

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

SOVEREIGN PEAK VENTURES, LLC,

Plaintiff,

v.

HP INC.,

Defendant.

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JURY TRIAL DEMANDED

C.A. NO. 6:22-cv-917

PLAINTIFF’S COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Sovereign Peak Ventures, LLC (“SPV”) files this Complaint against Defendant HP Inc. (“Defendant” or “HP”) for infringement of U.S. Patent No. 6,925,097 (the “’097 patent”), U.S. Patent No. 7,685,498 (the “’498 patent”), U.S. Patent No. 8,019,169 (the “’169 patent”), U.S. Patent No. 8,737,476 (the “’476 patent”), U.S. Patent No. 8,971,401 (the “’401 patent”), U.S. Patent No. 9,042,457 (the “’457 patent”), U.S. Patent No. 9,414,059 (the “’059 patent”), and U.S. Patent No. 9,667,972 (the “’972 patent”) (collectively, the “Asserted Patents”).

THE PARTIES

1. Sovereign Peak Ventures, LLC is a Texas limited liability company, with a principal place of business in Allen, TX.

2. On information and belief, Defendant HP, Inc. (“HP”) is a Delaware corporation with a principal place of business at 1501 Page Mill Road, Palo Alto, California 94304. HP is registered with the Texas Secretary of State to do business in Texas. HP can be served through its registered agent, CT Corporation System, 1999 Bryan St., Ste. 900, Dallas, Texas 75201-3136.

3. HP is a multinational information technology company and develops and sells personal computers and related supplies. HP sells its products to customers, including customers in this District, in the computer and consumer electronics markets.

4. HP maintains one or more offices within this District, including at 3800 Quick Hill Rd. #100, Austin, Texas 78728.

5. HP operates and owns the hp.com website, and markets, offers, distributes, and provides technical support for its computer products throughout the United States including in this District.

6. HP develops, designs, manufactures, distributes, markets, offers to sell, and/or sells infringing products and services within the United States, including in this District, and otherwise purposefully directs infringing activities to this District in connection with its Austin, Texas office; its hp.com website; and its other places of business in Texas and the rest of the United States. Defendant participates in the design, development, manufacture, sale for importation into the United States, offers for sale for importation into the United States, importation into the United States, sale within the United States after importation, and offers for sale within the United States after importation, of computers that infringe the Asserted Patents.

7. On information and belief, Defendant is engaged in making, using, selling, offering for sale, and/or importing, and/or inducing its subsidiaries, affiliates, retail partners, and customers in the making, using, selling, offering for sale, and/or importing throughout the United States, including within this District, products, such as computers, accused of infringement.

8. The Asserted Patents were invented by employees of Panasonic Corporation (“Panasonic”). Founded in 1918, Panasonic has been at the forefront of the electronics industry for over a century. Panasonic made numerous innovations in the home appliance, battery, mobile

phone, and television industries. Indeed, Panasonic's invention of the "Paper Battery" in 1979 is widely credited as enabling the compact electronics of today. In 1991, Panasonic released the Mova P, the smallest and lightest mobile phone on the market, which revolutionized the industry by showing the demand for a compact, lightweight device. Panasonic also produced the first wide-format plasma display and developed the first digital television for the U.S. market. Panasonic's history of innovation is also borne out by its intellectual property. Indeed, a search of the USPTO database where the patent assignee is "Panasonic" yields over 27,000 matches.

9. Prior to the filing of the Complaint, SPV attempted to engage HP and/or its agents in good faith licensing discussions related to the Asserted Patents, including by providing HP with access to a data room on September 21, 2021, that contained claim charts detailing HP's use of the Asserted Patents. At least HP's Deputy General Counsel and Chief of Intellectual Property and its Associate General Counsel received access to the data room. In October 2021, HP and SPV held technical and licensing discussions. Thereafter, at HP's request, SPV sent on November 3, 2021, technical information in response to HP's questions and in support of SPV's infringement allegations. A second technical and licensing discussion was held on March 6, 2022. During the initial October 28, 2021, discussion SPV provided a non-discriminatory offer to HP to license its portfolio on a worldwide basis, including both implementation and any standards-essential patents in the portfolio, that was reasonable for a license taken in the absence of litigation. Following the second March 6, 2022, meeting HP refused to engage with SPV or respond to SPV's repeated requests to continue the licensing discussions, thus necessitating litigation. HP's past and continuing sales of its devices i) willfully infringe the Asserted Patents and ii) impermissibly take the significant benefits of SPV's patented technologies without fair compensation to SPV.

10. Through offers to sell, sales, imports, distributions, and other related agreements to transfer ownership of Defendant's electronics, such as computers, with distributors and customers operating in and maintaining a significant business presence in the U.S. and/or its U.S. subsidiaries Defendants does business in the U.S., the state of Texas, and in this District.

JURISDICTION AND VENUE

11. This action arises under the patent laws of the United States, namely 35 U.S.C. §§ 271, 281, and 284-285, among others.

12. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

13. This Court has personal jurisdiction over HP in accordance with due process and/or the Texas Long Arm Statute because, in part, HP "recruits Texas residents, directly or through an intermediary located in this state, for employment inside or outside this state." TEX. CIV. PRAC. & REM. CODE § 17.042(3).

14. This Court has personal jurisdiction over HP because HP has engaged, and continues to engage in continuous, systematic, and substantial activities within this State, including the substantial marketing and sale of products within this State and this District. Furthermore, upon information and belief, this Court has personal jurisdiction over HP because HP has committed acts giving rise to SPV's claims for patent infringement within and directed to this District.

15. For example, HP is subject to personal jurisdiction in this Court because, *inter alia*, it has regular and established places of business in this District, including offices and data centers located at 3800 Quick Hill Rd. #100, Austin, Texas 78728. The Travis County Central Appraisal District (CAD) website indicates that HP owns several other offices and properties in Austin

including properties at 7501 N. Capital of Texas Highway, TX 78731; 3301 Hibbets Rd, Austin, TX 78721; 14231 Tandem Blvd, Austin, TX 78728; and 14219 Tandem Blvd, Austin, TX 78728.

16. HP's Austin offices are regular and established places of business at least because these locations include many members of HP's important teams, including Process and Capabilities Manager, Information Systems Architect, Software Engineers, IT Developers/Engineers, and Technical Engineers.

17. HP's website lists over ninety H-1B labor condition applications for people employed in Austin, Texas. Employees holding an H-1B visa are employed in a specialty occupation that requires "theoretical and practical application of a body of highly specialized knowledge . . . and attainment of a bachelor's or higher degree in the specific specialty. . ." See 8 U.S.C. § 1184. HP employees in Austin, Texas are highly specialized and are important to the operation of HP.

18. HP posts job openings for its Austin office, as well as, openings for other cities within this District, such as Waco.

19. HP, directly and through its agents, regularly conducts, solicits, and transacts business in this District and elsewhere in Texas, including through its hp.com website. For example, HP employs sales and marketing employees that regularly sell, offer to sell, or otherwise distribute personal computers in this District and elsewhere in Texas.

