and find where they hid settings that used to be relatively instantly accessible, has proven a bit of a challenge. Of the machine itself, though, it's very much what I expected from the descriptions, and I'm very pleased with this choice.

Yes, I recommend this product.

Helpful? (2) (0) Report

Source: Ex. 66, HP Pavilion Reviews

235. HP knowingly and intentionally induces users of one or more of the HP Accused Products to directly infringe one or more claims of the '267 Patent by encouraging, instructing, and aiding one or more persons in the United States, including HP employees who test and operate

Accused Products at the direction of HP, to make, use (including testing those devices and methods), sell, or offer to sell one or more of the HP Accused Products, during or after such article's importation into the United States, in a manner that infringes the '267 Patent. *See* Ex. 46, Full Accused Product List.

236. For example, as seen in the HP publications above, HP advertises the HP Spectre X360 laptop and HP Pavilion desktop series on its website so that consumers may purchase and use the products, thus inducing its customers to also infringe the '267 Patent. On information and belief, HP also advertises other HP products that infringe the '267 Patent on its website for consumer purchase.

237. On information and belief, HP was aware of the '267 Patent or acted with willful blindness as to the existence of the '267 Patent at least as a result of the filing and service of this complaint. Additionally, Nokia asserted the '267 Patent against HP in the United States District Court for the District of Delaware on October 31, 2023, before filing this Complaint.

238. On information and belief, HP contributes to the infringement of one or more claims of the '267 Patent by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

239. A claim chart that applies each of the asserted independent claims of the '267 Patent to the HP Accused Products is attached as Ex. 48. The H.265 Standard referenced in this claim chart can be found in Ex. 50.

2. Amazon

240. On information and belief, the Accused Products that are sold for importation, imported, and/or sold within the United States after importation by Amazon infringe at least Claims 19-24, 25-30, 31-36 of the '267 Patent, either literally or under the doctrine of equivalents.

241. On information and belief, Amazon directly infringes one or more claims of the '267 Patent through its manufacture, sale for importation, importation, use, and sale after importation of one or more of the Amazon Accused Products.

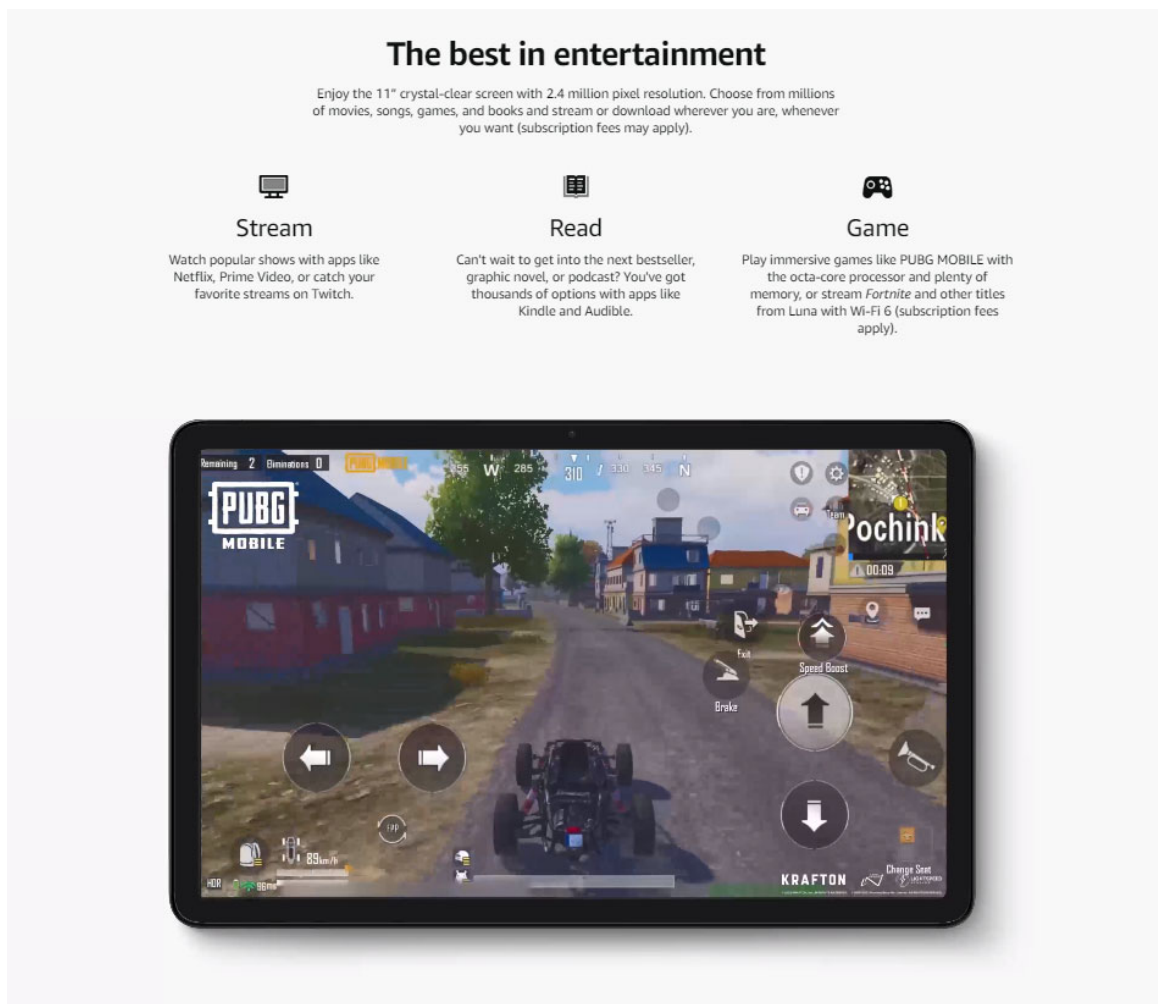
242. Any implementation of the inventions in the Amazon Accused Products infringes the asserted claims of the '267 Patent. For example, because the asserted decoding claims of the '267 Patent are essential to the H.265 Standard, the Amazon Accused Products' incorporation of the H.265 Standard infringes the asserted decoding claims of the '267 Patent.

243. As just one example of Amazon's infringement, Amazon manufactures and sells tablets with graphics processing units that decode H.265-compliant video (the "Amazon Tablet Accused Products"). An example of an Amazon Tablet Accused Product is the Amazon Fire Max 11 tablet.

VIDEO CODECS	H.263	D (HW) baseline, 1080P@60fps
	H.264 AVC	D (HW) Constrained Baseline, Main Profile, High profile, L5.0 1080p@60FPS (secure) / 2K@60FPS (non-secure), E (HW)
	H.265 HEVC	D(HW) Main Profile, L5.0 1080p@60FPS (secure) / 2K@60FPS (non-secure)
	MPEG2	D (HW) Main Profile @High 1080P@60FPS
	MPEG4	D (HW) Advanced Simple Profile@L5, Simple Profile@L6 1080P@60FPS
	VP8	D (HW)
	VP9	D (HW) Profile 0/2 1080P@60FPS (secure) / 2K@60FPS (non-secure)
	AV1 with film grain	Supported
	VC-1	Not supported
VIDEO FEATURES	Low Latency Video	Supported
	H.264 DRM	Supported
	H.265 DRM	Supported
	OpenGL	ES 3.2

Source: Ex. 67, Amazon Fire Max Tech Specs

244. Additionally, Amazon instructs and encourages users to use the Amazon Tablet Accused Products in a manner that infringes the Asserted Claims of the '267 Patent by advertising the products' ability to stream and watch video:



Ex. 68, Amazon Fire Max Tablet Advertisement

245. Additionally, on information and belief, Amazon publishes customer reviews of the Amazon Tablet Accused Products that show its customers actually use the Amazon Tablet Accused Products to stream and watch video, and that customers choose Amazon Tablet Accused Products specifically for their video streaming capabilities:



XRYche

★★★★★ **A surprisingly capable budget/low mid-range tablet focused on video entertainment.**

Reviewed in the United States on August 9, 2023

Digital Storage Capacity: 64 GB | Offer Type: With Lockscreen Ads | Color: Gray | Style: Amazon Fire Max 11 | **Verified Purchase**

Full disclosure.....I went from a Fire HD 8 (2020) (Tablet is still working btw and has been relegated to the closet shelf as a back-up.) tablet to this so the bias should be obvious. Regardless this tablet seems to be brighter and more vivid than my previous Fire tablet, the resolution is obviously better as well as it being much more powerful. It can even play some games more advanced than Candy Crush and such.

Now with that being said.....this tablet is NOT, by any means, a "productivity" tablet. It is mid-range budget tablet that is capable of performing some light productivity tasks. This tablet is also NOT an iPad competitor in any way, shape or form either. What it is is a seemingly well built Amazon-centric budget mid-range entertainment tablet which is what I am looking for (Minus the Amazon-centric part which I can overlook since there are methods to get around this. P.S. If Amazon put a stop to these methods I would never buy a Fire tablet.).

As far as the price goes though I would not pay a cent over 200 USD for this tablet. It simply isn't worth it, not for a budget/low-end mid-range tablet with a forked, obsolete and gimped Android OS. Luckily I only paid 150 USD on Prime Day and paying only 30 USD a month over a 5 month period using Amazon's interest-free financing service they offer on a lot of their branded products. Going this route this tablet is worth the price.



Julianna

★★★★★ **just WOW**

Reviewed in the United States on July 29, 2023

Digital Storage Capacity: 128 GB | Offer Type: Without Lockscreen Ads | Color: Gray | Style: Amazon Fire Max 11 | **Verified Purchase**

Ok...old woman (here again!) First, I must say, I have many Fire products. the old Fire HDX is my all time favorite, and I hoard them..still use them,..i love the size, quality, and it is MY PREFERRED device. BUT...i have an iPad mini, which is the next fav, and a few others.

I got this on a whim (and to help prolong the lives of my old HDX's) because it sounded pretty good, and the price was great. I LOVE IT!

I've played around with it for a week or so now...Lots of time on my hands now, so I read a lot, lots of Brit mystery viewing, reading the Post and Times, playing Queen Bee...ha. point being I use it quite a bit. The battery lasts VERY long...at least the 10 hours or more. The quality of the videos is EXCELLENT!!!!!! I am veryyy pleased with that!! It doesn't stutter like a few of my Fire products, which is great. Fast!! Highly recommend it

Cons-- yeah, but they're just personal. It's a large device and awkward for my small hands. If there were a 7 inch of this quality, I'd have 3 of them....no lie. It does take a little time to charge tho....ah well.

Seriously thinking about the keyboard...we'll see.

Helpful

Report

Source: Ex. 69, Amazon Fire Max Reviews

246. As another example of Amazon's infringement, Amazon manufactures and sells streaming devices with graphics processing units that decode H.265-compliant video (the "Streaming Device Accused Products"). An example of such a Streaming Device Accused Product is the Amazon Fire TV Stick 4K.

Size	99 mm x 30 mm x 14 mm (only housing) 108 mm x 30 mm x 14 mm (including the connector)
Weight	53.6 g
Processor	Quad-core 1.7 GHz
GPU	IMG GE8300
Storage	8 GB
Wifi	Dual-band, dual-antenna wifi (MIMO) for faster streaming and fewer dropped connections than standard wifi. Supports 802.11a/b/g/n/ac wifi networks.
Bluetooth	Bluetooth 5.0 + LE. Pair with compatible Bluetooth speakers, headphones, video game controllers, and more.
Voice support	Yes, with the Alexa Voice Remote (included) or free Fire TV app (available for download on Fire OS, Android, and iOS)
IR Device Control with included Alexa Voice remote	The included Alexa Voice Remote can control the Fire TV Stick 4K and certain functions (such as power and volume) on a wide range of compatible IR-enabled devices, including TVs, soundbars and A/V receivers. Note: Certain functions may not be available on some IR-enabled devices.
Cloud storage	Free cloud storage for digital content purchased from Amazon
Ports	HDMI output, micro-USB for power only.
Audio support	Dolby Atmos, 7.1 surround sound, 2-channel stereo, and HDMI audio pass through up to 5.1.
4K support	To watch movies and TV shows in 4K Ultra HD, you need a compatible Ultra HD TV. All services may not be available in 4K/HDR. Certain services are subject to change at any time, may not be available in all areas, or in 4K/HDR, and may require separate subscriptions. Learn more about services.
Content formats supported	Video: Dolby Vision, HDR 10, HDR10+, HLG, H.265, H.264, VP9 Audio: AAC-LC, AC3, eAC3 (Dolby Digital Plus), FLAC, MP3, PCM/Wave, Vorbis, Dolby Atmos (EC3_JOC), Photo: JPEG, PNG, GIF, BMP
Output resolution supported	2160p, 1080p and 720p up to 60 fps

Source: Ex. 70, Amazon Fire Stick Tech Specs

247. Additionally, Amazon instructs and encourages users to use the Amazon Streaming Device Accused Products in a manner that infringes the Asserted Claims of the '267 Patent by advertising the products' ability to stream and watch video:



Watch live TV and free TV

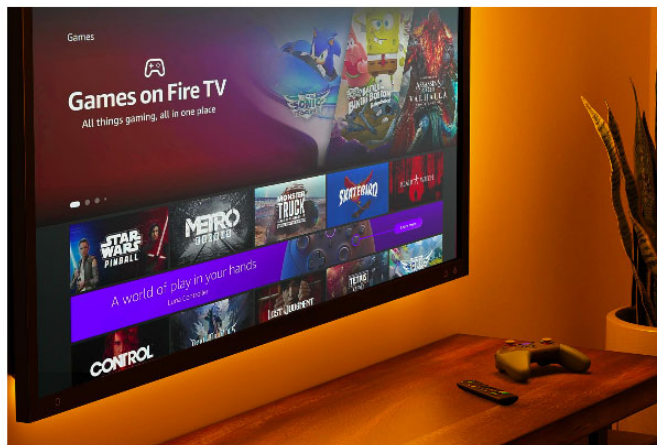
Stream live TV, including news and sports, with subscriptions to Hulu+ Live TV, SLING TV, YouTube TV, and others. Plus, watch movies and TV shows for free with ad-supported apps like Pluto TV, Amazon Freevee, and more.



TV is just the beginning

Fire TV is always getting smarter with new Alexa skills and voice functionality. View live camera feeds, check the weather, order a pizza, and stream music. Learn more about compatible smart home devices.

"Alexa, show the nursery."



Games on Fire TV

No matter what kind of gaming you're into, Games on Fire TV has you covered. Play games like you stream movies with Amazon Luna or download games from the Appstore. If you're an Amazon Prime member, you can play a rotating selection of games free on Luna.

Source: Ex. 71, Amazon Fire TV Advertisement

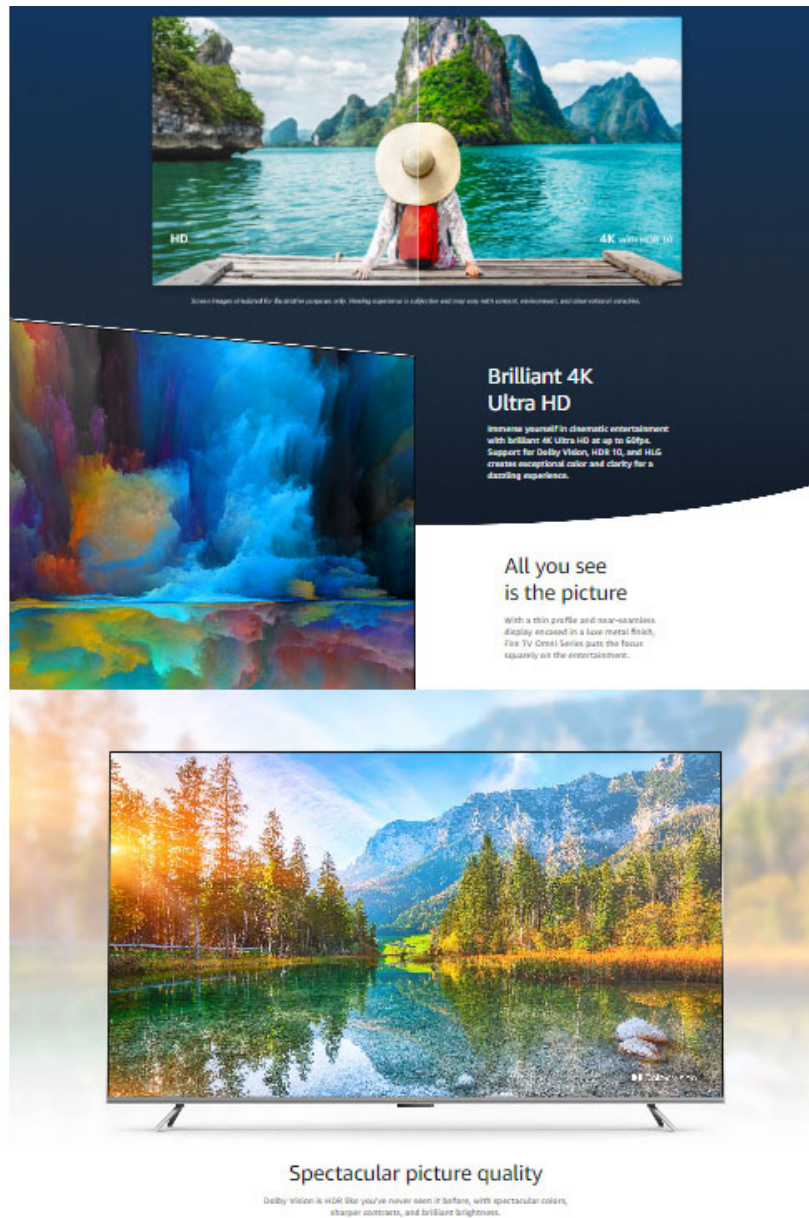
248. As an additional example of Amazon’s infringement, Amazon manufactures and sells televisions with graphics processing units that decode H.265-compliant video (the “Amazon Television Accused Products”). An example of an Amazon Television Accused Product is the Amazon Fire TV.