20. HP has committed and continues to commit acts of infringement in violation of 35 U.S.C. § 271, and has made, used, marketed, distributed, offered for sale, and sold infringing products in Texas, including in this District, and engaged in infringing conduct within and directed at or from this District. The infringing computer products have been and continue to be distributed

to and used in this District. HP's acts cause injury to SPV, including injury suffered within this District.

21. Moreover, on information and belief, HP has previously litigated patent infringement cases before this Court without contesting jurisdiction and venue.

22. Exercising personal jurisdiction over HP in this District would not be unreasonable given Defendants' contacts in this District, the interest in this District of resolving disputes related to products sold herein, and the harm that would occur to SPV.

23. In addition, HP has knowingly induced and continues to knowingly induce infringement within this District by advertising, marketing, offering for sale and/or selling devices pre-loaded with infringing functionality within this District, to consumers, customers, manufacturers, distributors, resellers, partners, and/or end users, and providing instructions, user manuals, advertising, and/or marketing materials which facilitate, direct or encourage the use of infringing functionality with knowledge thereof.

24. Personal jurisdiction also exists specifically over HP because it, directly or through affiliates, subsidiaries, agents, or intermediaries, transacts business in this State or purposefully directed at this State (including, without limitation, retail stores including Best Buy and Walmart) by making, importing, offering to sell, selling, and/or having sold infringing products within this State and District or purposefully directed at this State or District.

25. Venue is proper in this District under 28 U.S.C. §§ 1391 and 1400(b) because a substantial part of the events or omissions giving rise to the claims occurred in this District, and because HP has committed acts of infringement in this District and have a regular and established place of business in this District.

26. With respect to the Asserted Patents, the Accused Products are devices that support H.265/HEVC video, including, but not limited to computers (e.g., HP ENVY x360 Laptop - 15t-ed100 and HP Pavilion 27-d1340t PC), as well as, their components, and processes related to the same.

27. On information and belief, HP has placed and continues to place infringing products and/or products that practice infringing processes into the stream of commerce via established distribution channels comprising at least distributors and customers such as Walmart, Best Buy, and Amazon, with the knowledge and/or intent that those products are and/or will be imported, used, offered for sale, sold, and continue to be sold in the United States and Texas, including in this judicial district. As a result, HP has, vicariously through and/or in concert with its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers, placed the Accused Products into the stream of commerce via established distribution channels with the knowledge and/or intent that those products were sold and continue to be sold in the United States and Texas, including in this judicial district.

COUNT I

(INFRINGEMENT OF U.S. PATENT NO. 6,925,097)

28. Plaintiff incorporates paragraphs 1 through 27 herein by reference.

29. SPV is the assignee of the '097 patent, entitled "Decoder, decoding method, multiplexer, and multiplexing method," with ownership of all substantial rights in the '097 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

30. The '097 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '097 patent issued from U.S. Patent Application No. 09/820,311.

31. HP has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '097 patent in this judicial district and elsewhere in Texas and the United States.

32. On information and belief, HP designs, develops, manufactures, assembles and markets computers, projectors, and other devices configured to decode H.265/HEVC video. The Accused Products include a processor that supports H.265/HEVC video decoding. For example, the ENVY x360 laptop includes an Intel i7 series processor. *See* https://www.hp.com/us-en/shop/pdp/hp-envy-x360-laptop-15t-ed100-174r7av-1?catEntryId=3074457345619767820&quantity=1&jumpid=ma_intel-optane_product-tile_2-in-1-laptops_8_174r7av-1_hp-envy-x360-laptop- (last visited July 5, 2022). This processor includes support for H.265/HEVC video decoding. *See* <https://www.intel.com/content/www/us/en/developer/articles/technical/encode-and-decode-capabilities-for-7th-generation-intel-core-processors-and-newer.html> (last visited July 5, 2022).

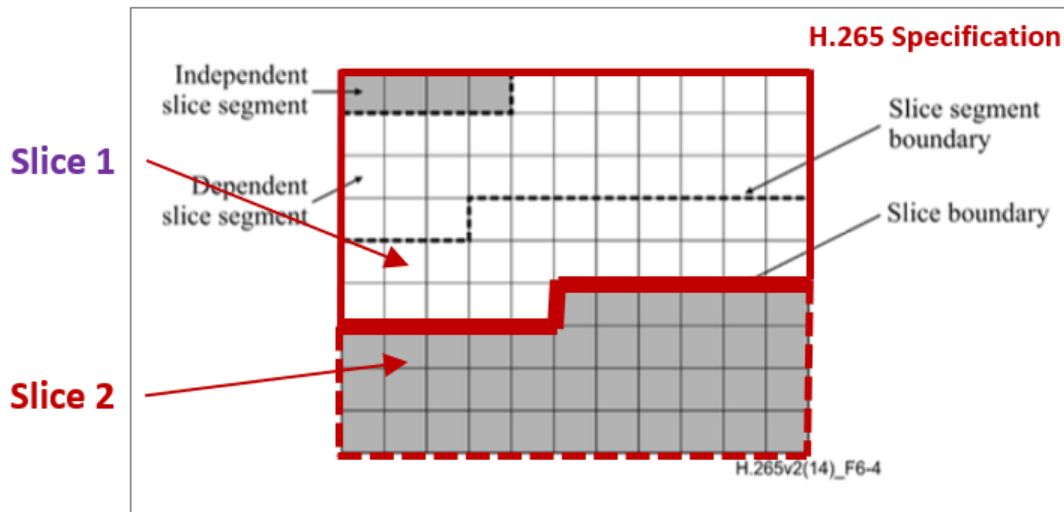
33. HP directly infringes the '097 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '097 patent.

34. For example, HP infringes claim 4 of the '097 patent via the Accused Products. The Accused Products perform the “decoding method for carrying out a decoding process for a multiplexed stream which is obtained by multiplexing plural streams in parallel for each of the streams included in the multiplexed stream” of claim 4. For example, the Accused Products implement a decoding method to carry out a H.265/HEVC decoding process using multi-level slice fragmentation feature. The decoding process decodes input image bitstream(s) including picture

frames, each individually a multiplexed stream that is obtained by encoding multiple smaller units (plural streams) that comprise the entire bitstream including its picture frames.

35. The Accused Products perform “separating the multiplexed stream into plural streams.” For example, the HEVC decoding process involves dividing an encoded input bitstream including individual picture frames, each of which is a multiplexed stream, into multiple slices (“plural streams”).

36. The Accused Products perform “selecting one of the plural separated streams such that a target of a decoding process is converted from one stream to another stream.” For example, the HEVC decoding process involves decoding each of the slices in an input picture frame one by one until all slice segments in a slice are decoded, ensuring that the entire slice is decoded before moving to the following slice:



In the example above, one of the plural separated streams, slice 1, is selected to be decoded first, followed by slice 2 in the decoding process, thereby switching the decoding order from slice 1 to slice 2 (“such that a target of a decoding process converted from one stream to another stream”).

37. The Accused Products perform “decoding one of the plural separated streams output by the stream selection process.” For example, the selection process from the above

example selects slice 1 which is then decoded. The entire slice (all slice segments) is decoded in the decoding process.