Video codecs

- **Dolby-Vision**
 - Resolutions/frame rates: Up to UHD@60
 - Profiles: 4-MEL, 5, 8, 9, and 10
 - Codecs: AVC (profile 9), HEVC (profile 4-MEL, 5 and 8), AV1 (profile 10)
 - OTT four-character codes: hvc1, dvh1, hev1, dvhe, avc1
 - Dolby Vision box types: dvcC, dvvC
 - Adaptive streaming formats: DASH, HLS, HLS using fMP4
- **H.265 HEVC**
 - Max Resolution: 2160p
 - Min Profile: Version 1, Main, Main 10, 10-bit support Min
 - Level: 5.1, Main Tier
 - Max frame rate: 720p @ 60fps, 1080p @ 60fps, 2160p @ 60fps
 - Secure (PlayReady and Widevine DRMs) and clear (non-secure) contexts
 - Support for dynamic resolution switch down to or up from lower resolution
 - Number of reference frames required will be based on level, profile, and resolution. Refer to [Profiles \(High Efficiency Video Coding\)](#)
 - Color Space: Rec. 601 & Rec. 709 (secure or unsecure), Rec. 2020
- **H.264 AVC**
 - Secure or un-secure
 - Max Resolution: 2160p
 - Min Profile/Level: Main Profile @ Level 5.1, High Profile @ Level 5.1
 - Max frame rate: 720p @ 60fps, 1080p @ 30fps, 1080p @ 60fps, 2160p @ 30fps, 2160p @ 30fps (limited support)
 - Secure (PlayReady and Widevine DRMs) and clear (non-secure) contexts
 - Support for dynamic resolution switch down to or up from lower resolution
 - Number of reference frames required will be based on level, profile, and resolution. Refer to [Levels \(Advanced Video Coding\)](#)

Source: Ex. 72, Amazon Fire Stick Tech Specs

249. Additionally, Amazon instructs and encourages users to use the Amazon Television Accused Products in a manner that infringes the asserted claims of the '267 Patent by advertising the products' ability to decode video:



Source: Ex. 73, Amazon Fire TV Tech Advertisement

250. Additionally, on information and belief, Amazon publishes customer reviews of the Amazon Television Accused Products that show its customers actually use the Amazon Television Accused Products to stream video:

This is not a ginger ale!

★★★★★ **high-quality smart TV with an immersive viewing experience**

Reviewed in the United States on July 17, 2023

Size: 50-inch | Configuration: TV only | **Verified Purchase**

If you're looking for a feature-packed television that seamlessly integrates with your smart home devices and provides stunning picture quality, this TV is an excellent choice.

The first thing that impressed me about this smart TV is its picture quality. The 4K Ultra HD resolution delivers crystal-clear and vibrant visuals, bringing your favorite movies, TV shows, and streaming content to life. The colors are rich and accurate, and the contrast is excellent, providing a truly immersive viewing experience. Whether you're watching action-packed movies or enjoying nature documentaries, the picture quality of this TV is truly impressive.

Male in Atlanta

★★★★☆ **Impressive Tech, But There's a Catch!**

Reviewed in the United States on June 15, 2023

Size: 55-inch | Configuration: TV only | **Verified Purchase**

Hey all! Let's talk about the Amazon Fire TV 55" Omni Series. It's a strong contender in the Smart TV market, scoring a solid 4 out of 5 stars from me.

The picture quality on this 4K UHD TV is stunning, honestly, it's like being at the movies. Everything is crisp, vibrant and immersive, which is perfect for my binge-watching sessions!

One of the standout features is the hands-free Alexa. It's pretty cool being able to control your TV with voice commands. However, and this is where it loses a star, every time I switch on the TV, I have to physically select the Fire user profile with the remote. Kinda defeats the purpose of hands-free convenience, right? A bit of a bugbear for me.

The rest of the Fire interface is user-friendly, though, with easy access to Prime Video, Netflix, Disney+, and more. It's a breeze to navigate, once you get past the initial hiccup.

As for value, you're getting a lot of bang for your buck here. The price is reasonable when you consider the picture quality and smart features, minus that one little annoyance.

So there you have it. A pretty fantastic TV that needs to work out one small kink. If you can live with the manual profile selection issue, it's definitely a great choice. Four stars from me!

105 people found this helpful

Helpful | Report

Source: Ex. 74, Amazon Fire TV Reviews

251. Amazon knowingly and intentionally induces users of one or more of the Amazon Accused Products to directly infringe one or more claims of the '267 Patent by encouraging, instructing, and aiding one or more persons in the United States, including Amazon employees who test and operate Amazon Accused Products at the direction of Amazon, to make, use (including testing those devices and methods), sell, or offer to sell one or more Amazon Accused

Products, during or after such article's importation into the United States, in a manner that infringes the '267 Patent. *See* Ex. 46, Full Accused Product List.

252. For example, as seen in the Amazon publications above, Amazon advertises the Amazon Fire Tablet, Amazon Fire Stick 4K and Amazon Fire TV on its website so that consumers may purchase and use the product, thus inducing its customers to also infringe the '267 Patent. On information and belief, Amazon also advertises other Amazon products that infringe the '267 Patent on its website for consumer purchase.

253. On information and belief, Amazon was aware of the '267 Patent or acted with willful blindness as to the existence of the '267 Patent at least as a result of the filing and service of this complaint. Additionally, Nokia asserted the '267 Patent against Amazon in the United States District Court for the District of Delaware on October 31, 2023, before filing this Complaint.

254. On information and belief, Amazon contributes to the infringement of one or more claims of the '267 Patent by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

255. A claim chart that applies each of the asserted independent claims of the '267 Patent to the Amazon Accused Products is attached as Ex. 23. The H.265 Standard referenced in this claim chart can be found in Ex. 50.

D. Infringement of the '991 Patent

1. HP

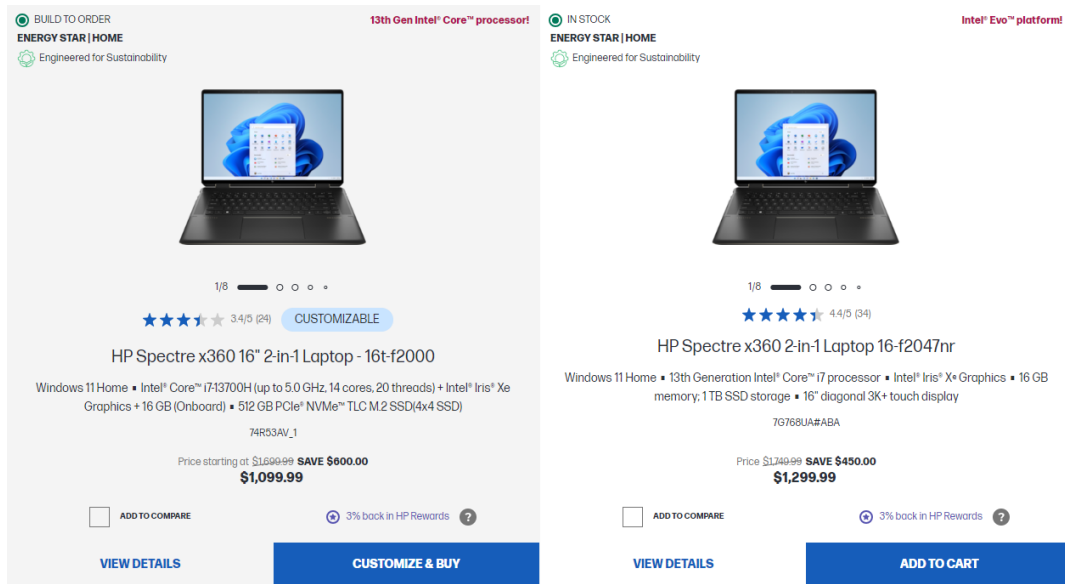
256. On information and belief, the Accused Products that are sold for importation, imported, and/or sold within the United States after importation by HP infringe at least Claims 1,

5, 6, 8, 9, 10, 11, 12, 13, 17, 18, 20, 21, 22, 23, 24, 26, 29, 30, 31, 32, 33, 35, 38 of the '991 Patent, either literally or under the doctrine of equivalents.

257. On information and belief, HP directly infringes one or more claims of the '991 Patent through its manufacture, sale for importation, importation, use, and sale after importation of one or more of the HP Accused Products.

258. Any implementation of the inventions in the HP Accused Products infringes the asserted claims of the '991 Patent. For example, because the asserted decoding claims of the '991 Patent are essential to the H.265 Standard, the HP Accused Products' incorporation of the H.265 Standard infringes the asserted decoding claims of the '991 Patent. Additionally, as shown by the testing evidence in the attached claim chart for the '991 Patent, the HP Accused Products perform encoding processes and include encoders covered by certain claims of the '991 Patent.

259. As just one example of HP's infringement, HP manufactures and sells laptops with graphics processing units that encode and/or decode H.265-compliant video (the "HP Laptop Accused Products"). An example of an HP Laptop Accused Product is the HP Spectre X360 laptop series, which includes an Intel Iris XE Graphics processor.



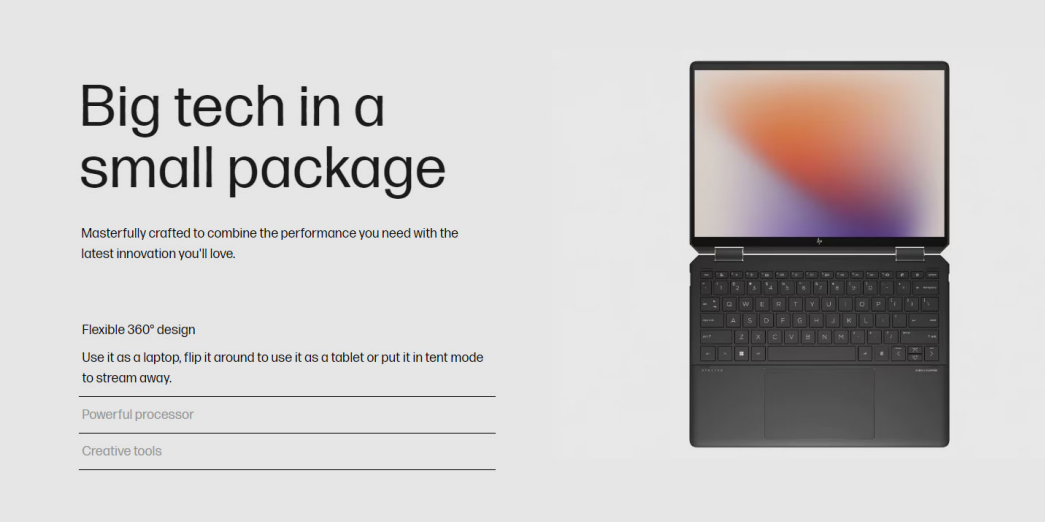
Source: Ex. 60, HP Spectre X360 Homepage

Table 1. Media codec support

Processor Graphics	JPEG	MJPEG	MPEG-2 (H.262)	MPEG-4 AVC ¹ (H.264) 8-bit 4K	MVC (H.265)	HEVC ^{1,2} (H.265) 8 bit 4:2:0	HEVC ^{1,2} (H.265) 10 bit 4:2:0	HEVC (H.265) 12 bit
Intel® Discrete Graphics								
Intel® Iris® Xe MAX Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
11th Generation Intel® Core™ Processors								
Intel® Iris® Xe Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only

Source: Ex. 59, Intel Tech Specs

260. Additionally, HP instructs and encourages users to use the HP Laptop Accused Products in a manner that infringes the Asserted Claims of the '991 Patent by advertising the products' ability to stream and watch video:



Source: Ex. 60, HP Spectre Advertisement

261. Additionally, on information and belief, HP publishes customer reviews of the HP Laptop Accused Products that show its customers actually use the HP Laptop Accused Products to stream and record video:

Valerie C.
Verified Purchaser
Roseville, CA
Review 1
Vote 1

★★★★★
My second HP Spectre
6 days ago

I've only had this laptop for a few days, so I'm not able to provide a complete review. I will say that I've owned another Spectre for 7 years and still love it. I only purchased this new one after the battery I purchased from Amazon to replace the original one overheated and caused the components to buckle and several keys no longer registered. I bought this at a great sale price no knowing if the other one would survive a repair. The old one also didn't accommodate Windows 11, so I'd likely have to replace it in a few years anyway. Specifically, I love the graphics, speed, storage space, soft touch keyboard and sleek design. I chose the 16" display again as I prefer a bigger screen over having a small, lighter laptop. The only thing I'd like more is having a dedicated numeric keypad. The Spectre is on the high end of HP laptops but worth it to me for the functionality I need. For the last 15+ years, I've had HP computers and printers exclusively and have been very happy with them. No major issues (except a failed printer head in one of my printers that was irreparable and had to be replaced). I will remain an HP customer as long as they continue to produce quality devices.

☒ Yes, I recommend this product.

Originally posted on HP Spectre x360 2-in-1 Laptop 16-f2047nr

Helpful? (1) (0) [Report](#)

Source: Ex. 61, HP Spectre Device Reviews

262. As another example of HP’s infringement, HP manufactures and sells desktop computers with graphics processing units that encode video into an H.265-compliant video format and/or decode H.265-compliant video. An example of an HP Desktop Accused Product is the HP

Pavilion Series of Desktop PC, which includes either an Intel UHD Graphics 770 or an AMD Radeon Graphics processor.