38. The Accused Products perform “wherein said selecting comprises detecting a stream switchable position in a stream being subjected to said decoding, at which position said decoding can be interrupted, and performing said selecting such that said decoding for the stream which is being processed is interrupted at the stream switchable position.” For example, HEVC decoding process detects the end of the last slice segment in a slice, which is a stream switchable position where the decoding can be interrupted. After the decoding is interrupted, decoding for the following slice (slice 2 in the example above) begins.

39. The technology discussion above and the exemplary Accused Products provide context for Plaintiff’s infringement allegations.

40. At a minimum, HP has known of the ’097 patent at least as early as the filing date of the Complaint. In addition, HP has known about the ’097 patent at least as early as October 28, 2021, when it met with SPV to discuss the patents-in-suit. Further, HP has known about the ’097 patent since at least September 21, 2021, when HP acknowledged access to a data room providing notice of its infringement. Moreover, HP has been on notice of the ’097 patent as a result of previous lawsuits filed by the Plaintiff against competitors of HP and other relevant market participants, such as TCL, Hisense, and Acer.

41. Prior to the filing of the Complaint, HP knew or should have known of the ’097 patent, and knew or should have known that they infringed the ’097 patent’s claims. Indeed, at a minimum, they exercised willful blindness to the existence of the ’097 patent and took deliberately wrongful steps to ignore their infringement of the ’097 patent.

42. On information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has actively induced, under U.S.C. § 271(b), distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '097 patent to directly infringe one or more claims of the '097 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, HP does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '097 patent. HP intends to cause, and have taken affirmative steps to induce infringement by distributors, importers, customers, subsidiaries, and/or consumers by at least, *inter alia*, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to H.265 decoding in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As noted above, this includes, but is not limited to, the willful blindness of HP, including its singular and collective refusal to investigate whether the Accused Products infringe the '097 patent.

43. In the alternative, on information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has contributorily infringed, under U.S.C. § 271(c), one or more claims of the '097 patent. For example, HP contributes to the direct infringement of such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the Accused Products. To the extent that the Accused Products do not directly

infringe one or more claims of the '097 patent, such products contain instructions, such as source code, that are especially adapted to cause the Accused Products to operate in an infringing manner. Such instructions are specifically designed to cause the Accused Products to decode H.265 video in an infringing manner and are a material part of the invention of the '097 patent and are not a staple article of commerce suitable for substantial non-infringing use.

44. On information and belief, despite having knowledge of the '097 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '097 patent, HP has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. HP's infringing activities relative to the '097 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

45. SPV has been damaged as a result of HP's infringing conduct described in this Count. HP is, thus, liable to SPV in an amount that adequately compensates SPV for HP's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284

COUNT II

(INFRINGEMENT OF U.S. PATENT NO. 7,685,498)

46. Plaintiff incorporates paragraphs 1 through 45 herein by reference.

47. SPV is the assignee of the '498 patent, entitled "Digital broadcasting system and digital broadcast transmission and reception method," with ownership of all substantial rights in the '498 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

48. The '498 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '498 patent issued from U.S. Patent Application No. 10/586,438.

49. HP has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '498 patent in this judicial district and elsewhere in Texas and the United States.

50. On information and belief, HP designs, develops, manufactures, assembles and markets computers, projectors, and other devices configured to decode H.265/HEVC video. The Accused Products include a processor that supports H.265/HEVC video decoding. For example, the ENVY x360 laptop includes an Intel i7 series processor. *See* https://www.hp.com/us-en/shop/pdp/hp-envy-x360-laptop-15t-ed100-174r7av-1?catEntryId=3074457345619767820&quantity=1&13umped=ma_intel-optane_product-tile_2-in-1-laptops_8_174r7av-1_hp-envy-x360-laptop- (last visited July 5, 2022). This processor includes support for H.265/HEVC video decoding. *See* https://www.intel.com/content/www/us/en/developer/articles/technical/encode-and-decode-capabilities-for-7th-generation-intel-core-processors-and-newer.html (last visited July 5, 2022).

51. HP directly infringes the '498 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '498 patent.

52. For example, HP infringes claim 10 of the '498 patent via the Accused Products. The Accused Products comprise the “reception apparatus for use in a digital broadcasting system for transmitting and receiving, via a network, a broadcast stream created from a broadcast source,

the broadcast source including image and audio data and being used for broadcasting” of claim 10. For example, the Accused Products are each a reception apparatus that receives digital HEVC-encoded content streams of video and audio, such as HEVC encoded live broadcast content. *See, e.g.*, <https://www.hp.com/us-en/shop/tech-takes/best-streaming-tv-service> (last visited on July 5, 2022); https://www.intel.com/content/www/us/en/developer/articles/technical/encode-and-decode-capabilities-for-7th-generation-intel-core-processors-and-newer.html (last visited November 23, 2021) (stating that 7th generation processors support H.265/HEVC video decoding).

53. The Accused Products each comprise “a receiving unit operable to receive the broadcast stream via the network.” For example, the Accused Products are configured to receive the H.265/HEVC encoded broadcast stream via the internet. *See, e.g.*, <https://www.hp.com/us-en/shop/tech-takes/best-streaming-tv-service> (last visited on July 5, 2022); https://www.intel.com/content/www/us/en/developer/articles/technical/encode-and-decode-capabilities-for-7th-generation-intel-core-processors-and-newer.html (last visited November 23, 2021) (stating that 7th generation processors support H.265/HEVC video decoding).

54. The Accused Products each comprise “a decoding unit operable to extract, from the received broadcast stream, at least one of a first layer code and a second layer code, the first layer code and the second layer code (i) being generated from the broadcast source coded based on a characteristic of the broadcast source, and (ii) respectively being for reproduction of the broadcast source.” For example, the Accused Products have H.265 decoding units that are configured to extract coded NAL Unit Types (`nal_unit_type`) from the received stream. The NAL Unit Types correspond to the first layer code and second layer code. The NAL Unit Type is generated during the coding process at the broadcast source and coded based on the broadcast source (i.e., VCL NAL Units contain picture data and non-VCL NAL Units contain supplemental decoding

information). The NAL Unit Type identifies whether a NAL Unit is a Video Coding Layer NAL Unit or a non-VCL NAL Unit. The codes are used for the decoding process.

55. The Accused Products each comprise “a reproducing unit operable to reproduce the broadcast source using the at least one of the first layer code and the second layer code extracted by said decoding unit.” For example, the Accused Products have a unit that outputs a signal that is a reproduction of the source media. The devices use the NAL Unit Types to reconstruct the media. For example the NAL Unit Types govern the picture output order. The Accused Products are configured to display the reproduced broadcast source.

56. The technology discussion above and the exemplary Accused Products provide context for Plaintiff’s infringement allegations.

57. At a minimum, HP has known of the ’498 patent at least as early as the filing date of the Complaint. In addition, HP has known about the ’498 patent at least as early as October 28, 2021, when it met with SPV to discuss the patents-in-suit. Further, HP has known about the ’498 patent since at least September 21, 2021, when HP acknowledged access to a data room providing notice of its infringement. Moreover, HP has been on notice of the ’498 patent as a result of previous lawsuits filed by the Plaintiff against competitors of HP and other relevant market participants, such as TCL, Hisense, and Acer.

58. Prior to the filing of the Complaint, HP knew or should have known of the ’498 patent, and knew or should have known that they infringed the ’498 patent’s claims. Indeed, at a minimum, they exercised willful blindness to the existence of the ’498 patent and took deliberately wrongful steps to ignore their infringement of the ’498 patent.

59. On information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has actively induced, under U.S.C. § 271(b), distributors,

customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '498 patent to directly infringe one or more claims of the '498 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, HP does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '498 patent. HP intends to cause, and have taken affirmative steps to induce infringement by distributors, importers, customers, subsidiaries, and/or consumers by at least, *inter alia*, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to H.265 decoding in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As noted above, this includes, but is not limited to, the willful blindness of HP, including its singular and collective refusal to investigate whether the Accused Products infringe the '498 patent.

60. In the alternative, on information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has contributorily infringed, under U.S.C. § 271(c), one or more claims of the '498 patent. For example, HP contributes to the direct infringement of such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the Accused Products. To the extent that the Accused Products do not directly infringe one or more claims of the '498 patent, such products contain instructions, such as source code, that are especially adapted to cause the Accused Products to operate in an infringing manner.

Such instructions are specifically designed to cause the Accused Products to decode H.265 video in an infringing manner and are a material part of the invention of the '498 patent and are not a staple article of commerce suitable for substantial non-infringing use.

61. On information and belief, despite having knowledge of the '498 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '498 patent, HP has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. HP's infringing activities relative to the '498 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

62. SPV has been damaged as a result of HP's infringing conduct described in this Count. HP is, thus, liable to SPV in an amount that adequately compensates SPV for HP's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT III

(INFRINGEMENT OF U.S. PATENT NO. 8,019,169)

63. Plaintiff incorporates paragraphs 1 through 62 herein by reference.

64. SPV is the assignee of the '169 patent, entitled "Image coding apparatus, image decoding apparatus, image processing apparatus and methods thereof," with ownership of all substantial rights in the '169 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

65. The '169 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '169 patent issued from U.S. Patent Application No. 12/014,895.

66. HP has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '169 patent in this judicial district and elsewhere in Texas and the United States.

67. On information and belief, HP designs, develops, manufactures, assembles and markets computers, projectors, and other devices configured to decode H.265/HEVC video. The Accused Products include a processor that supports H.265/HEVC video decoding. For example, the ENVY x360 laptop includes an Intel i7 series processor. *See* https://www.hp.com/us-en/shop/pdp/hp-envy-x360-laptop-15t-ed100-174r7av-1?catEntryId=3074457345619767820&quantity=1&jumpid=ma_intel-optane_product-tile_2-in-1-laptops_8_174r7av-1_hp-envy-x360-laptop- (last visited July 5, 2022). This processor includes support for H.265/HEVC video decoding. *See* <https://www.intel.com/content/www/us/en/developer/articles/technical/encode-and-decode-capabilities-for-7th-generation-intel-core-processors-and-newer.html> (last visited July 5, 2022).

68. HP directly infringes the '169 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '169 patent.

69. For example, HP infringes claim 21 of the '169 patent via the Accused Products. The Accused Products perform the “image decoding method” of claim 21. For example, the Accused Products implement a decoding method to carry out a H.265/HEVC decoding process.

70. The Accused Products perform “acquiring a bit stream and additional information which indicates a first still image.” For example, in the HEVC decoding process a decoder acquires a bit stream and additional information by receiving an input bitstream and extracting a sub-bitstream (additional information) identified as BitstreamToDecode that indicates a current picture (first still image) via the variable CurrPic. The ITU-T H.265 Standard provides support for this:

8 Decoding process

8.1 General decoding process

8.1.1 General

Input to this process is a bitstream. Output of this process is a list of decoded pictures.

sub-bitstream extraction process: A specified process by which NAL units in a bitstream that do not belong to a target set, determined by a target highest TemporalId and a target layer identifier list, are removed from the bitstream, with the output sub-bitstream consisting of the NAL units in the bitstream that belong to the target set.

F.8.1.3 Common decoding process for a coded picture

The decoding processes specified in the remainder of this clause apply to each coded picture, referred to as the current picture and denoted by the variable CurrPic, in BitstreamToDecode.

71. The Accused Products perform “acquiring a second still image indicated in the additional information.” For example, in the HEVC decoding process, the decoder acquires a reference picture (second still image) by selecting a reference picture from a reference picture list, which is included in the sub-bitstream (additional information). The ITU-T H.265 Standard provides support for this:

8.3.2 Decoding process for reference picture set

This process is invoked once per picture, after decoding of a slice header but prior to the decoding of any coding unit and prior to the decoding process for reference picture list construction for the slice as specified in clause 8.3.4. This process may result in one or more reference pictures in the DPB being marked as "unused for reference" or "used for long-term reference".

NOTE 1 – The RPS is an absolute description of the reference pictures used in the decoding process of the current and future coded pictures. The RPS signalling is explicit in the sense that all reference pictures included in the RPS are listed explicitly.

8.3.4 Decoding process for reference picture lists construction

This process is invoked at the beginning of the decoding process for each P or B slice.

Reference pictures are addressed through reference indices as specified in clause 8.5.3.3.2. A reference index is an index into a reference picture list. When decoding a P slice, there is a single reference picture list RefPicList0. When decoding a B slice, there is a second independent reference picture list RefPicList1 in addition to RefPicList0.

At the beginning of the decoding process for each slice, the reference picture lists RefPicList0 and, for B slices, RefPicList1 are derived.

8.5.3.3.2 Reference picture selection process

Input to this process is a reference index refIdxLX.

Output of this process is a reference picture consisting of a two-dimensional array of luma samples refPicLX_L and, when ChromaArrayType is not equal to 0, two two-dimensional arrays of chroma samples refPicLX_{Cb} and refPicLX_{Cr}.

The output reference picture RefPicListX[refIdxLX] consists of a pic_width_in_luma_samples by pic_height_in_luma_samples array of luma samples refPicLX_L and, when ChromaArrayType is not equal to 0, two PicWidthInSamplesC by PicHeightInSamplesC arrays of chroma samples refPicLX_{Cb} and refPicLX_{Cr}.

The reference picture sample arrays refPicLX_L, refPicLX_{Cb} and refPicLX_{Cr} correspond to decoded sample arrays S_L, S_{Cb} and S_{Cr} derived in clause 8.7 for a previously-decoded picture.

72. The Accused Products perform “generating a predictive image for the first image using the second still image as a reference image.” For example, in the inter prediction processes included in the H.265 decoding process, the predictive picture is created from the reference picture. The output of the inter prediction decoding is a modified reconstructed picture before deblocking filtering, which is a predictive image. The ITU-T H.265 Standard provides support for this:

3.69 inter prediction: A prediction derived in a manner that is dependent on data elements (e.g., sample values or motion vectors) of one or more reference pictures.

NOTE – A prediction from a reference picture that is the current picture itself is also inter prediction.

8.5 Decoding process for coding units coded in inter prediction mode

8.5.1 General decoding process for coding units coded in inter prediction mode

Inputs to this process are:

- a luma location (x_{Cb} , y_{Cb}) specifying the top-left sample of the current luma coding block relative to the top-left luma sample of the current picture,
- a variable $\log_2 CbSize$ specifying the size of the current coding block.