IN STOCK

ENERGY STAR | HOME

Engineered for Sustainability



★★★★★ 4.4/5 (517)

HP Pavilion Desktop TP01-3055xt, Windows 11 Home, Intel® Core™ i7, 16GB RAM, 512GB SSD, 2TB HDD

Windows 11 Home • 12th Generation Intel® Core™ i7 processor • Intel® UHD Graphics 770 • 16 GB memory; 2 TB HDD storage; 512 GB SSD storage • DVD-Writer

22U58AA#ABA

IN STOCK

HOME



★★★★★ 4.4/5 (768)

HP Pavilion Desktop TP01-2165z, Windows 11 Home, AMD Ryzen™ 5, 16GB RAM, 256GB SSD, 2TB HDD

Windows 11 Home • AMD Ryzen™ 5 processor • AMD Radeon™ Graphics • 16 GB memory; 2 TB HDD storage; 256 GB SSD storage • DVD-Writer

20W71AA#ABA

Source: Ex. 62, HP Pavilion Homepage

Processor Graphics	JPEG	MJPEG	MPEG-2 (H.262)	MPEG-4 AVC ¹ (H.264) 8-bit 4K	MVC (H.265)	HEVC ^{1,2} (H.265) 8 bit 4:2:0	HEVC ^{1,2} (H.265) 10 bit 4:2:0	HEVC (H.265) 12 bit
Intel® Discrete Graphics								
Intel® Iris® Xe MAX Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
11th Generation Intel® Core™ Processors								
Intel® Iris® Xe Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
Intel® UHD Graphics for 11th Gen	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only

Source: Ex. 59 Intel Tech Specs

Encode Features for 11th and 12th Generation Intel® Core™ Processors

12th Generation Intel® Core™ Processors:

- Intel® UHD Graphics 770
- Intel® UHD Graphics 730
- Intel® UHD Graphics 710
- Intel® Iris® Xe MAX Graphics
- Intel® UHD Graphics

11th Generation Intel® Core™ Processors:

- Intel® Iris® Xe MAX Graphics
- Intel® UHD Graphics
- Intel® UHD Graphics 750

Ex. 63 Intel 11th and 12th Generation Tech Specs

HEVC	8-bit, 4:2:0 (NV12)	✓16k
	10-bit, 4:2:0 (P010)	✓16k
	8-bit, 4:4:4 (AYUV)	✓16k
	10-bit, 4:4:4 (Y410)	✓16k
	I frame	✓16k
	Low Delay B	✓
	Random access B	✓
	Screen Content Coding (SCC)	✓
	BRC modes	• CBR • VBR • LA • LA_ICQ • LA_EXT • LA_HRD • QVBR

Source: Ex. 64, Intel Supported Codecs

MODEL		H265/HEVC DECODE	H265/HEVC ENCODE
Compare		All	All
+	☒ AMD Radeon™ RX 7900 XTX	Yes	Yes
+	☐ AMD Radeon™ RX 7900 XT	Yes	Yes
+	☐ AMD Radeon™ RX 7900 GRE	Yes	Yes
+	☐ AMD Radeon™ RX 7600	Yes	Yes
+	☐ AMD Radeon™ RX 7600M XT	Yes	Yes
+	☐ AMD Radeon™ RX 7600M	Yes	Yes
+	☐ AMD Radeon™ RX 7700S	Yes	Yes
+	☐ AMD Radeon™ RX 7600S	Yes	Yes

Ex. 65, AMD Radeon Tech Specs

263. Additionally, HP publishes customer reviews of the HP Laptop Accused Products that show its customers actually use the HP Laptop Accused Products to stream and record video:

Mark S., West Reading, PA

Verified Purchaser

Review 1

Votes 2

★★★★★

A Good Choice

15 days ago

Impressive hardware performance all around. The video is sharp, clear, and responsive; the audio has plenty of power and range. Most of my nitpicking would be along the lines of software and ergonomics, and both of those issues are a matter of getting used to a new machine and making settings tweaks, although going from Windows 10 to 11, along with trying to tame the insistent permission requests and find where they hid settings that used to be relatively instantly accessible, has proven a bit of a challenge. Of the machine itself, though, it's very much what I expected from the descriptions, and I'm very pleased with this choice.

Yes, I recommend this product.

Helpful? (2) (0) Report

Source: Ex. 66, HP Pavilion Reviews

264. HP knowingly and intentionally induces users of one or more of the HP Accused Products to directly infringe one or more claims of the '991 Patent by encouraging, instructing, and aiding one or more persons in the United States, including HP employees who test and operate Accused Products at the direction of HP, to make, use (including testing those devices and methods), sell, or offer to sell one or more of the HP Accused Products, during or after such

article's importation into the United States, in a manner that infringes the '991 Patent. *See* Ex. 46, Full Accused Product List.

265. For example, as seen in the HP publications above, HP advertises the HP Spectre X360 laptop series and HP Pavilion desktop series on its website so that consumers may purchase and use the products, thus inducing its customers to also infringe the '991 Patent. On information and belief, HP also advertises other HP products that infringe the '991 Patent on its website for consumer purchase.

266. On information and belief, HP was aware of the '991 Patent or acted with willful blindness as to the existence of the '991 Patent at least as a result of the filing and service of this complaint. Additionally, Nokia asserted the '991 Patent against HP in the United States District Court for the District of Delaware on October 31, 2023, before filing this Complaint.

267. On information and belief, HP contributes to the infringement of one or more claims of the '991 Patent by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

268. A claim chart that applies each of the asserted independent claims of the '991 Patent to the HP Accused Products is attached as Ex. 32. The H.265 Standard referenced in this claim chart can be found in Ex. 50.

2. Amazon

269. On information and belief, the Accused Products that are sold for importation, imported, and/or sold within the United States after importation by Amazon infringe at least

Claims 22, 26, 29, 30, 31, 32, 33, 35, and 38 of the '991 Patent, either literally or under the doctrine of equivalents.

270. On information and belief, Amazon directly infringes one or more claims of the '991 Patent through its manufacture, sale for importation, importation, use, and sale after importation of one or more of the Amazon Accused Products.

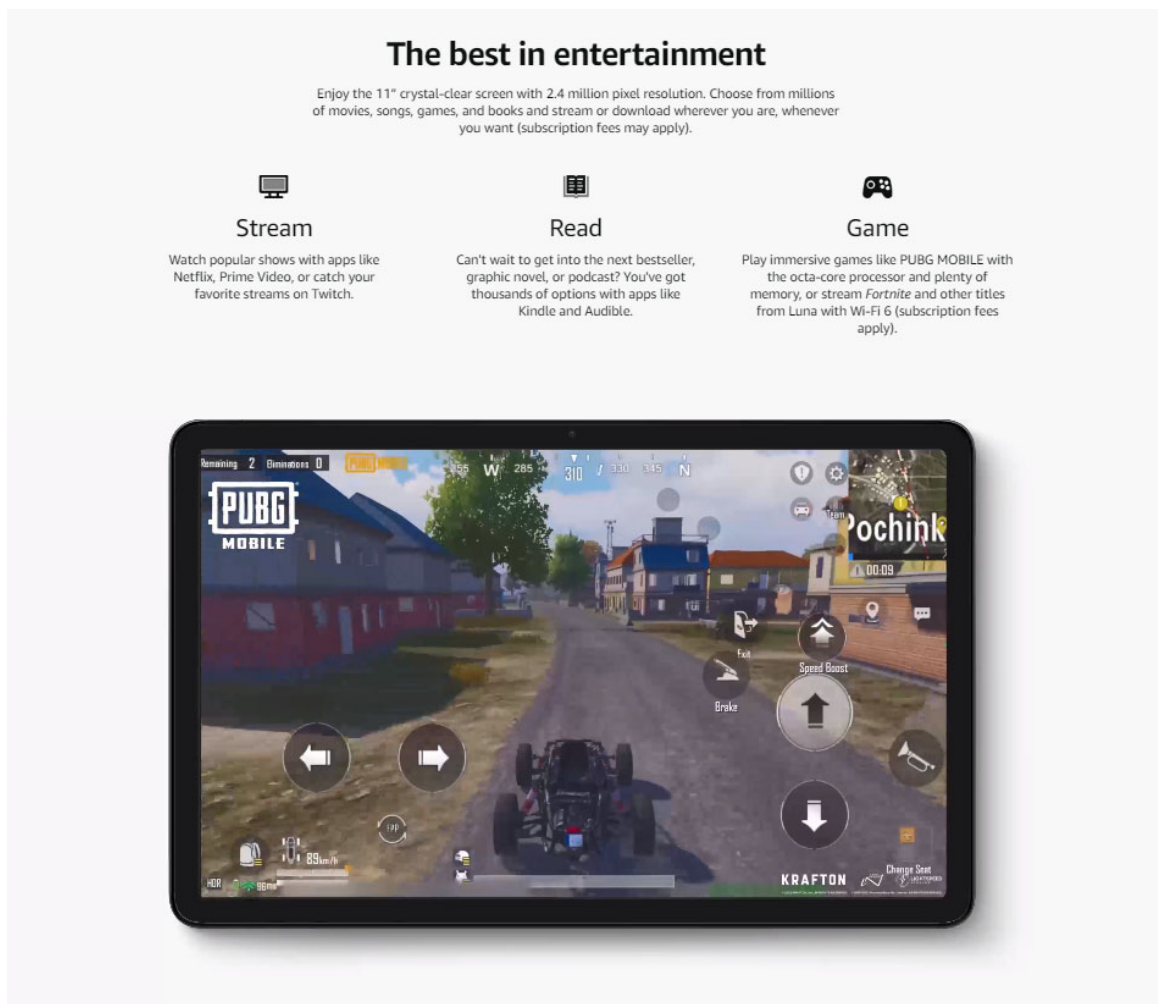
271. Any implementation of the inventions in the Amazon Accused Products infringes the asserted claims of the '991 Patent. For example, because the asserted decoding claims of the '991 Patent are essential to the H.265 Standard, the Amazon Accused Products' incorporation of the H.265 Standard infringes the asserted decoding claims of the '991 Patent.

272. As just one example of Amazon's infringement, Amazon manufactures and sells tablets with graphics processing units that decode H.265-compliant video (the "Amazon Tablet Accused Products"). An example of an Amazon Tablet Accused Product is the Amazon Fire Max 11 tablet, which is capable of decoding H.265-compliant video.

VIDEO CODECS	H.263	D (HW) baseline, 1080P@60fps
	H.264 AVC	D (HW) Constrained Baseline, Main Profile, High profile, L5.0 1080p@60FPS (secure) / 2K@60FPS (non-secure), E (HW)
	H.265 HEVC	D(HW) Main Profile, L5.0 1080p@60FPS (secure) / 2K@60FPS (non-secure)
	MPEG2	D (HW) Main Profile @High 1080P@60FPS
	MPEG4	D (HW) Advanced Simple Profile@L5, Simple Profile@L6 1080P@60FPS
	VP8	D (HW)
	VP9	D (HW) Profile 0/2 1080P@60FPS (secure) / 2K@60FPS (non-secure)
	AV1 with film grain	Supported
	VC-1	Not supported
VIDEO FEATURES	Low Latency Video	Supported
	H.264 DRM	Supported
	H.265 DRM	Supported
	OpenGL	ES 3.2

Source: Ex. 67, Amazon Fire Max Tech Specs

273. Additionally, Amazon instructs and encourages users to use the Amazon Tablet Accused Products in a manner that infringes the Asserted Claims of the '991 Patent by advertising the products' ability to stream and watch video:



Source: Ex. 68, Amazon Fire Max Tablet Advertisement

274. Additionally, on information and belief, Amazon publishes customer reviews of the Amazon Tablet Accused Products that show its customers actually use the Amazon Tablet Accused Products to stream video, and that customers choose Amazon Tablet Accused Products specifically for their video streaming capabilities:



XRYche

★★★★★ **A surprisingly capable budget/low mid-range tablet focused on video entertainment.**

Reviewed in the United States on August 9, 2023

Digital Storage Capacity: 64 GB | Offer Type: With Lockscreen Ads | Color: Gray | Style: Amazon Fire Max 11 | **Verified Purchase**

Full disclosure.....I went from a Fire HD 8 (2020) (Tablet is still working btw and has been relegated to the closet shelf as a back-up.) tablet to this so the bias should be obvious. Regardless this tablet seems to be brighter and more vivid than my previous Fire tablet, the resolution is obviously better as well as it being much more powerful. It can even play some games more advanced than Candy Crush and such.

Now with that being said.....this tablet is NOT, by any means, a "productivity" tablet. It is mid-range budget tablet that is capable of performing some light productivity tasks. This tablet is also NOT an iPad competitor in any way, shape or form either. What it is is a seemingly well built Amazon-centric budget mid-range entertainment tablet which is what I am looking for (Minus the Amazon-centric part which I can overlook since there are methods to get around this. P.S. If Amazon put a stop to these methods I would never buy a Fire tablet.).

As far as the price goes though I would not pay a cent over 200 USD for this tablet. It simply isn't worth it, not for a budget/low-end mid-range tablet with a forked, obsolete and gimped Android OS. Luckily I only paid 150 USD on Prime Day and paying only 30 USD a month over a 5 month period using Amazon's interest-free financing service they offer on a lot of their branded products. Going this route this tablet is worth the price.



Julianna

★★★★★ **just WOW**

Reviewed in the United States on July 29, 2023

Digital Storage Capacity: 128 GB | Offer Type: Without Lockscreen Ads | Color: Gray | Style: Amazon Fire Max 11 | **Verified Purchase**

Ok...old woman (here again!) First, I must say, I have many Fire products. the old Fire HDX is my all time favorite, and I hoard them..still use them,..i love the size, quality, and it is MY PREFERRED device. BUT...i have an iPad mini, which is the next fav, and a few others.

I got this on a whim (and to help prolong the lives of my old HDX's) because it sounded pretty good, and the price was great. I LOVE IT!

I've played around with it for a week or so now...Lots of time on my hands now, so I read a lot, lots of Brit mystery viewing, reading the Post and Times, playing Queen Bee...ha. point being I use it quite a bit. The battery lasts VERY long...at least the 10 hours or more. The quality of the **videos** is EXCELLENT!!!!!! I am veryyy pleased with that!! It doesn't stutter like a few of my Fire products, which is great. Fast!! Highly recommend it

Cons-- yeah, but they're just personal. It's a large device and awkward for my small hands. If there were a 7 inch of this quality, I'd have 3 of them....no lie. It does take a little time to charge tho....ah well.

Seriously thinking about the keyboard...we'll see.

Helpful

Report

Source: Ex. 69, Amazon Fire Tablet Reviews

275. As another example of Amazon's infringement, Amazon manufactures and sells streaming devices with graphics processing units that decode H.265-compliant video (the "Streaming Device Accused Products"). An example of such a Streaming Device Accused Product is the Amazon Fire TV Stick 4K, which Amazon advertises is capable of decoding H.265-compliant video.

Size	99 mm x 30 mm x 14 mm (only housing) 108 mm x 30 mm x 14 mm (including the connector)
Weight	53.6 g
Processor	Quad-core 1.7 GHz
GPU	IMG GE8300
Storage	8 GB
Wifi	Dual-band, dual-antenna wifi (MIMO) for faster streaming and fewer dropped connections than standard wifi. Supports 802.11a/b/g/n/ac wifi networks.
Bluetooth	Bluetooth 5.0 + LE. Pair with compatible Bluetooth speakers, headphones, video game controllers, and more.
Voice support	Yes, with the Alexa Voice Remote (included) or free Fire TV app (available for download on Fire OS, Android, and iOS)
IR Device Control with included Alexa Voice remote	The included Alexa Voice Remote can control the Fire TV Stick 4K and certain functions (such as power and volume) on a wide range of compatible IR-enabled devices, including TVs, soundbars and A/V receivers. Note: Certain functions may not be available on some IR-enabled devices.
Cloud storage	Free cloud storage for digital content purchased from Amazon
Ports	HDMI output, micro-USB for power only.
Audio support	Dolby Atmos, 7.1 surround sound, 2-channel stereo, and HDMI audio pass through up to 5.1.
4K support	To watch movies and TV shows in 4K Ultra HD, you need a compatible Ultra HD TV. All services may not be available in 4K/HDR. Certain services are subject to change at any time, may not be available in all areas, or in 4K/HDR, and may require separate subscriptions. Learn more about services.
Content formats supported	Video: Dolby Vision, HDR 10, HDR10+, HLG, H.265, H.264, VP9 Audio: AAC-LC, AC3, eAC3 (Dolby Digital Plus), FLAC, MP3, PCM/Wave, Vorbis, Dolby Atmos (EC3_JOC), Photo: JPEG, PNG, GIF, BMP
Output resolution supported	2160p, 1080p and 720p up to 60 fps

Source: Ex. 70, Amazon Fire Stick Tech Specs

276. Additionally, Amazon instructs and encourages users to use the Amazon Streaming Device Accused Products in a manner that infringes the Asserted Claims of the '991 Patent by advertising the products' ability to stream and watch video:



Watch live TV and free TV

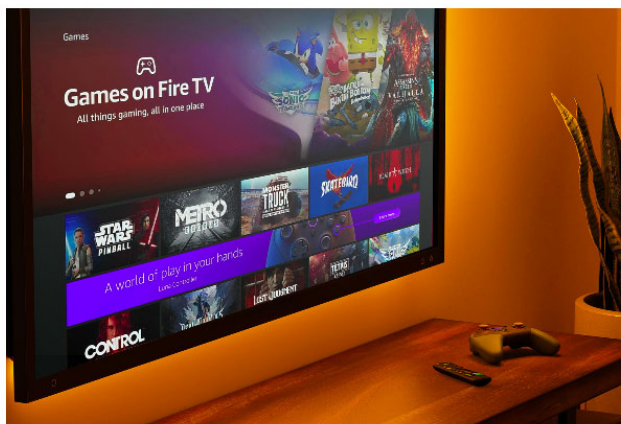
Stream live TV, including news and sports, with subscriptions to Hulu+ Live TV, SLING TV, YouTube TV, and others. Plus, watch movies and TV shows for free with ad-supported apps like Pluto TV, Amazon Freevee, and more.



TV is just the beginning

Fire TV is always getting smarter with new Alexa skills and voice functionality. View live camera feeds, check the weather, order a pizza, and stream music. [Learn more about compatible smart home devices.](#)

"Alexa, show the nursery."



Games on Fire TV

No matter what kind of gaming you're into, Games on Fire TV has you covered. Play games like you stream movies with Amazon Luna or download games from the Appstore. If you're an Amazon Prime member, you can play a rotating selection of games free on Luna.

Source: Ex.71, Amazon Fire Stick Advertisement

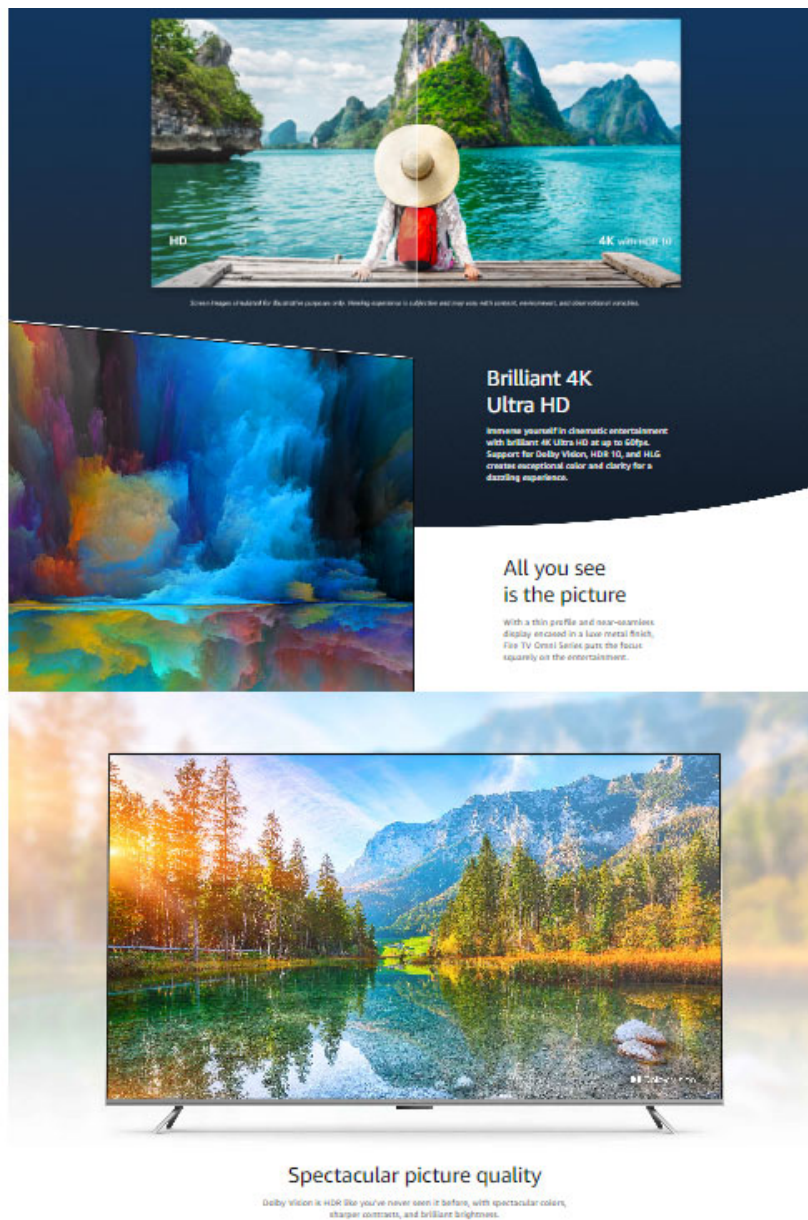
277. As an additional example of Amazon’s infringement, Amazon manufactures and sells televisions with graphics processing units that decode H.265-compliant video (the “Amazon Television Accused Products”). An example of an Amazon Television Accused Product is the Amazon Fire TV.

Video codecs

- **Dolby-Vision**
 - Resolutions/frame rates: Up to UHD@60
 - Profiles: 4-MEL, 5, 8, 9, and 10
 - Codecs: AVC (profile 9), HEVC (profile 4-MEL, 5 and 8), AV1 (profile 10)
 - OTT four-character codes: hvc1, dvh1, hev1, dvhe, avc1
 - Dolby Vision box types: dvcC, dvvC
 - Adaptive streaming formats: DASH, HLS, HLS using fMP4
- **H.265 HEVC**
 - Max Resolution: 2160p
 - Min Profile: Version 1, Main, Main 10, 10-bit support Min
 - Level: 5.1, Main Tier
 - Max frame rate: 720p @ 60fps, 1080p @ 60fps, 2160p @ 60fps
 - Secure (PlayReady and Widevine DRMs) and clear (non-secure) contexts
 - Support for dynamic resolution switch down to or up from lower resolution
 - Number of reference frames required will be based on level, profile, and resolution. Refer to [Profiles \(High Efficiency Video Coding\)](#)
 - Color Space: Rec. 601 & Rec. 709 (secure or unsecure), Rec. 2020
- **H.264 AVC**
 - Secure or un-secure
 - Max Resolution: 2160p
 - Min Profile/Level: Main Profile @ Level 5.1, High Profile @ Level 5.1
 - Max frame rate: 720p @ 60fps, 1080p @ 30fps, 1080p @ 60fps, 2160p @ 30fps, 2160p @ 30fps (limited support)
 - Secure (PlayReady and Widevine DRMs) and clear (non-secure) contexts
 - Support for dynamic resolution switch down to or up from lower resolution
 - Number of reference frames required will be based on level, profile, and resolution. Refer to [Levels \(Advanced Video Coding\)](#)

Source: Ex. 72, Amazon Fire TV Tech Specs

278. Additionally, Amazon instructs and encourages users to use the Amazon Television Accused Products in a manner that infringes the asserted decoding claims of the '991 Patent by advertising the products' ability to decode video:



Source: Ex. 73, Amazon Fire TV Advertisement

279. Additionally, on information and belief, Amazon publishes customer reviews of the Amazon Television Accused Products that show its customers actually use the Amazon Television Accused Products to stream video:

This is not a ginger ale!

★★★★★ **high-quality smart TV with an immersive viewing experience**

Reviewed in the United States on July 17, 2023

Size: 50-inch | Configuration: TV only | **Verified Purchase**

If you're looking for a feature-packed television that seamlessly integrates with your smart home devices and provides stunning picture quality, this TV is an excellent choice.

The first thing that impressed me about this smart TV is its picture quality. The 4K Ultra HD resolution delivers crystal-clear and vibrant visuals, bringing your favorite movies, TV shows, and streaming content to life. The colors are rich and accurate, and the contrast is excellent, providing a truly immersive viewing experience. Whether you're watching action-packed movies or enjoying nature documentaries, the picture quality of this TV is truly impressive.

Male in Atlanta

★★★★☆ **Impressive Tech, But There's a Catch!**

Reviewed in the United States on June 15, 2023

Size: 55-inch | Configuration: TV only | **Verified Purchase**

Hey all! Let's talk about the Amazon Fire TV 55" Omni Series. It's a strong contender in the Smart TV market, scoring a solid 4 out of 5 stars from me.

The picture quality on this 4K UHD TV is stunning, honestly, it's like being at the movies. Everything is crisp, vibrant and immersive, which is perfect for my binge-watching sessions!

One of the standout features is the hands-free Alexa. It's pretty cool being able to control your TV with voice commands. However, and this is where it loses a star, every time I switch on the TV, I have to physically select the Fire user profile with the remote. Kinda defeats the purpose of hands-free convenience, right? A bit of a bugbear for me.

The rest of the Fire interface is user-friendly, though, with easy access to Prime Video, Netflix, Disney+, and more. It's a breeze to navigate, once you get past the initial hiccup.

As for value, you're getting a lot of bang for your buck here. The price is reasonable when you consider the picture quality and smart features, minus that one little annoyance.

So there you have it. A pretty fantastic TV that needs to work out one small kink. If you can live with the manual profile selection issue, it's definitely a great choice. Four stars from me!

105 people found this helpful

Helpful | Report

Source: Ex. 74, Amazon Fire TV Reviews.

280. Amazon knowingly and intentionally induces users of one or more of the Amazon Accused Products to directly infringe one or more claims of the '991 Patent by encouraging, instructing, and aiding one or more persons in the United States, including Amazon employees who test and operate Amazon Accused Products at the direction of Amazon, to make, use (including testing those devices and methods), sell, or offer to sell one or more Amazon Accused

Products, during or after such article's importation into the United States, in a manner that infringes the '991 Patent. *See* Ex. 46, Full Accused Product List.

281. For example, as seen in the Amazon publications above, Amazon advertises the Amazon Fire Tablet, Amazon Fire Stick 4K and Amazon Fire TV on its website so that consumers may purchase and use the product, thus inducing its customers to also infringe the '991 Patent. On information and belief, Amazon also advertises other Amazon products that infringe the '991 Patent on its website for consumer purchase.

282. On information and belief, Amazon was aware of the '991 Patent or acted with willful blindness as to the existence of the '991 Patent at least as a result of the filing and service of this complaint. Additionally, Nokia asserted the '991 Patent against Amazon in the United States District Court for the District of Delaware on October 31, 2023, before filing this Complaint. Nokia notified Amazon that it was infringing the '991 Patent on at least October 25, 2023.

283. On information and belief, Amazon contributes to the infringement of one or more claims of the '991 Patent by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

284. A claim chart that applies each of the asserted independent claims of the '991 Patent to the Amazon Accused Products is attached as Ex. 33. The H.265 Standard referenced in this claim chart can be found in Ex. 50.

E. Infringement of the '321 Patent

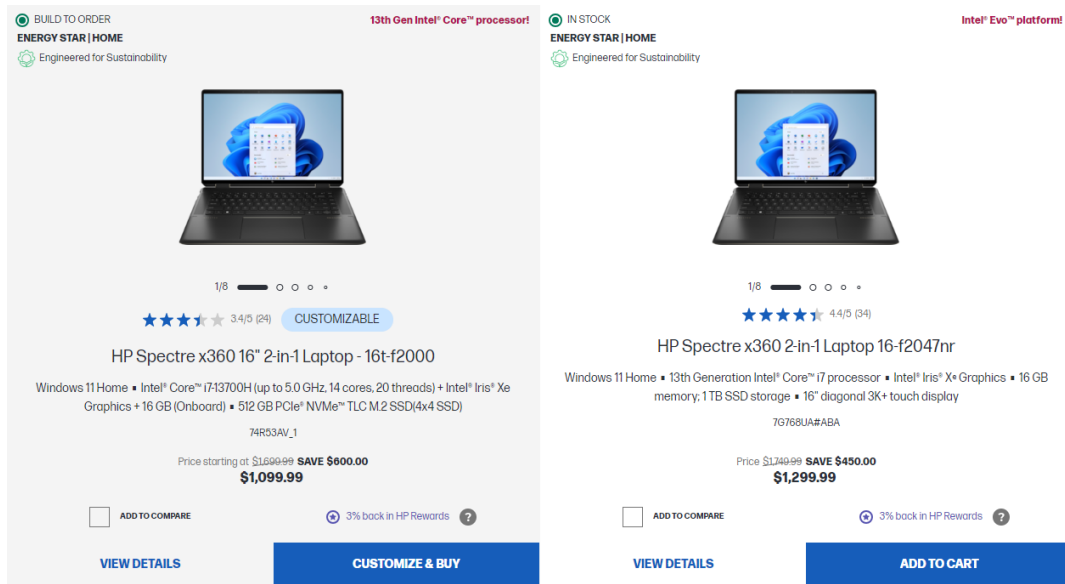
1. HP

285. On information and belief, the Accused Products that are sold for importation, imported, and/or sold within the United States after importation by HP infringe at least Claims 8, 9, 10, and 11 of the '321 Patent, either literally or under the doctrine of equivalents.

286. On information and belief, HP directly infringes one or more claims of the '321 Patent through its manufacture, sale for importation, importation, use, and sale after importation of one or more of the HP Accused Products.

287. Any implementation of the inventions in the HP Accused Products infringes the asserted claims of the '321 Patent. For example, because the asserted decoding claims of the '321 Patent are essential to the H.264 and H.265 Standards, the HP Accused Products' incorporation of the H.264 and H.265 Standards infringes the asserted decoding claims of the '321 Patent.

288. As just one example of HP's infringement, HP manufactures and sells laptops with graphics processing units that encode video into H.264 and H.265-compliant video formats and/or decode H.264 and H.265-compliant video (the "HP Laptop Accused Products"). An example of an HP Laptop Accused Product is the HP Spectre X360 laptop series, which includes an Intel Iris XE Graphics processor.



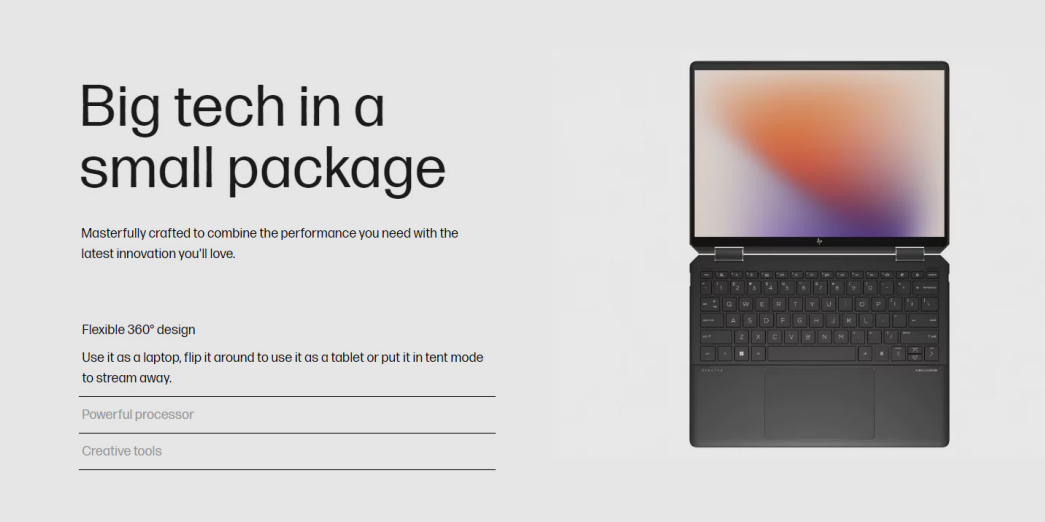
Source: Ex. 58, HP Spectre X360 Homepage

Table 1. Media codec support

Processor Graphics	JPEG	MJPEG	MPEG-2 (H.262)	MPEG-4 AVC ¹ (H.264) 8-bit 4K	MVC (H.265)	HEVC ^{1,2} (H.265) 8 bit 4:2:0	HEVC ^{1,2} (H.265) 10 bit 4:2:0	HEVC (H.265) 12 bit
Intel® Discrete Graphics								
Intel® Iris® Xe MAX Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
11th Generation Intel® Core™ Processors								
Intel® Iris® Xe Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only

Source: Ex. 59, Intel Graphics Tech Specs

289. Additionally, HP instructs and encourages users to use the HP Accused Products in a manner that infringes the Asserted Claims of the '321 Patent by advertising the products' ability to stream and watch video:



Source: Ex. 60, HP Spectre X360 Advertisement

290. Additionally, on information and belief, HP publishes customer reviews of the HP Laptop Accused Products that show its customers actually use the HP Laptop Accused Products to stream and record video:

Valerie C.
Verified Purchaser
Roseville, CA
Review 1
Vote 1

★★★★★
My second HP Spectre
6 days ago

I've only had this laptop for a few days, so I'm not able to provide a complete review. I will say that I've owned another Spectre for 7 years and still love it. I only purchased this new one after the battery I purchased from Amazon to replace the original one overheated and caused the components to buckle and several keys no longer registered. I bought this at a great sale price no knowing if the other one would survive a repair. The old one also didn't accommodate Windows 11, so I'd likely have to replace it in a few years anyway. Specifically, I love the graphics, speed, storage space, soft touch keyboard and sleek design. I chose the 16" display again as I prefer a bigger screen over having a small, lighter laptop. The only thing I'd like more is having a dedicated numeric keypad. The Spectre is on the high end of HP laptops but worth it to me for the functionality I need. For the last 15+ years, I've had HP computers and printers exclusively and have been very happy with them. No major issues (except a failed printer head in one of my printers that was irreparable and had to be replaced). I will remain an HP customer as long as they continue to produce quality devices.