Output of this process is a modified reconstructed picture before deblocking filtering.

8.5.2 Inter prediction process

This process is invoked when decoding coding unit whose $CuPredMode[x_{Cb}][y_{Cb}]$ is not equal to $MODE_INTRA$.

Inputs to this process are:

- a luma location (x_{Cb} , y_{Cb}) specifying the top-left sample of the current luma coding block relative to the top-left luma sample of the current picture,
- a variable $\log_2 CbSize$ specifying the size of the current luma coding block.

Outputs of this process are:

- an $(nCbS_L) \times (nCbS_L)$ array $predSamples_L$ of luma prediction samples, where $nCbS_L$ is derived as specified below,
- when $ChromaArrayType$ is not equal to 0, an $(nCbSw_C) \times (nCbSh_C)$ array $predSamples_{Cb}$ of chroma prediction samples for the component Cb, where $nCbSw_C$ and $nCbSh_C$ are derived as specified below,
- when $ChromaArrayType$ is not equal to 0, an $(nCbSw_C) \times (nCbSh_C)$ array $predSamples_{Cr}$ of chroma prediction samples for the component Cr, where $nCbSw_C$ and $nCbSh_C$ are derived as specified below.

73. The Accused Products perform “adding prediction residual obtained from the bit stream indicating the first image and the predictive image to obtain the first still image.” For example, in the HEVC decoding process, arrays of prediction residual samples obtained from the bit stream, at a location where the additional information $BitstreamToDecode$ indicating the first still image was extracted, are added to the predictive image (as array of samples predicted for the first still image) to generate the first still image. The ITU-T H.265 Standard provides support for this:

The decoding process for coding units coded in inter prediction mode consists of the following ordered steps:

1. The inter prediction process as specified in clause 8.5.2 is invoked with the luma location (x_{Cb} , y_{Cb}) and the luma coding block size $\log_2 CbSize$ as inputs, and the outputs are the array predSamples_L and, when ChromaArrayType is not equal to 0, the arrays predSamples_{Cb} and predSamples_{Cr}.
2. The decoding process for the residual signal of coding units coded in inter prediction mode specified in clause 8.5.4 is invoked with the luma location (x_{Cb} , y_{Cb}) and the luma coding block size $\log_2 CbSize$ as inputs, and the outputs are the array resSamples_L and, when ChromaArrayType is not equal to 0, the arrays resSamples_{Cb} and resSamples_{Cr}.

8.6.7 Picture construction process prior to in-loop filter process

Inputs to this process are:

- a location (x_{Curr} , y_{Curr}) specifying the top-left sample of the current block relative to the top-left sample of the current picture component,
- the variables $nCurrSw$ and $nCurrSh$ specifying the width and height, respectively, of the current block,
- a variable $cIdx$ specifying the colour component of the current block,
- an $(nCurrSw) \times (nCurrSh)$ array predSamples specifying the predicted samples of the current block,
- an $(nCurrSw) \times (nCurrSh)$ array resSamples specifying the residual samples of the current block.

Depending on the value of the colour component $cIdx$, the following assignments are made:

- If $cIdx$ is equal to 0, recSamples corresponds to the reconstructed picture sample array S_L and the function clipCidx1 corresponds to $Clip1_Y$.
- Otherwise, if $cIdx$ is equal to 1, recSamples corresponds to the reconstructed chroma sample array S_{Cb} , and the function clipCidx1 corresponds to $Clip1_C$.
- Otherwise ($cIdx$ is equal to 2), recSamples corresponds to the reconstructed chroma sample array S_{Cr} and the function clipCidx1 corresponds to $Clip1_C$.

The $(nCurrSw) \times (nCurrSh)$ block of the reconstructed sample array recSamples at location (x_{Curr} , y_{Curr}) is derived as follows:

$$\text{recSamples}[x_{Curr} + i][y_{Curr} + j] = \text{clipCidx1}(\text{predSamples}[i][j] + \text{resSamples}[i][j]) \quad (8-327)$$

with $i = 0..nCurrSw - 1, j = 0..nCurrSh - 1$

74. The technology discussion above and the exemplary Accused Products provide context for Plaintiff's infringement allegations.

75. At a minimum, HP has known of the '169 patent at least as early as the filing date of the Complaint. In addition, HP has known about the '169 patent at least as early as October 28, 2021, when it met with SPV to discuss the patents-in-suit. Further, HP has known about the '169 patent since at least September 21, 2021, when HP acknowledged access to a data room providing notice of its infringement. Moreover, HP has been on notice of the '169 patent as a result of previous lawsuits filed by the Plaintiff against competitors of HP and other relevant market participants, such as TCL, Hisense, and Acer.

76. Prior to the filing of the Complaint, HP knew or should have known of the '169 patent, and knew or should have known that they infringed the '169 patent's claims. Indeed, at a minimum, they exercised willful blindness to the existence of the '169 patent and took deliberately wrongful steps to ignore their infringement of the '169 patent

77. On information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '169 patent to directly infringe one or more claims of the '169 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, HP does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '169 patent. HP intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, *inter alia*, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to H.265 decoding in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As noted above, this includes, but is not limited to, the willful blindness of HP, including its singular and collective refusal to investigate whether the Accused Products infringe the '169 patent.

78. In the alternative, on information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has contributorily infringed, under U.S.C. § 271(c), one or more claims of the '169 patent. For example, HP contributes to the direct infringement of such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the Accused Products. To the extent that the Accused Products do not directly infringe one or more claims of the '169 patent, such products contain instructions, such as source code, that are especially adapted to cause the Accused Products to operate in an infringing manner. Such instructions are specifically designed to cause the Accused Products to decode H.265 video in an infringing manner and are a material part of the invention of the '169 patent and are not a staple article of commerce suitable for substantial non-infringing use.

79. On information and belief, despite having knowledge of the '169 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '169 patent, HP has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. HP's infringing activities relative to the '169 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

80. SPV has been damaged as a result of HP's infringing conduct described in this Count. HP is, thus, liable to SPV in an amount that adequately compensates SPV for HP's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT IV

(INFRINGEMENT OF U.S. PATENT NO. 8,737,476)

81. Plaintiff incorporates paragraphs 1 through 80 herein by reference.

82. SPV is the assignee of the '476 patent, entitled "Image decoding device, image decoding method, integrated circuit, and program for performing parallel decoding of coded image data," with ownership of all substantial rights in the '476 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

83. The '476 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '476 patent issued from U.S. Patent Application No. 12/812,134.

84. HP has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '476 patent in this judicial district and elsewhere in Texas and the United States.

85. On information and belief, HP designs, develops, manufactures, assembles and markets computers, projectors, and other devices configured to decode H.265/HEVC video. The Accused Products include a processor that supports H.265/HEVC video decoding. For example, the ENVY x360 laptop includes an Intel i7 series processor. *See* https://www.hp.com/us-en/shop/pdp/hp-envy-x360-laptop-15t-ed100-174r7av-1?catEntryId=3074457345619767820&quantity=1&jumpid=ma_intel-optane_product-tile_2-in-1-laptops_8_174r7av-1_hp-envy-x360-laptop- (last visited July 5, 2022). This processor includes support for H.265/HEVC video decoding. *See* <https://www.intel.com/content/www/us/en/developer/articles/technical/encode-and-decode-capabilities-for-7th-generation-intel-core-processors-and-newer.html> (last visited July 5, 2022).