☒ Yes, I recommend this product.

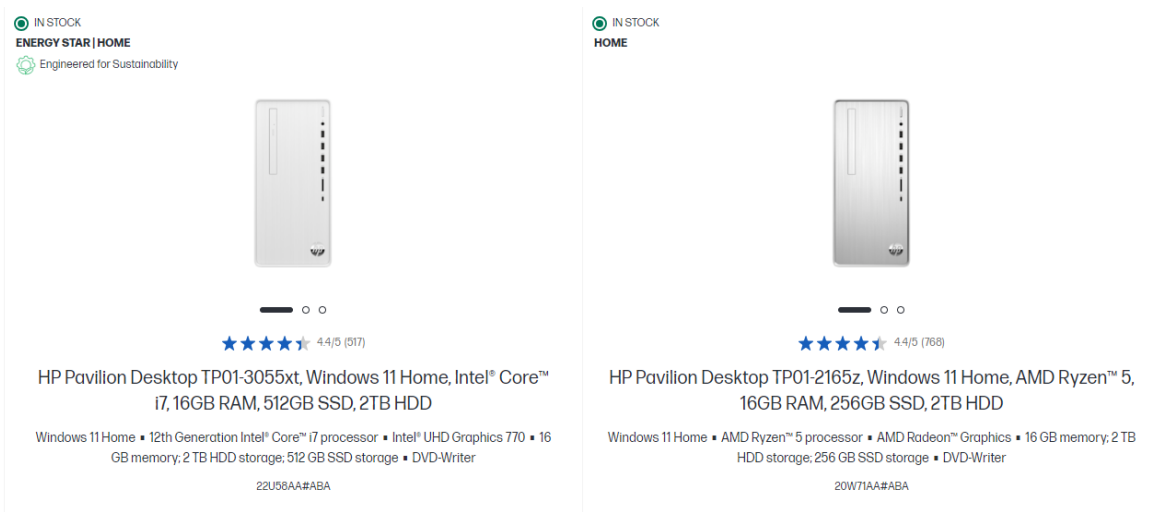
Originally posted on HP Spectre x360 2-in-1 Laptop 16-f2047nr

Helpful? (1) (0) [Report](#)

Source: Ex. 61, HP Spectre Device Reviews

291. As another example of HP’s infringement, HP manufactures and sells desktop computers with graphics processing units that encode video into H.264 and H.265-compliant video formats and/or decode H.264 and H.265-compliant video (the “HP Desktop Accused Products”).

An example of an HP Desktop Accused Product is the HP Pavilion Series of Desktop PC, which includes either an Intel UHD Graphics 770 or an AMD Radeon Graphics processor.



Source: Ex. 62, HP Pavilion Homepage

Processor Graphics	JPEG	MJPEG	MPEG-2 (H.262)	MPEG-4 AVC ¹ (H.264) 8-bit 4K	MVC (H.265)	HEVC ^{1,2} (H.265) 8 bit 4:2:0	HEVC ^{1,2} (H.265) 10 bit 4:2:0	HEVC (H.265) 12 bit
Intel® Discrete Graphics								
Intel® Iris® Xe MAX Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
11th Generation Intel® Core™ Processors								
Intel® Iris® Xe Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only
Intel® UHD Graphics for 11th Gen	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Decode only

Source: Ex. 63, Intel 11th and 12th Gen Tech Specs

Encode Features for 11th and 12th Generation Intel® Core™ Processors

12th Generation Intel® Core™ Processors:

- Intel® UHD Graphics 770
- Intel® UHD Graphics 730
- Intel® UHD Graphics 710
- Intel® Iris® Xe MAX Graphics
- Intel® UHD Graphics

11th Generation Intel® Core™ Processors:

- Intel® Iris® Xe MAX Graphics
- Intel® UHD Graphics
- Intel® UHD Graphics 750

Source: Ex. 63, Intel Supported Codecs

HEVC	8-bit, 4:2:0 (NV12)	✓16k
	10-bit, 4:2:0 (P010)	✓16k
	8-bit, 4:4:4 (AYUV)	✓16k
	10-bit, 4:4:4 (Y410)	✓16k
	I frame	✓16k
	Low Delay B	✓
	Random access B	✓
	Screen Content Coding (SCC)	✓
	BRC modes	• CBR • VBR • LA • LA_ICQ • LA_EXT • LA_HRD • QVBR

Source: Ex. 64, Intel Supported Codecs

MODEL		H265/HEVC DECODE	H265/HEVC ENCODE
Compare		All	All
+	☐ AMD Radeon™ RX 7900 XTX	Yes	Yes
+	☐ AMD Radeon™ RX 7900 XT	Yes	Yes
+	☐ AMD Radeon™ RX 7900 GRE	Yes	Yes
+	☐ AMD Radeon™ RX 7600	Yes	Yes
+	☐ AMD Radeon™ RX 7600M XT	Yes	Yes
+	☐ AMD Radeon™ RX 7600M	Yes	Yes
+	☐ AMD Radeon™ RX 7700S	Yes	Yes
+	☐ AMD Radeon™ RX 7600S	Yes	Yes

Source: Ex. 65, AMD Radeon Tech Specs

292. Additionally, HP publishes customer reviews of the HP Laptop Accused Products that show its customers actually use the HP Laptop Accused Products to stream and record video:

Mark S., West Reading, PA

Verified Purchaser

Review 1

Votes 2

★★★★★

A Good Choice

15 days ago

Impressive hardware performance all around. The video is sharp, clear, and responsive; the audio has plenty of power and range. Most of my nitpicking would be along the lines of software and ergonomics, and both of those issues are a matter of getting used to a new machine and making settings tweaks, although going from Windows 10 to 11, along with trying to tame the insistent permission requests and find where they hid settings that used to be relatively instantly accessible, has proven a bit of a challenge. Of the machine itself, though, it's very much what I expected from the descriptions, and I'm very pleased with this choice.

Yes, I recommend this product.

Helpful? (2) (0) Report

Source: Ex. 66, HP Pavilion Reviews

293. HP knowingly and intentionally induces users of one or more of the HP Accused Products to directly infringe one or more claims of the '321 Patent by encouraging, instructing, and aiding one or more persons in the United States, including HP employees who test and operate Accused Products at the direction of HP, to make, use (including testing those devices and methods), sell, or offer to sell one or more of the HP Accused Products, during or after such

article's importation into the United States, in a manner that infringes the '321 Patent. *See* Ex. 46, Full Accused Product List.

294. For example, as seen in the HP publications above, HP advertises the HP Spectre X360 laptop series and HP Pavilion desktop series on its website so that consumers may purchase and use the products, thus inducing its customers to also infringe the '321 Patent. On information and belief, HP also advertises other HP products that infringe the '321 Patent on its website for consumer purchase.

295. On information and belief, HP was aware of the '321 Patent or acted with willful blindness as to the existence of the '321 Patent at least as a result of the filing and service of this complaint. Additionally, Nokia asserted the '321 Patent against HP in the United States District Court for the District of Delaware on October 31, 2023, before filing this Complaint. Nokia informed HP that it was infringing the '321 when it disclosed the '321 Patent and a corresponding list of infringing HP products to HP in July 2020, and again in August 2021.

296. On information and belief, HP contributes to the infringement of one or more claims of the '321 Patent by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

297. Claim charts that applies each of the asserted independent claims of the '321 Patent to the HP Accused Products are attached as Ex. 41a and 41b. The H.264 and H.265 Standards referenced in the claim charts can be found in Exs. 49 and 50.

2. Amazon

298. On information and belief, the Accused Products that are sold for importation, imported, and/or sold within the United States after importation by Amazon infringe at least Claims 8, 9, 10, and 11 of the '321 Patent, either literally or under the doctrine of equivalents.

299. On information and belief, Amazon directly infringes one or more claims of the '321 Patent through its manufacture, sale for importation, importation, use, and sale after importation of one or more of the Amazon Accused Products.

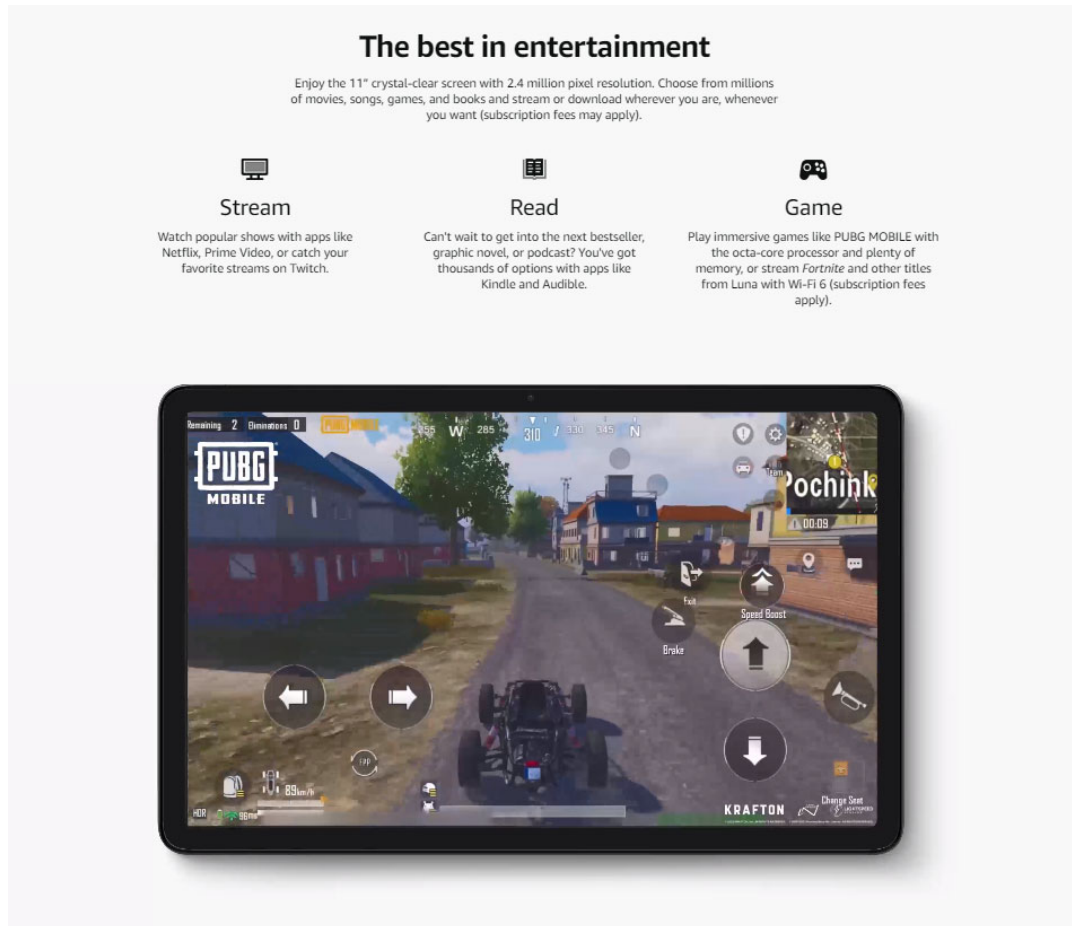
300. Any implementation of the inventions in the Amazon Accused Products infringes the asserted claims of the '321 Patent. For example, because the asserted decoding claims of the '321 Patent are essential to the H.264 and H.265 Standards, the Amazon Accused Products' incorporation of the H.264 and H.265 Standards infringes the asserted decoding claims of the '321 Patent.

301. As just one example of Amazon's infringement, Amazon manufactures and sells tablets with graphics processing units that decode H.265-compliant video (the "Amazon Tablet Accused Products"). An example of an Amazon tablet Accused Product is the Amazon Fire Max 11 tablet, which is capable decoding H.265-compliant video.

VIDEO CODECS	H.263	D (HW) baseline, 1080P@60fps
	H.264 AVC	D (HW) Constrained Baseline, Main Profile, High profile, L5.0 1080p@60FPS (secure) / 2K@60FPS (non-secure), E (HW)
	H.265 HEVC	D(HW) Main Profile, L5.0 1080p@60FPS (secure) / 2K@60FPS (non-secure)
	MPEG2	D (HW) Main Profile @High 1080P@60FPS
	MPEG4	D (HW) Advanced Simple Profile@L5, Simple Profile@L6 1080P@60FPS
	VP8	D (HW)
	VP9	D (HW) Profile 0/2 1080P@60FPS (secure) / 2K@60FPS (non-secure)
	AV1 with film grain	Supported
	VC-1	Not supported
VIDEO FEATURES	Low Latency Video	Supported
	H.264 DRM	Supported
	H.265 DRM	Supported
	OpenGL	ES 3.2

Source: Ex. 67, Amazon Fire Max Tech Specs

302. Additionally, Amazon instructs and encourages users to use the Amazon Accused Products in a manner that infringes the Asserted Claims of the '321 Patent by advertising the products' ability to stream and watch video:



Source: Ex. 68, Amazon Fire Max Advertisement

303. Additionally, on information and belief, Amazon publishes customer reviews of the Amazon Tablet Accused Products that show its customers actually use the Amazon Tablet Accused Products to stream and record video, and that customers choose the Amazon Tablet Accused Products specifically for their video streaming capabilities:



XRYche

★★★★★ **A surprisingly capable budget/low mid-range tablet focused on video entertainment.**

Reviewed in the United States on August 9, 2023

Digital Storage Capacity: 64 GB | Offer Type: With Lockscreen Ads | Color: Gray | Style: Amazon Fire Max 11 | **Verified Purchase**

Full disclosure.....I went from a Fire HD 8 (2020) (Tablet is still working btw and has been relegated to the closet shelf as a back-up.) tablet to this so the bias should be obvious. Regardless this tablet seems to be brighter and more vivid than my previous Fire tablet, the resolution is obviously better as well as it being much more powerful. It can even play some games more advanced than Candy Crush and such.

Now with that being said.....this tablet is NOT, by any means, a "productivity" tablet. It is mid-range budget tablet that is capable of performing some light productivity tasks. This tablet is also NOT an iPad competitor in any way, shape or form either. What it is is a seemingly well built Amazon-centric budget mid-range entertainment tablet which is what I am looking for (Minus the Amazon-centric part which I can overlook since there are methods to get around this. P.S. If Amazon put a stop to these methods I would never buy a Fire tablet.).

As far as the price goes though I would not pay a cent over 200 USD for this tablet. It simply isn't worth it, not for a budget/low-end mid-range tablet with a forked, obsolete and gimped Android OS. Luckily I only paid 150 USD on Prime Day and paying only 30 USD a month over a 5 month period using Amazon's interest-free financing service they offer on a lot of their branded products. Going this route this tablet is worth the price.



Julianna

★★★★★ **just WOW**

Reviewed in the United States on July 29, 2023

Digital Storage Capacity: 128 GB | Offer Type: Without Lockscreen Ads | Color: Gray | Style: Amazon Fire Max 11 | **Verified Purchase**

Ok...old woman (here again!) First, I must say, I have many Fire products. the old Fire HDX is my all time favorite, and I hoard them..still use them...i love the size, quality, and it is MY PREFERRED device. BUT...i have an iPad mini, which is the next fav, and a few others.

I got this on a whim (and to help prolong the lives of my old HDX's) because it sounded pretty good, and the price was great. I LOVE IT!

I've played around with it for a week or so now...Lots of time on my hands now, so I read a lot, lots of Brit mystery viewing, reading the Post and Times, playing Queen Bee...ha. point being I use it quite a bit. The battery lasts VERY long...at least the 10 hours or more. The quality of the **videos** is EXCELLENT!!!!!! I am veryyy pleased with that!! It doesn't stutter like a few of my Fire products, which is great. Fast!! Highly recommend it

Cons-- yeah, but they're just personal. It's a large device and awkward for my small hands. If there were a 7 inch of this quality, I'd have 3 of them....no lie. It does take a little time to charge tho....ah well.

Seriously thinking about the keyboard...we'll see.

Helpful

Report

Source: Ex. 69, Amazon Fire Max Reviews

304. As another example of Amazon's infringement, Amazon manufactures and sells streaming devices with graphics processing units that decode H.264 and H.265-compliant video (the "Streaming Device Accused Products"). An example of such a Streaming Device Accused Product is the Amazon Fire TV Stick 4K, which Amazon advertises is capable of decoding H.264 and H.265-compliant video.

Size	99 mm x 30 mm x 14 mm (only housing) 108 mm x 30 mm x 14 mm (including the connector)
Weight	53.6 g
Processor	Quad-core 1.7 GHz
GPU	IMG GE8300
Storage	8 GB
Wifi	Dual-band, dual-antenna wifi (MIMO) for faster streaming and fewer dropped connections than standard wifi. Supports 802.11a/b/g/n/ac wifi networks.
Bluetooth	Bluetooth 5.0 + LE. Pair with compatible Bluetooth speakers, headphones, video game controllers, and more.
Voice support	Yes, with the Alexa Voice Remote (included) or free Fire TV app (available for download on Fire OS, Android, and iOS)
IR Device Control with included Alexa Voice remote	The included Alexa Voice Remote can control the Fire TV Stick 4K and certain functions (such as power and volume) on a wide range of compatible IR-enabled devices, including TVs, soundbars and A/V receivers. Note: Certain functions may not be available on some IR-enabled devices.
Cloud storage	Free cloud storage for digital content purchased from Amazon
Ports	HDMI output, micro-USB for power only.
Audio support	Dolby Atmos, 7.1 surround sound, 2-channel stereo, and HDMI audio pass through up to 5.1.
4K support	To watch movies and TV shows in 4K Ultra HD, you need a compatible Ultra HD TV. All services may not be available in 4K/HDR. Certain services are subject to change at any time, may not be available in all areas, or in 4K/HDR, and may require separate subscriptions. Learn more about services.
Content formats supported	Video: Dolby Vision, HDR 10, HDR10+, HLG, H.265, H.264, VP9 Audio: AAC-LC, AC3, eAC3 (Dolby Digital Plus), FLAC, MP3, PCM/Wave, Vorbis, Dolby Atmos (EC3_JOC), Photo: JPEG, PNG, GIF, BMP
Output resolution supported	2160p, 1080p and 720p up to 60 fps

Source: Ex. 70, Amazon Fire Stick Tech Specs

305. Additionally, Amazon instructs and encourages users to use the Amazon Streaming Device Accused Products in a manner that infringes the Asserted Claims of the '321 Patent by advertising the products' ability to stream and watch video:



Watch live TV and free TV

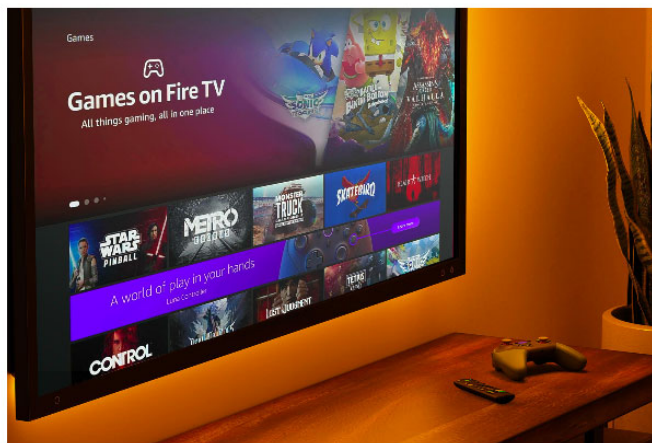
Stream live TV, including news and sports, with subscriptions to Hulu+ Live TV, SLING TV, YouTube TV, and others. Plus, watch movies and TV shows for free with ad-supported apps like Pluto TV, Amazon Freevee, and more.



TV is just the beginning

Fire TV is always getting smarter with new Alexa skills and voice functionality. View live camera feeds, check the weather, order a pizza, and stream music. Learn more about compatible smart home devices.

"Alexa, show the nursery."



Games on Fire TV

No matter what kind of gaming you're into, Games on Fire TV has you covered. Play games like you stream movies with Amazon Luna or download games from the Appstore. If you're an Amazon Prime member, you can play a rotating selection of games free on Luna.

Source: Ex. 71, Amazon Fire Stick Tech Advertisement

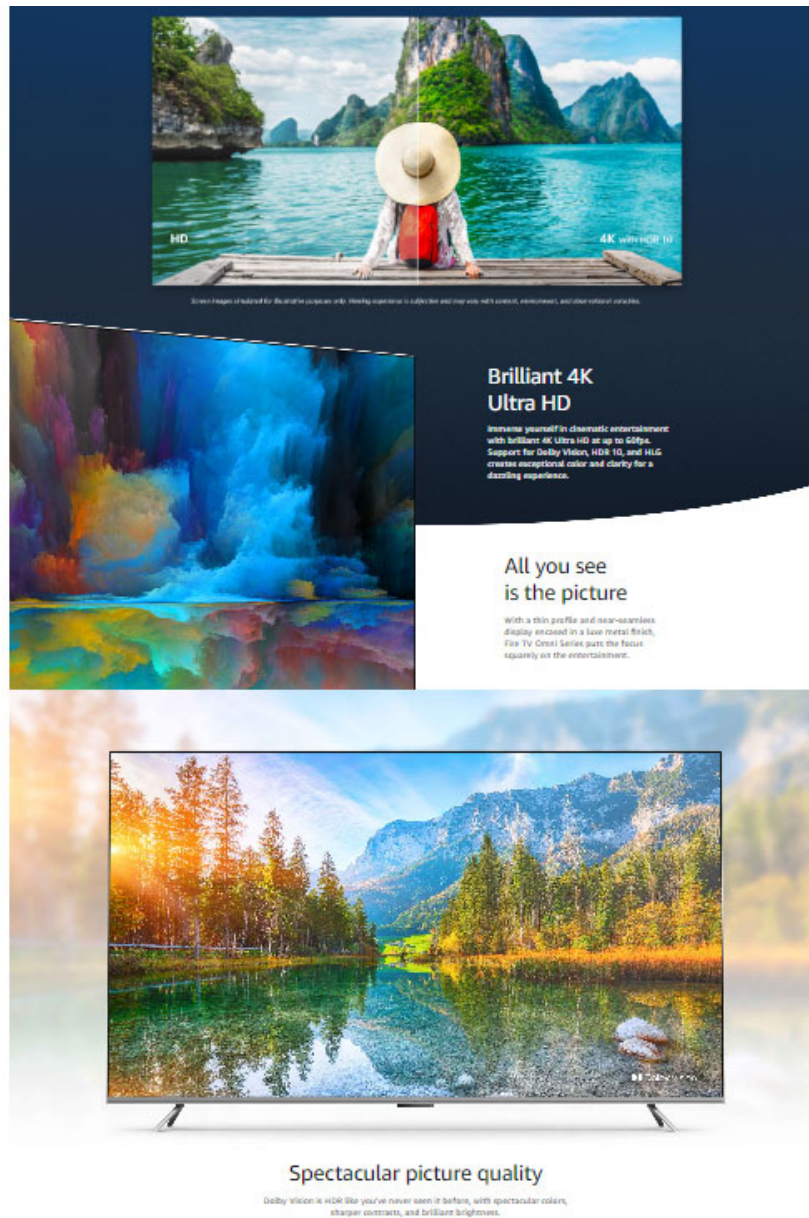
306. As an additional example of Amazon's infringement, Amazon manufactures and sells televisions with graphics processing units that decode H.264 and H.265-compliant video. An example of an Amazon television Accused Product is the Amazon Fire TV, is capable of decoding H.264 and H.265-compliant video.

Video codecs

- **Dolby-Vision**
 - Resolutions/frame rates: Up to UHD@60
 - Profiles: 4-MEL, 5, 8, 9, and 10
 - Codecs: AVC (profile 9), HEVC (profile 4-MEL, 5 and 8), AV1 (profile 10)
 - OTT four-character codes: hvc1, dvh1, hev1, dvhe, avc1
 - Dolby Vision box types: dvcC, dvvC
 - Adaptive streaming formats: DASH, HLS, HLS using fMP4
- **H.265 HEVC**
 - Max Resolution: 2160p
 - Min Profile: Version 1, Main, Main 10, 10-bit support Min
 - Level: 5.1, Main Tier
 - Max frame rate: 720p @ 60fps, 1080p @ 60fps, 2160p @ 60fps
 - Secure (PlayReady and Widevine DRMs) and clear (non-secure) contexts
 - Support for dynamic resolution switch down to or up from lower resolution
 - Number of reference frames required will be based on level, profile, and resolution. Refer to [Profiles \(High Efficiency Video Coding\)](#)
 - Color Space: Rec. 601 & Rec. 709 (secure or unsecure), Rec. 2020
- **H.264 AVC**
 - Secure or un-secure
 - Max Resolution: 2160p
 - Min Profile/Level: Main Profile @ Level 5.1, High Profile @ Level 5.1
 - Max frame rate: 720p @ 60fps, 1080p @ 30fps, 1080p @ 60fps, 2160p @ 30fps, 2160p @ 30fps (limited support)
 - Secure (PlayReady and Widevine DRMs) and clear (non-secure) contexts
 - Support for dynamic resolution switch down to or up from lower resolution
 - Number of reference frames required will be based on level, profile, and resolution. Refer to [Levels \(Advanced Video Coding\)](#)

Source: Ex. 72, Amazon Fire TV Tech Specs

307. Additionally, Amazon instructs and encourages users to use the Amazon Accused Products in a manner that infringes the asserted decoding claims of the '321 Patent by advertising the products' ability to decode video:



Source: Ex. 73, Amazon Fire TV Advertisement

308. Additionally, on information and belief, Amazon publishes customer reviews of the Amazon Television Accused Products that show its customers actually use the Amazon Television Accused Products to stream video:

 **This is not a ginger ale!**

★★★★★ **high-quality smart TV with an immersive viewing experience**

Reviewed in the United States on July 17, 2023

Size: 50-inch | Configuration: TV only | **Verified Purchase**

If you're looking for a feature-packed television that seamlessly integrates with your smart home devices and provides stunning picture quality, this TV is an excellent choice.

The first thing that impressed me about this smart TV is its picture quality. The 4K Ultra HD resolution delivers crystal-clear and vibrant visuals, bringing your favorite movies, TV shows, and streaming content to life. The colors are rich and accurate, and the contrast is excellent, providing a truly immersive viewing experience. Whether you're watching action-packed movies or enjoying nature documentaries, the picture quality of this TV is truly impressive.

 **Male in Atlanta**

★★★★☆ **Impressive Tech, But There's a Catch!**

Reviewed in the United States on June 15, 2023

Size: 55-inch | Configuration: TV only | **Verified Purchase**

Hey all! Let's talk about the Amazon Fire TV 55" Omni Series. It's a strong contender in the Smart TV market, scoring a solid 4 out of 5 stars from me.

The picture quality on this 4K UHD TV is stunning, honestly, it's like being at the movies. Everything is crisp, vibrant and immersive, which is perfect for my binge-watching sessions!

One of the standout features is the hands-free Alexa. It's pretty cool being able to control your TV with voice commands. However, and this is where it loses a star, every time I switch on the TV, I have to physically select the Fire user profile with the remote. Kinda defeats the purpose of hands-free convenience, right? A bit of a bugbear for me.

The rest of the Fire interface is user-friendly, though, with easy access to Prime Video, Netflix, Disney+, and more. It's a breeze to navigate, once you get past the initial hiccup.

As for value, you're getting a lot of bang for your buck here. The price is reasonable when you consider the picture quality and smart features, minus that one little annoyance.

So there you have it. A pretty fantastic TV that needs to work out one small kink. If you can live with the manual profile selection issue, it's definitely a great choice. Four stars from me!

105 people found this helpful

Source: Ex. 74, Amazon Fire TV Reviews

309. Amazon knowingly and intentionally induces users of one or more of the Amazon Accused Products to directly infringe one or more claims of the '321 Patent by encouraging, instructing, and aiding one or more persons in the United States, including Amazon employees who test and operate Amazon Accused Products at the direction of Amazon, to make, use (including testing those devices and methods), sell, or offer to sell one or more Amazon Accused

Products, during or after such article's importation into the United States, in a manner that infringes the '321 Patent. *See* Ex. 46, Full Accused Product List.

310. For example, as seen in the Amazon publications above, Amazon advertises the Amazon Fire Tablet, Amazon Fire Stick 4K, and Amazon Fire TV on its website so that consumers may purchase and use the product, thus inducing its customers to also infringe the '321 Patent. On information and belief, Amazon also advertises other Amazon products that infringe the '321 Patent on its website for consumer purchase.

311. On information and belief, Amazon was aware of the '321 Patent or acted with willful blindness as to the existence of the '321 Patent at least as a result of the filing and service of this complaint. Additionally, Nokia asserted the '321 Patent against Amazon in the United States District Court for the District of Delaware on October 31, 2023, before filing this Complaint. Nokia informed Amazon that it was infringing the '321 Patent in 2015.

312. On information and belief, Amazon contributes to the infringement of one or more claims of the '321 Patent by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

313. Claim charts that apply each of the asserted independent claims of the '321 Patent to the Amazon Accused Products are attached as Ex. 42a and 42b. The H.264 and H.265 Standards referenced in these claim charts can be found in Exs. 49 and 50.

VIII. SPECIFIC INSTANCES OF UNFAIR IMPORTATION AND SALE

314. Respondents have imported Accused Products and sold the Accused Products after importation, thereby infringing one or more valid claims of the Asserted Patents.

A. HP

315. On information and belief, the HP Accused Products are manufactured outside of the United States and imported into the United States. The HP Accused Products are sold by HP for importation into the United States, imported by or on behalf of HP, and/or sold by HP within the United States after importation. For example, HP's most recent financial statement notes that HP "rel[ies] on manufacturers in Taiwan for the production of notebook computers and other suppliers in Asia for product assembly and manufacture." Ex. 78, HP 2023 Financial Report at 15.

316. Additionally HP maintains product development and manufacturing facilities in at least Chonqing, Shanghai, China; Bangalore, India, Penang; Malaysia; Singapore; Pangyo, South Korea; and Taipei, Taiwan. *Id.* at 29.

317. Moreover, HP claims to "utilize a significant number of outsourced manufacturers ("OMs") around the world to manufacture HP-designed products." *Id.*

318. HP reported on July 18, 2023 that its output outside of China this year may be as many as 5 million units of HP laptops, including, on information and belief, the HP Accused Products. Ex. 79, Nikkei Announcement regarding HP.

319. HP shipped 55.2 million PCs worldwide in 2022. *Id.*

320. Additionally, in 2023, HP announced its plans to shift production of millions of consumer laptops to Thailand and Mexico. *Id.*

321. As late as August 30, 2023, HP had applied to an incentive program in India to make laptops and tablets in the country. Ex. 80, Reuters HP India Report. The program is expected to involve \$300 million and bring 75,000 direct jobs to India. *Id.*

322. Additionally, attached as Ex. 81 are exemplary bills of lading in which HP is listed as the purchaser and consignee of shipments of the HP Accused Products identified by Harmonized Tariff Schedule number being imported into the United States.

323. Moreover, attached as Ex. 82 are photos of an HP Spectre X360 Laptop which was shipped by HP Inc. from a location in Jiangsu, China to Millington, Tennessee. Ex. 82 at 1, HP Packaging photos. In addition, the product shipped in the packaging is marked with HP's logo and indicates that it was "Made in China." *Id.* at 6. The Accused Products continue to be offered for sale and sold after importation on and after October 31, 2023. Ex. 82.a.

324. Given the large number of HP Accused Products, it is not practical for Nokia to identify all of HP's Accused Products sold for importation into the United States, imported into the United States, and/or sold within the United States after importation. Nokia reserves its right to supplement its allegations, to amend the Complaint and to add respondents in the future.

B. Amazon

325. On information and belief, the Amazon Accused Products are manufactured outside of the United States and imported into the United States. The Amazon Accused Products are sold by Amazon for importation into the United States, imported by or on behalf of Amazon, and/or sold by Amazon within the United States after importation.