86. HP directly infringes the '476 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '476 patent.

87. For example, HP infringes claim 14 of the '476 patent via the Accused Products. The Accused Products perform the “image decoding method of decoding coded image data on a block-by-block basis, the coded image data being resulted from coding, on a block-by-block basis, of image data partitioned into blocks each of which has a predetermined number of pixels” of claim 14. For example, the Accused Products include an H.265 decoder that receives a coded image and decodes it on a block-by-block basis. The coded image resulted from coding, on a block-by-block basis, of image data partitioned into blocks, known as CTUs. The CTUs have a predetermined number of pixels (e.g., 64 x 64 pixels).

88. The Accused Products perform “pre-decoding, on a block-by-block basis, reference information indicating a number of reference images to be referred to on a block-by-block basis for decoding the coded image data.” For example, as part of processing H.265 encoded video, the Accused Products use “slice decoding.” The slice decoding process includes obtaining reference information that indicates a number of reference images for decoding an image slice prior to decoding (i.e. pre-decoding) the current image to be decoded on a block-by-block basis. The Accused Products receive information from the slice header that include RPS (Reference Picture Set) information. The ITU-T H.265 Standard provides support for this:

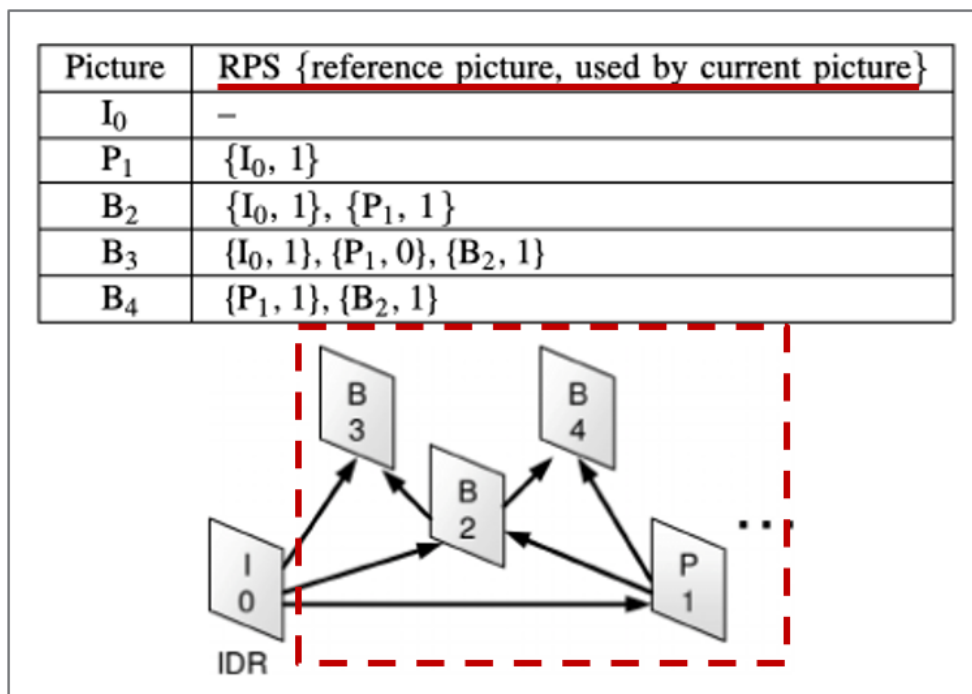


Fig. 7. Coding structure for RPS example.

89. The RPS information contains reference information indicating number of images to be referred to for decoding an image slice (e.g. in the example above, images I₀ and P₁ are the reference images used to decode image B₂). For example, RPS contains syntax and index structures that refer to one or more reference pictures and how those reference pictures are to be used to decode image slices. Further, the RPS information also contains reference information indicating number of images to be referred to for decoding an image slice (e.g. in the example above, the number of reference images for Picture B₂ is two). The slice header containing the status of the DPB (Decoded Picture Buffer) informs the Accused Product's H.265 decoder of the number of reference images to be referred to for decoding an image slice (e.g., image B₂ above requires two reference images to be decoded).

90. The Accused Products perform "calculating, on a block-by-block basis using the reference information, a predictive data amount of a reference image to be read out on a block-by-block basis from a storage unit for decoding the coded image data, the storage unit storing data of

at least one reference image to be referred to for decoding the coded image data.” For example, in H.265/HEVC, the DPB (Decoded Picture Buffer) is a storage unit that stores RPS information, including the reference images to be used for decoding an image slice. In the example above, the DPB stores three reference images (I0, P1, B2) that are used in the example’s HEVC decoding process. The Accused Products use the RPS reference information to calculate the amount of reference image data required to decode an image slice. More specifically, the H.265 decoder determines the total amount of reference image data (predictive data amount) required to decode an image slice. For example, for ‘n’ number of reference images the total predictive data amount is ‘n’ times the data amount of one reference image. In the example above, to decode the B2 image the H.265 decoder calculates that a predictive data amount associated with two reference images (I0 and P1) is to be read out from the DPB since two reference images are used to decode the image B2.

91. The Accused Products perform “determining, using the predictive data amount calculated, multiple blocks in the coded image data which are to be decoded in parallel, in such a manner as to reduce variation in amounts of data read out from the storage unit.” For example, the Accused Products use the predictive data (referenced above) and the reference images to determine the blocks (CTUs) that are to be decoded in parallel in the current image to be decoded. For example, as shown above, the H.265 decoder determines the multiple blocks in image B2 to be decoded in parallel using exemplary reference images I0 and P1.

92. The Accused Products perform “decoding in parallel the determined multiple blocks in the coded image data.” For example, the Accused Products decode the determined multiple blocks in parallel. For example, as shown above, multiple blocks in exemplary image B2

are decoded in parallel while the exemplary H.265 decoder uses images I0 and P1 as reference images to decode the same.

93. The technology discussion above and the exemplary Accused Products provide context for Plaintiff's allegations that each limitation of claim 14 is met.

94. At a minimum, HP has known of the '476 patent at least as early as the filing date of the Complaint. In addition, HP has known about the '476 patent at least as early as October 28, 2021, when it met with SPV to discuss the patents-in-suit. Further, HP has known about the '476 patent since at least September 21, 2021, when HP acknowledged access to a data room providing notice of its infringement. Moreover, HP has been on notice of the '476 patent as a result of previous lawsuits filed by the Plaintiff against competitors of HP and other relevant market participants, such as TCL, Hisense, and Acer.

95. Prior to the filing of the Complaint, HP knew or should have known of the '476 patent, and knew or should have known that they infringed the '476 patent's claims. Indeed, at a minimum, they exercised willful blindness to the existence of the '476 patent and took deliberately wrongful steps to ignore their infringement of the '476 patent.