326. Starting in 2021, Amazon announced that it would "be able to produce hundreds of thousands" of [Amazon Fire] devices a year" at its plant located in Chennai, India. Ex. 83, Nikkei Report Regarding Amazon.

327. On June 24, 2023, Amazon stated that it would increase its investments in India to \$26 billion by 2030. Ex. 84, Reuters Amazon India Announcement.

328. For example, attached as Ex. 85 are exemplary bills of lading in which Amazon is listed as the purchaser and consignee of shipments of the Amazon Accused Products identified by Harmonized Tariff Schedule number being imported into the United States.

329. Moreover, attached as Ex. 86 are photos of an Amazon Fire Max 11 and an Amazon Fire TV Stick. Ex. 86, Packaging of Amazon Accused Devices. On information and belief, both products were assembled abroad and imported into the United States. The packaging for the Amazon Fire Max 11 state that it as “Engineered by Amazon, assembled in China” and the packaging for the Amazon Fire TV Stick state that it was “Engineered by Amazon, assembled in Vietnam.” *Id.* at 3, 5. The Accused Products continue to be offered for sale and sold after importation on and after October 31, 2023. Ex. 86.a.

330. Given the large number of Amazon Accused Products, it is not practical for Nokia to identify all of Amazon’s Accused Products sold for importation into the United States, imported into the United States, and/or sold within the United States after importation. Nokia reserves its right to supplement its allegations, to amend the Complaint and to add respondents in the future.

IX. HARMONIZED TARIFF SCHEDULE NUMBERS

331. On information and belief, the HP Accused Products have been imported into the United States under at least the following Harmonized Tariff Schedule numbers: 8471.30.9000, 8471.30, 8474.41, and 8471.50. *See*, Ex. 81, HP Bills of Lading. These numbers are exemplary, and Complainants will provide updated Harmonized Tariff Schedule numbers as they are discovered throughout the course of the investigation.

332. On information and belief, the Amazon Accused Products have been imported into the United States under at least the following Harmonized Tariff Schedule numbers: 8471.30.9000, 8471.30, 8474.41, and 8471.50. *See*, Ex. 85, Amazon Bills of Lading. 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

333. The '818 Patent was the subject of a civil action in the United States District Court for the Eastern District of North Carolina filed by Nokia Technologies OY on September 25, 2019, naming Lenovo (Shanghai) Electronics Technology Co. Ltd., Lenovo Group, Ltd., Lenovo Beijing, Ltd., Lenovo Pc Hk Limited, and Lenovo (United States), Inc. (collectively, "Lenovo") as Defendants. *See Nokia Techs. OY v. Lenovo (Shanghai) Electronics Technology Co. Ltd. Et Al*, No. 5:19-cv-00427 (E.D.N.C.). The case settled in 2021.

334. In 2020, Nokia asserted the '818 Patent against Lenovo at the International Trade Commission. The Commission instituted Investigation No. 337-1208, which terminated based on a settlement agreement on May 4, 2021.

335. Concurrent with the filing of the present Complaint, Nokia is filing complaints in the United States District Court for the Eastern District of Texas against HP and Amazon, each alleging infringement of the '818, '714, '267, '991, and '321 Patents, among other claims. The litigation is ongoing.

XI. DOMESTIC INDUSTRY

336. An industry as required by Section 337(a)(2) and as defined by Section 337(a)(3) exists in the United States. Nokia, by and through its licensees, have made significant investments in plants and equipment, employed significant labor and capital, and made substantial investments

in engineering and research development related to products and services that embody the Asserted Patents.

A. Technical Prong - Products that Practice the Asserted Patents

337. As stated above, for purposes of this Complaint, Nokia submits that various Microsoft and Samsung devices capable of encoding video into H.264 and H.265-compliant video formats and/or decoding H.264 and H.265-compliant 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 the Asserted Patents:

U.S. Patent No.	Example of Domestic Industry Products
7,724,818	<i>See Ex. 7</i>
10,536,714	<i>See Ex. 16</i>
11,805,267	<i>See Ex. 25</i>
8,077,991	<i>See Ex. 34</i>
8,050,321	<i>See Ex. 43</i>

338. Exs. 8a-9b contain claim charts showing that Microsoft and Samsung Domestic Industry Products practice at least Claim 6 of the ’818 Patent through the use of a decoder.

339. Exs. 17-18 contain claim charts showing that Microsoft and Samsung Domestic Industry Products practice at least Claim 9 of the ’714 Patent through the use of a decoder.

340. Exs. 26-27 contain claim charts showing that Microsoft and Samsung Domestic Industry Products practice at least Claim 19 of the ’267 Patent through the use of a decoder.

341. Exs. 35-36 contain claim charts showing that Microsoft and Samsung Domestic Industry Products practice at least Claim 22 of the ’991 Patent through the use of a decoder.

342. Exs. 44a-45b contain claim charts showing that Microsoft and Samsung Domestic Industry Products practice at least Claim 8 of the '321 Patent through the use of a decoder.

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

343. Nokia's domestic industry is based on the significant and substantial investments in the research, development, engineering, testing, readying-for-market, servicing, and support of the Domestic Industry Products in the United States made by licensees Microsoft and Samsung.

344. These activities comprise a significant investment in plant and equipment and significant employment of labor or capital, for the Domestic Industry products, and a substantial investment in the exploitation of the Asserted Patents engineering, research, and development under Section 337(a)(3)(A), (B), and (C), respectively.

1. Microsoft Corporation

345. Nokia relies on Microsoft Surface and Xbox devices ("Microsoft Domestic Industry Products") to establish domestic industry for all of the Asserted Patents under Section 337(a)(3)(A), (B), and (C).

346. On September 2, 2013, Nokia Corp. agreed to sell substantially all of its Devices and Services business to a subsidiary of Microsoft Corporation ("Microsoft") and subsequently granted Microsoft a certain non-exclusive license to part of Nokia Corp.'s patent portfolio, including licensing the Asserted Patents to the Microsoft domestic industry products identified below. *See* Ex. 53, Patent License Agreement between Nokia and Microsoft. As part of that transaction, Nokia Inc., which was a fully owned subsidiary of Nokia Corp., became a fully owned subsidiary of Microsoft.

347. Since then, Microsoft has developed and released several generations of its flagship Xbox video game system and Surface line of personal laptops that practice the Asserted Patents.

This involved, as explained below, 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.

348. Each of the identified Surface and Xbox products included in the attached list of Microsoft Domestic Industry Products and corresponding claim charts decodes video in accordance with the H.265 Standards. *See* Exs. 8, 17, 26, 35, and 44.

349. Each of the Microsoft Domestic Industry Products practices at least one claim of each of the Asserted Patents. *See Id.*

350. In summary, upon information and belief, Microsoft has invested billions of dollars domestically in plant, equipment, labor, and capital in the research, development, engineering related to its Xbox and Surface line of products. A true American mainstay, Microsoft has focused its investments here in the United States on these activities, primarily occurring in Microsoft's Washington state headquarters. Even if only the latest Xbox series is considered, these domestic investments in plant, equipment, labor, and capital number well into the tens or hundreds of millions of dollars, and stand in substantial and significant proportion to any investments that may be made outside the United States with respect to the Xbox series. As demonstrated below, the Xbox hardware and related service comprise a significant and substantial portion of Microsoft's revenue and thus reflect a significant and substantial domestic investment.

351. Microsoft has spent, and continues to spend, significant sums on domestic facilities and equipment related to the Microsoft Domestic Industry Products. Upon information and believe, the majority of Microsoft's investments in plant and equipment relate to the design, development, and engineering of the Microsoft Domestic Industry Products. In the last four fiscal years (2020-2023), Microsoft invested over \$80 billion in property and equipment. *See* Ex. 87 at

61, Microsoft 2023 10-K; Ex. 88 at 60, Microsoft 2022 10-K; Ex. 89 at 57, Microsoft 2021 10-K. In the last four fiscal years (2020- 2023), Microsoft invested over \$15.8 billion in property and equipment investments, over \$201 billion in buildings and improvements, over \$28.5 billion in leasehold improvements, \$227 billion in computer equipment and software, and \$22 billion in furniture and equipment. *See* Ex. 88 at 78, Microsoft 2022 10-K; Ex. 89 at 75, Microsoft 2021 10-K. On information and belief, this property and equipment is located primarily in the United States, as more than half of the 73 properties owned or leased by Microsoft are located in the United States and Microsoft property and equipment are concentrated in the United States Ex. 88 at 37, Microsoft 2022 10-K.¹¹

352. For example, Microsoft has dozens of facilities in the United States, including its headquarters in Redmond, Washington. As of July 27, 2023, Microsoft owns 27 facilities and leases another 20 facilities in the United States. Ex. 87 at 37, Microsoft 2023 10-K. For example, Microsoft has “approximately 16 million square feet of space located in King County, Washington that is used for engineering, sales, marketing, and operations, among other general and administrative purposes. These facilities include approximately 11 million square feet of owned space situated on approximately 530 acres of land [Microsoft] own[s] at [its] corporate headquarters, and approximately 5 million square feet of space [Microsoft leases].” *Id.* 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.

353. Microsoft also 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

¹¹ Microsoft’s fiscal year ends June 30th.

Domestic Industry Products. As of June 30, 2023, Microsoft employs approximately 120,000 full-time employees in the United States. Ex. 87 at 9, Microsoft 2023 10-K. Of the total 221,000 full time Microsoft employees globally, 72,000—nearly a third— work in product research and development, including investments in salary and employee benefits. *Id* at 47. In fiscal year 2023, Microsoft spent \$27.1 billion in research and development, including investments in salary and employee benefits. *Id*. In fiscal years 2022, 2021, and 2020, Microsoft invested \$24.5 billion, \$20.7 billion, and \$19.3 billion, respectively, in research and development, which includes investments in salary and employee benefits. *See* Ex. 88 at 47, Microsoft 2022 10-K. On information and belief, a significant portion of these investments are attributable to research and development personnel working on the Microsoft Domestic Industry Products in the United States. For instance, in 2021, “[r]esearch and development expenses increased \$673 million or 14% driven by investments in cloud engineering and Gaming.” Ex. 90, Microsoft 2021 10-Q1 at 35. And “[o]perating expenses increased \$371 million or 15% driven by investments in Gaming as well as Windows marketing” in 2021. *Id* at 37. In, “[o]perating expenses increased \$4.5 billion or 14% driven by investments in cloud engineering, LinkedIn, Gaming, and commercial sales” which included “\$2.6 billion or 18% driven by investments in cloud engineering and Gaming.” Ex. 91, Microsoft 2022 10-Q3 at 38.

354. Additionally, in fiscal year 2023, Microsoft spent \$22.7 billion in sales and marketing costs, which includes investments in salary and employee benefits. Ex. 75 at 47, Microsoft 2023 10-K. In fiscal years 2022, 2021, and 2020, Microsoft spent \$21.8 billion, \$20.1 billion, and \$19.3 billion, respectively, on sales and marketing costs, which include investments in salary and employee benefits. *See* Ex. 88 at 47, Microsoft 2022 10-K; Ex. 89 at 44, Microsoft 2021 10-K. On information and belief, a significant portion of these investments are attributable to U.S. sales and marketing personnel working on the Microsoft Domestic Industry Products.

355. 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, in fiscal year 2022, Microsoft maintained \$60.6 billion in computer equipment and software. Ex. 88 at 78, Microsoft 2022 10-K. In fiscal year 2023, that number increased to \$74.9 billion. Ex. 87 at 78, Microsoft 2023 10-K.

356. Microsoft has made, and continues to make, substantial investments in engineering and research and development activities related to the Microsoft Domestic Industry Products. *See* Ex. 88 at 54, Microsoft 2022 10-K. In fiscal years 2022, 2021, and 2020, Microsoft invested \$24.5 billion, \$20.7 billion, and \$19.5 billion, respectively, in research and development, which include investments in salary and employee benefits. *See* Ex. 88 at 47, Microsoft 2022 10-K; Ex. 89 at 44, Microsoft 2021 10-K. In fiscal year 2023, Microsoft invested another \$27.1 billion in research and development. Ex. 92 at 47, Microsoft 2023 10-Q1.

357. Microsoft's total revenue increased by more than \$30 billion from 2021 to 2022. Ex. 88 at 57, Microsoft 2022 10-K. For instance, Microsoft's total revenue for 2021 and 2022, respectively, was \$168 billion and \$198 billion. *Id.* at 94. Microsoft's total revenue for 2023 increased to \$211 billion. *Id.* Notably, approximately 50% of Microsoft's total revenue for the years 2021-2023 derived from the United States consumer market alone. *Id.*

358. Microsoft's investments related to its Surface devices that constitute the Microsoft Domestic Industry Products 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 both in absolute terms, and in comparison to worldwide metrics.

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

360. For example, Microsoft operates domestic "Microsoft Research" facilities that develop the Xbox. For example, the Mountain View, California office employs engineers in the Hardware System Group (which develops software for Xbox and implements provisioning tools for manufacturing of these devices) and Silicon Team (which builds custom silicon for hardware parts of Xbox devices). Ex. 94, Microsoft Job Openings. The Redmond, Washington office has software engineering job openings in the Xbox Game Studios Publishing team. *Id.*

361. Microsoft's increases in revenue from 2020 to 2021 were also driven by gaming. Ex. 89 at 45, Microsoft 2021 10-K at 42. For example, Microsoft reported that "[g]aming revenue increased \$3.8 billion or 33% driven by growth in Xbox content and services and Xbox hardware." *Id.* From 2021 to 2022, Microsoft again reported that "[g]aming revenue increased \$860 million or 6% on a strong prior year comparable that benefited from Xbox Series X|S launches and stay-at-home scenarios, driven by growth in Xbox hardware and Xbox content and services." Ex. 88 at 45, Microsoft 2022 10-K. In 2023, Microsoft generated \$15.5 billion in gaming revenue, which includes box content and services, accounting for 7% of Microsoft's yearly revenue. Ex. 87, Microsoft 2023 10-K at 93-95. Further, in 2023, Microsoft generated \$5.5 billion in device revenue, which includes Surface and Xbox sales. *Id.* Thus, Microsoft has made significant investments for the Xbox 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 both in absolute terms, and in comparison to worldwide metrics.

362. Overall, Microsoft's investments in Surface and Xbox establish a domestic industry.

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

2. Samsung

364. Nokia further relies on Samsung TVs, laptops, and tablets ("Samsung Domestic Industry Products") to establish domestic industry for all of the Asserted Patents under Section 337(a)(3)(A), (B), and (C).

365. In summary, Samsung's domestic industry consists of its significant and substantial investments in the research, development, engineering, support, readying for market, and post-sale service activities related to its major product lines in the United States. This includes discrete domestic investments in the following product categories: Samsung Galaxy Mobile Phones, Tablets, and Laptop Computers; Samsung TVs; and Samsung Smart Watches.

366. As discussed below, each of these categories of products alone evidence a substantial domestic industry under prongs (A), (B), and (C). The Samsung Galaxy product line alone undergoes substantial investments in the United States by SEA (defined below) in the research, development, testing, deployment of the Samsung Galaxy product line in the United States. Upon information and belief, the investments in plant, equipment, labor, and capital in the activities discussed herein are significant and substantial in both quantitative and qualitative context.

367. Samsung Electronics Co., Ltd. ("SEC") and its wholly owned American subsidiaries, Samsung Electronics America ("SEA") and Samsung Austin Semiconductor ("SAS")

are licensed to the Asserted Patents for limited uses. Ex. 54A-B, Nokia/Samsung License Agreement.¹²

368. An additional SEC American subsidiary, Samsung Research America, Inc. (“SRA”) conducts significant research and development of Samsung products in the United States.¹³ As a subsidiary of SEC, SRA is also licensed to the Asserted Patents for limited uses. *Id.*

369. In total, SEC has 43 SEC subsidiaries in the Americas, including SEA (which is based in New Jersey and is responsible for the sales of finished products including TVs and handheld products (“HHPs”)), Samsung International Inc. (which is based in California and is responsible for the manufacturing of TVs), Samsung Semiconductor Inc. (which is based in California and is responsible for sales of semiconductors and DPs), SAS (which is based in Texas and is responsible for the manufacturing of semiconductor products), and Harman (which is based in Connecticut and is responsible for the manufacture and design of automotive components). Ex. 87, Samsung Q1 2023 Interim Report.

370. 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 tablets, laptops, handhelds, and other devices in the United States that practice the Asserted Patents, including the Samsung Galaxy smartphones, Samsung Galaxy Tab tablets, and Samsung Galaxy Book Laptops, Samsung Galaxy Watches and Samsung Smart Televisions, among others (“Samsung Domestic Industry Products”).

¹² Pursuant to 19 C.F.R. § 210.12(a)(9)(iv), public versions of the license agreements with Samsung are provided as Exs. 54A and 54B to this Complaint. Nokia is seeking the required consent of and/or has provided the required notice to Samsung to provide full confidential copies of the license agreements, which will be provided as supplemental exhibits to this Complaint.

¹³ For the purposes of this complaint, SEC, SEA, and SRA are collectively referred to as “Samsung.”

371. The Samsung Domestic Industry Products each practice at least one claim of each Asserted Patent. *See* Exs. 9, 18, 27, 36, and 45.

372. 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. Samsung, on information and belief, wholly owns SRA which oversees its own relevant operations in the United States. Ex. 96 at 177, SRA Home Page.

373. In addition, SEA conducts significant activities on behalf of SEC in the United States. For example, SEA employs teams of employees that carry out marketing, sales, corporate support, technology, customer solutions, and public affairs duties. In particular, SEC identifies SEA as "the sales and marketing subsidiary" of SEC which brings "mobile devices, connected appliances, home entertainment, 5G networks and digital solutions to life for people across the nation— to make our days more productive, more delightful, more inspired." Ex. 99, SEA Home Page. SEC identifies SEA as a major subsidiary. SEA's activities include a corporate support team that "serv[es] as the central nervous system of Samsung culture and systems." *Id.*

374. SEA generates substantial revenue for SEC. SEA is part of multiple business segments of SEC. For example, SEA publicly states that its sales team is "[f]irst to get their hands on [Samsung's] new devices, the Consumer Enterprise and Retail Sales teams bring [Samsung's] innovations to the world by driving strong relationships with [its] customers and understanding how [its] technology empowers them." Ex. 99, SEA Home Page. The Technology team, "pioneer[s] to impact the globe and introduce[s] groundbreaking technology and solutions to [Samsung's] customers. *Id.* The marketing team [brings Samsung's] technology to life in the marketplace." *Id.* And the customer solutions team "ensure[s] that [SEC's] customers are care for

and fully empowered, protecting and supporting the invaluable core components of [Samsung's] brand. *Id.*

375. SEA's revenue for the year 2022 was \$34.9 billion, which accounts for 15.4% of SEC's revenue for the year 2022. Ex. 100, SEC 2022 consolidated financial statement. In 2021, SEA recorded \$38.5 billion in sales, which made up 14.4% of SEC's total revenue. Ex. 101, SEC 2021 consolidated financial statement. In both years, SEA was the highest earning subsidiary listed in SEC's annual report. *See* Ex. 100, SEC 2022 consolidated financial statement; Ex. 101, SEC 2021 consolidated financial statement.

376. Given that sales in the Americas constituted approximately 31.1% and 29.2% of Samsung's worldwide sales in fiscal years 2022 and 2021, and 31.7% in Q1 2023, a significant number of Samsung's overall investments detailed below are attributable to its operations in the United States. *See* Ex. 88, SEC 2023 Q1 Interim Securities Report at 14. Samsung has also admitted that "[m]any of Samsung Electronics' products are specifically developed for and tested in the United States." Ex. 102, Amended Complaint ¶ 375, *Certain Active Matrix Organic Light-Emitting Diode Display Panels and Modules For Mobile Devices, and Components Thereof* *Certain Active Matrix Organic Light-Emitting Diode Display Panels and Modules For Mobile Devices, and Components Thereof*, Inv. No. 337-TA-1351, Dkt. No. 3661 (Apr. 24, 2023) ("1351 Investigation").

377. In addition, SRA conducts significant activities on behalf of SEC in the United States. For example, SRA publicly states that it is "headquartered in Silicon Valley" and is "engaged in researching emerging technology to create new business and developing core technology to enhance the competitiveness of Samsung products." Ex. 103, SRA LinkedIn "About" Page. In particular, SRA states that it is involved in Industry and standards, stating

“Experts in these areas work for SRA to insure that these technologies are properly standardized and to inform, educate and support partner companies in growth of these news ways to be entertained.” SRA’s team “also includes many software engineers building tools to help [SRA] innovate faster and to support use by [SRA’s] partners such as in streaming and HDR creation tools.” Ex. 104, SRA “Digital Media: Page. Moreover, SRA has a Standards and Mobility Innovation Team which it describes as “actively engaged in a broad set of global industry standards, including 3GPP, IEEE, MPEG, Matter, FiRa, CSA, CCC, etc.” Ex. 105, SRA “Next Generation Communication” Page. In addition, SRA employees have held leadership positions at ITU, the SSO which promulgated the H.265 Standard. Ex. 106, Press Release: Samsung Researcher Named the Chair of ITU-R 6G vision Group. On information and belief, SRA was also included in the promulgation of the ITU H.265 Standard.

378. Research performed by SRA generates substantial revenue for SEC. SEC’s business divisions are organized in a two-pronged framework consisting of finished products and component businesses. Ex. 95, SEC Q1 2023 Interim Report. The finished product business consists of the DX Division, which is responsible for the production and sales of TVs, monitors, refrigerators, washing machines, air conditioners, HHPs (which includes smartphones), as well as network systems, and computers. *Id.* In the first quarter of 2023, SEC acknowledged that 72.5% of total net sales came from DX products, including, on information and belief, the Samsung Domestic Industry Products partly designed by SRA. *Id.* The DX division has a regional headquarters in New Jersey, and on information and belief, includes SRA. *Id.*

379. Moreover, SAS conducts significant activities on behalf of SEC in the United States. SEC identifies SAS as a major subsidiary. Ex. 97, Samsung 2022 Interim Report, at 25. In the fiscal year ending December 31, 2022, SAS recorded more than \$276 million in sales. *Id.*

380. Since its inception in 1996, SAS has publicly touted its ties to the Austin Texas area, and from that time, it has opened two fabrication plants, an additional expansion, and in 2022, broke ground on a third facility in Taylor Texas, an expected investment of \$17 billion, and which will create 2,000 additional new jobs in Central Texas. Ex. 107, SAS: History Page; Ex. 108, SAS: Taylor Page.

381. On information and belief, SAS directly manufactures processors and chipsets that are used in the Samsung Domestic Industry Products in decoding H.264 and H.265-compliant video and encoding video into H.264 and H.265-compliant formats, including in Samsung Galaxy phones. Ex. 109, List of Samsung Phones that use the Exynos Processor; Ex. 110, Tech Specs of Exynos Automobile and Mobile Processors. On information and belief, the Exynos processors are manufactured in Austin, Texas. *See* Ex. 111, Complaint ¶ 59, *Certain Semiconductor Devices, Wireless Infrastructure Equipment Containing the Same, and Components Thereof*, Inv. No. 337-TA-1254, Dkt. No. 3532 (Feb. 4, 2021) (“Samsung uses the inventions claimed in the Asserted Patents in the controller chip of the 970 EVO Solid-State Disk (‘SSD’), in the Exynos RF 5510 transceiver chip used in its flagship Galaxy S20 and other mobile devices, and in numerous other semiconductor integrated circuit devices fabricated in Austin at SAS”).

382. In addition to manufacturing the chipsets used in certain of the Samsung Domestic Industry Products, on information and belief, SAS also develops its chipsets in its Central Texas facilities. For Example, SAS describes itself as “a foundry focused on developing and producing world-class products to meet customer demands for technology that fuels our lives.” Ex. 112: SAS: US Fab Page.

383. Moreover, research and development activities performed by SAS generate substantial revenue for SEC. For example, SAS hires development engineers that, on information

and belief, develop semiconductors which are used in the Samsung Domestic Industry Products. Ex. 113, Job postings for SAS Engineers.

384. Samsung has spent, and continues to spend, significant sums on domestic facilities and equipment related to the Samsung Domestic Industry Products. In 2021 and 2022, Samsung spent \$36.5 billion and \$38.3 billion, respectively, on the “acquisition of property, plant and equipment.” Ex. 100, SEC 2022 Consolidated Financial Statement at 14; *see also* Ex. 102, 1351 Investigation at 380. “Many of Samsung Electronics’ products are specifically developed for and tested in the United States.” Ex. 102, 1351 Investigation at 375. “Samsung Electronics has spent, and continues to spend, significant sums on domestic facilities and equipment related to its Galaxy Products.” *Id.* at 380. “On information and belief, a substantial portion of these investments occurred in the United States.” *Id.*

385. In particular, SEA is headquartered in Ridgefield Park New Jersey and has facilities in New York, New York; Plano, Texas; Mountain View, California; Bellevue, Washington; and Washington, D.C. Ex. 114, SEA: “Life at Samsung” Page. In total, SRA claims to employ at least 4,000 employees in the United States. In addition, SRA is headquartered in Mountain View, California and has locations in Berkeley Heights, New Jersey; Cambridge, Massachusetts; Irvine, California; Logan, Utah; New York, New York; Plano, Texas; San Francisco, California; and Valencia, California. Ex. 115, SRA: “Locations” Page. Moreover, SEA notes a total of 25 locations in the United States where either SEA or an SEC subsidiary or affiliate has a footprint. Ex. 114, SEA: “Life at Samsung” Page. . Further, SAS maintains a 2.45 million square-foot facility in Austin, Texas, which is used for manufacturing and research and development. Ex. 123, Articles Regarding Samsung United States Investments at 3. Since 1997, Samsung has invested more than \$17 billion to expand and maintain this facility. *Id.* In July of 2022, Samsung filed plans with the

State of Texas seeking to expand its Austin, Texas footprint by an additional \$191.2 billion. *Id.* at 6.

386. Samsung has spent, and continues to spend, significant sums on domestic labor and capital related to the Samsung Domestic Industry Products. *See* Ex. 102, 1351 Investigation ¶ 386. “For example, in 2020 and 2021, Samsung Electronics spent \$18.45 billion and \$19.58 billion in net R&D investment, respectively. . . The United States accounted for approximately 6.1% and 6.3% of total Samsung Electronics non-current assets in 2020 and 2021, respectively. . . Samsung Electronics thus invested approximately \$1.13 billion and \$1.24 billion in research and development in the United States in 2020 and 2021, respectively.” *Id.* ¶ 387.

387. Samsung has employees in the United States who work on various activities related to, upon information and belief, the Samsung Domestic Industry Products. Samsung employs more than 270,000 employees worldwide and, on information and belief, more than 4,000 at SEA alone, most, if not all of which, on information and belief, are located in the United States. Ex. 116, SEA: Where We Work; Ex. 117, Samsung Fast Facts.

388. SEA, SAS, and SRA have made, and continues to make, substantial investments in engineering and research and development activities in Samsung Galaxy smartphones, tablets, laptops, smart watches, and televisions, including, upon information and belief, the Samsung Domestic Industry Products in the United States. For example, Samsung spent \$19.3 billion in R&D costs in 2022, and \$19.9 billion in R&D costs in 2021. Ex. 100 SEC 2022 Consolidated Financial Statement. On information and belief, significant portions of these expenditures are spent on development of the Samsung Domestic Industry Products in the United States. SRA’s U.S.-based engineers develop innovations in video technology for Samsung’s smartphone, television, tablet, and other products, including upon information and belief for the Samsung Domestic

Industry Products. Ex. 118, SRA “Careers” Listing (listing video engineering jobs in California). Additionally, SEA employs engineering and management teams in the United States responsible for developing, marketing, and selling Samsung television, tablet, computer, and other devices, including, on information and belief, the Samsung Domestic Industry Products. *See, e.g.*, Ex. 119, SEA Careers Listing.

389. Further, SRA engineers and other personnel located in the United States are engaged in the planning, development, commercialization, and support for Samsung’s Domestic Industry Products. *See, e.g.*, Ex. 120, LinkedIn Profiles for SRA Personnel Working on Samsung Video Products.

390. Moreover, SEA engineers and other personnel located in the United States are engaged in the planning, development, commercialization, and support for Samsung’s Domestic Industry Products. *See, e.g.*, Ex. 121, LinkedIn Profiles for SEA Personnel Working on Domestic Industry Products.

391. Further, SEA invests in U.S.-based personnel who provide technical support, service, warranty, and repair to Samsung customers in the United States who have purchased SEC devices, including, upon information and belief, the Samsung Domestic Industry Products. For example, SEA recently announced a program in which it partnered with uBreakiFix by Asurion to “bring enhanced device care to even more people nationwide.” Ex. 122, SEA LinkedIn Announcement. According to the announcement, “[b]y the end of 2023, 50 existing uBreakiFix stores will become flagship Samsung Repair Locations with access to specialized equipment, parts inventory and Samsung training,” such that “customers will be able to have their devices back up and running quickly and conveniently, often in the same day.” *Id.*

392. Thus, Samsung's investments related to its Samsung Domestic Industry Products 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 both in absolute terms, and in comparison to worldwide metrics.

393. SEA is expected to provide additional bases and supporting information under this Section.

XII. REQUEST FOR RELIEF

394. In view of the fact that Respondents have each 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:

395. 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 the Respondents' Accused Products that infringe one or more claims of the Asserted Patents;

396. Determine that there has been a violation of Section 337 by each of the Respondents;

397. Issue a permanent limited exclusion order, pursuant to 19 U.S.C. § 1337(d), prohibiting entry into the United States of the Respondents' electronic devices, including the Accused Products that infringe one or more claims of the Asserted Patents that are not essential to a standard;

398. Issue a permanent limited exclusion order, pursuant to 19 U.S.C. § 1337(d), prohibiting entry into the United States of Respondents' respective electronic devices, including the Accused Products that infringe one or more claims of the Asserted Patents that are essential to a standard because the Respondents are unwilling licensees;

399. Issue permanent cease and desist orders, pursuant to 19 U.S.C. § 1337(f), prohibiting the 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' electronic devices, including the Accused Products that infringe one or more claims of the Asserted Patents that are not essential to a standard;

400. Issue permanent cease and desist orders, pursuant to 19 U.S.C. § 1337(f), prohibiting the 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' electronic devices, including the Accused Products that infringe one or more claims of the Asserted Patents that are essential to a standard because the Respondents are unwilling licensees; and

401. Nokia further seeks that the Commission impose a bond upon Respondents to the extent they continue to import the Accused Products during the 60-day Presidential review period pursuant to 19 U.S.C. § 1337(j).

402. 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: October 31, 2023

Respectfully submitted,

/s/ Adam D. Swain

Adam D. Swain
Alston & Bird LLP
950 F Street NW
Washington, DC 20004
Telephone: (202) 239-3300
Facsimile: (202) 239-3333

John D. Haynes
Nicholas T. Tsui
Lindsay Church
Shawn Gannon
Alston & Bird LLP
1201 West Peachtree Street
Atlanta, GA 30309
Telephone: (404) 881-7000
Facsimile: (404) 881-7777

Theodore Stevenson
Alston & Bird LLP
2200 Ross Avenue, Suite 2300
Dallas, TX 75201
Phone: (214) 922-3400
Fax: (214) 922-3899

Warren Lipschitz
wlipschitz@mckoolsmith.com
McKool Smith P.C.
300 Crescent Court, Suite 1500
Dallas, Texas 75201

Telephone: (214) 978-4000
Facsimile: (214) 978-4044

R. Mitch Verboncoeur
mverboncoeur@mckoolsmith.com
McKool Smith P.C.
303 Colorado, Suite 2100
Austin, Texas 78701
Telephone: (512) 692-8700
Facsimile: (214) 978-4044

Josh Newcomer
jnewcomer@mckoolsmith.com
McKool Smith P.C.
600 Travis St., Suite 7000
Houston, Texas 77002
Telephone: (713) 485-7300
Facsimile: (713) 485-7344

Counsel for Complainants
Nokia Technologies Oy and Nokia Corp.

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

In the Matter of

**Certain Video Capable Electronic
Devices, Including Computers,
Streaming Devices, Televisions, 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);

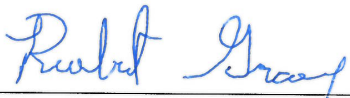
3. I have read the Complaint and am aware of its contents;

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 October 30, 2023.



Robert Gray