96. On information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '476 patent to directly infringe one or more claims of the '476 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, HP does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '476 patent. HP intends to cause, and has taken affirmative steps to

induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, *inter alia*, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to H.265 decoding in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As noted above, this includes, but is not limited to, the willful blindness of HP, including its singular and collective refusal to investigate whether the Accused Products infringe the '476 patent.

97. In the alternative, on information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has contributorily infringed, under U.S.C. § 271(c), one or more claims of the '476 patent. For example, HP contributes to the direct infringement of such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the Accused Products. To the extent that the Accused Products do not directly infringe one or more claims of the '476 patent, such products contain instructions, such as source code, that are especially adapted to cause the Accused Products to operate in an infringing manner. Such instructions are specifically designed to cause the Accused Products to decode H.265 video in an infringing manner and are a material part of the invention of the '476 patent and are not a staple article of commerce suitable for substantial non-infringing use.

98. On information and belief, despite having knowledge of the '476 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '476 patent, HP has nevertheless continued its infringing conduct and disregarded an objectively high likelihood

of infringement. HP's infringing activities relative to the '476 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

99. SPV has been damaged as a result of HP's infringing conduct described in this Count. HP is, thus, liable to SPV in an amount that adequately compensates SPV for HP's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT V

(INFRINGEMENT OF U.S. PATENT NO. 8,971,401)

100. Plaintiff incorporates paragraphs 1 through 99 herein by reference.

101. SPV is the assignee of the '401 patent, entitled "Image decoding device" with ownership of all substantial rights in the '401 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

102. The '401 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '401 patent issued from U.S. Patent Application No. 13/246,503.

103. HP has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '401 patent in this judicial district and elsewhere in Texas and the United States.

104. On information and belief, HP designs, develops, manufactures, assembles and markets computers, projectors, and other devices configured to decode H.265/HEVC video. The Accused Products include a processor that supports H.265/HEVC video decoding. For example,

the ENVY x360 laptop includes an Intel i7 series processor. *See* https://www.hp.com/us-en/shop/pdp/hp-envy-x360-laptop-15t-ed100-174r7av-1?catEntryId=3074457345619767820&quantity=1&jumpid=ma_intel-optane_product-tile_2-in-1-laptops_8_174r7av-1_hp-envy-x360-laptop- (last visited July 5, 2022). This processor includes support for H.265/HEVC video decoding. *See* <https://www.intel.com/content/www/us/en/developer/articles/technical/encode-and-decode-capabilities-for-7th-generation-intel-core-processors-and-newer.html> (last visited July 5, 2022).

105. HP directly infringes the '401 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '401 patent.

106. For example, HP infringes claim 1 of the '401 patent via the Accused Products. The Accused Products comprise the “image decoding device for processing an input bit stream containing encoded data obtained by encoding a moving picture using intra-frame prediction, where each of the macroblocks of the moving picture includes a plurality of prediction units for the intra-frame prediction” of claim 1. For example, the Accused Products are configured to decode H.265 encoded video that comprises input bitstreams encoded using intra-frame prediction. The CTUs (macroblocks) of the video frames include a plurality of Prediction Units (PUs) for the intra-prediction.

107. The Accused Products comprise “a stream divider configured to divide the input bit stream into a plurality of sub-streams.” For example, the Accused Products are configured to use the CABAC parsing process. In the CABAC parsing process, a stream divider is configured to divide the input bitstream into slices (sub-streams) to be decoded. The sub-streams comprise CTU

rows for parallel processing, including but not limited to Wavefront Parallel Processing (WPP), which is used by H.265 for entropy decoding.

108. The Accused Products comprise “a plurality of image decoders each configured to decode the corresponding one of the plurality of sub-streams, thereby outputting images.” For example, as part of WPP, the Accused Products are configured to use a plurality of decoders to decode the slices in parallel. The plurality of image decoders may comprise a plurality of physical and/or logical cores/threads/engines/units.

109. The Accused Products are configured such that “the stream divider divides the encoded data corresponding to one of the macroblocks into groups each made up of at least one of the prediction units and outputs the sub-streams so that the groups are included in different ones of the sub-streams, each of the sub-streams includes prediction units from different macroblocks.” For example, the H.265 encoded data corresponding to one of the CTUs (macroblocks) is divided into a plurality of coding units (CU) (groups), each group includes at least one of the prediction units. Individual CTUs including their CU (groups) are included in different WPP slices (sub-streams), with each slice including PUs from different CTUs (macroblocks).

110. The technology discussion above and the exemplary Accused Products provide context for Plaintiff’s allegations that each limitation of claim 1 is met.

111. At a minimum, HP has known of the ’401 patent at least as early as the filing date of the Complaint. In addition, HP has known about the ’401 patent at least as early as October 28, 2021, when it met with SPV to discuss the patents-in-suit. Further, HP has known about the ’401 patent since at least September 21, 2021, when HP acknowledged access to a data room providing notice of its infringement. Moreover, HP has been on notice of the ’401 patent as a result of

previous lawsuits filed by the Plaintiff against competitors of HP and other relevant market participants, such as TCL, Hisense, and Acer.

112. Prior to the filing of the Complaint, HP knew or should have known of the '401 patent, and knew or should have known that they infringed the '401 patent's claims. Indeed, at a minimum, they exercised willful blindness to the existence of the '401 patent and took deliberately wrongful steps to ignore their infringement of the '401 patent.

113. On information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '401 patent to directly infringe one or more claims of the '401 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, HP does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '401 patent. HP intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, *inter alia*, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to H.265 decoding in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As noted above, this includes, but is not limited

to, the willful blindness of HP, including its singular and collective refusal to investigate whether the Accused Products infringe the '401 patent.

114. In the alternative, on information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has contributorily infringed, under U.S.C. § 271(c), one or more claims of the '401 patent. For example, HP contributes to the direct infringement of such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the Accused Products. To the extent that the Accused Products do not directly infringe one or more claims of the '401 patent, such products contain instructions, such as source code, that are especially adapted to cause the Accused Products to operate in an infringing manner. Such instructions are specifically designed to cause the Accused Products to decode H.265 video in an infringing manner and are a material part of the invention of the '401 patent and are not a staple article of commerce suitable for substantial non-infringing use.

115. On information and belief, despite having knowledge of the '401 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '401 patent, HP has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. HP's infringing activities relative to the '401 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

116. SPV has been damaged as a result of HP's infringing conduct described in this Count. HP is, thus, liable to SPV in an amount that adequately compensates SPV for HP's

infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT VI

(INFRINGEMENT OF U.S. PATENT NO. 9,042,457)

117. Plaintiff incorporates paragraphs 1 through 116 herein by reference.

118. SPV is the assignee of the '457 patent, entitled "Image Decoding Apparatus and Image Coding Apparatus with Parallel Decoding," with ownership of all substantial rights in the '457 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

119. The '457 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '457 patent issued from U.S. Patent Application No. 12/673,408.

120. HP has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '457 patent in this judicial district and elsewhere in Texas and the United States.

121. On information and belief, HP designs, develops, manufactures, assembles and markets computers, projectors, and other devices configured to decode H.265/HEVC video. The Accused Products include a processor that supports H.265/HEVC video decoding. For example, the ENVY x360 laptop includes an Intel i7 series processor. *See* https://www.hp.com/us-en/shop/pdp/hp-envy-x360-laptop-15t-ed100-174r7av-1?catEntryId=3074457345619767820&quantity=1&jumpid=ma_intel-optane_product-tile_2-in-1-laptops_8_174r7av-1_hp-envy-x360-laptop- (last visited July 5, 2022). This processor includes support for H.265/HEVC video decoding. *See*

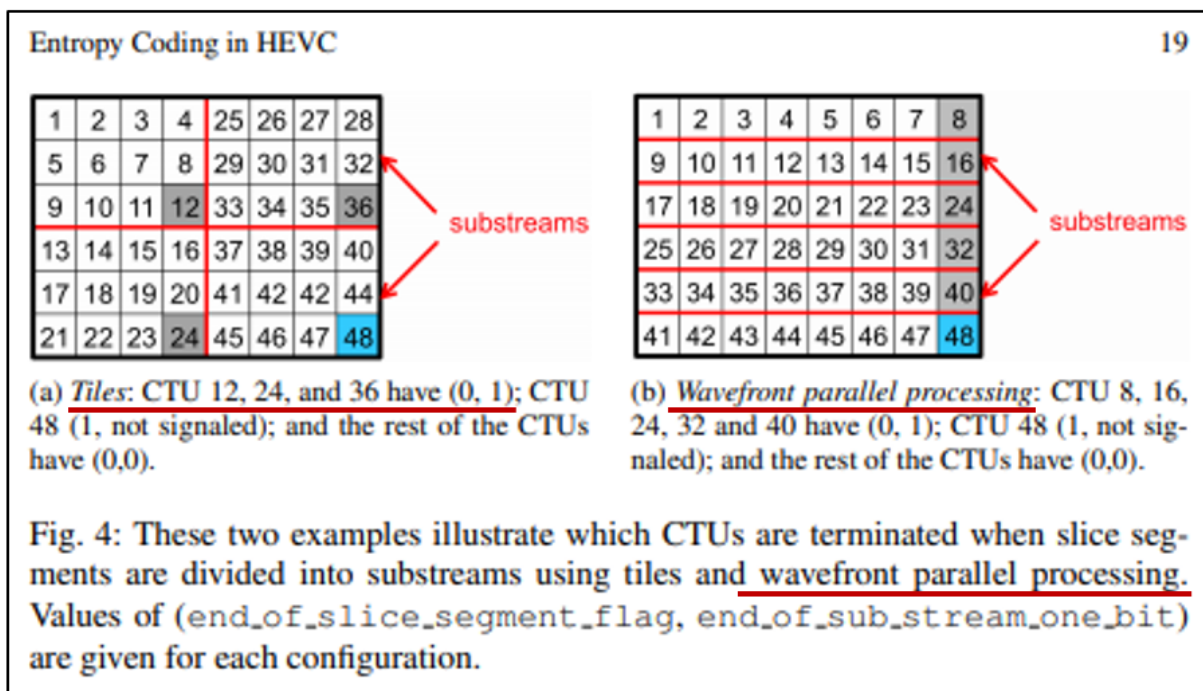
<https://www.intel.com/content/www/us/en/developer/articles/technical/encode-and-decode-capabilities-for-7th-generation-intel-core-processors-and-newer.html> (last visited July 5, 2022).

122. HP directly infringes the '457 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '457 patent.

123. For example, HP infringes claim 7 of the '457 patent via the Accused Products. The Accused Products perform the “image decoding method for decoding, using a processor, a coded stream generated by coding, on a block-by-block basis, a picture including blocks” of claim 7. For example, the Accused Products include a video decoder that is configured to decode H.265 encoded data. Each of the Accused Products includes a processor for executing instructions to operate the full functionality of the product, including H.265 decoding functionality. The Accused Products use a processor to decode a coded stream that resulted from coding, on a block-by-block basis, a picture including blocks, known as CTUs.

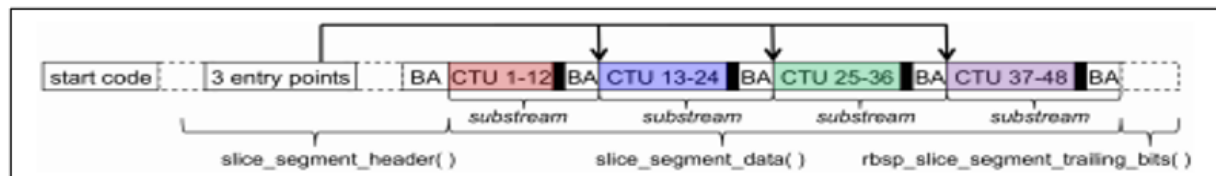
124. The Accused Products use the processor for “performing, on a block group-by-block group basis, variable length decoding, and generating block decoding information using a result of the variable length decoding for each of a plurality of block groups which (i) contain blocks, (ii) are different from each other, and (iii) are included in the coded stream, the block decoding information for the block group being a parameter necessary for decoding another block group from among the plurality of block groups.” For example, the processor performs, on a block group-by-block group basis, variable length decoding, and generates block decoding information using a result of the variable length decoding of plurality of block groups. The source code within the Accused Products is believed to incorporate variable length decoding on a block group-by-

block group basis in conformance with H.265 (e.g., predecoding the slice header provides syntax elements for subsequent decoding operations).



https://www.researchgate.net/publication/290180658_Entropy_Coding_in_HEVC

125. The processor determines the locations, within the network abstraction layer (NAL) unit, of encoded syntax elements. The encoded syntax elements point to the start point of the substreams in the bitstream, with the locations of the start points obtained as a result of the variable length decoding of the syntax elements. Thus, the block decoding information (e.g., encoded syntax elements) are generated using the result of the variable length decoding for each block group. The plurality of block groups contain blocks. Each block group (substream) contains a unique set of blocks. This is shown, for example, in the annotated image below by an encoded bitstream comprising four substreams (block groups) each comprised of a different group of CTUs.



https://www.researchgate.net/publication/290180658_Entropy_Coding_in_HEVC

126. The plurality of block groups are included in the coded stream. For example, the substreams are included in the slice segment data. The block decoding information for the block group is a parameter necessary for decoding another block group from among the plurality of block groups. For example, the block decoding information (e.g., encoded syntax elements) is necessary for decoding another substream: there is a contextual dependency between substreams.

127. The Accused Products use the processor for “decoding, on a block-by-block basis using the block decoding information generated using the result of the variable length decoding performed in said performing, each of the plurality of block groups in parallel, wherein said decoding performed on the block-by-block basis on each of the plurality of block groups in parallel includes re-executing the variable length decoding on each of the plurality of block groups on which the variable length decoding has been performed in said performing to determine a prediction mode to be performed on the block group.” For example, H.265 is designed for platforms configured to perform parallel decoding of a plurality of individual substreams (block groups). The source code within the Accused Products is believed to incorporate decoding in parallel in conformance with H.265. The Accused Products support parallel processing, such as Wavefront Parallel Processing, to conform with H.265. The blocks in one of the block groups (substreams) are decoded by using the block decoding information (syntax elements). The syntax elements signal the start of each substream. Substreams are decoded in parallel on a block-by-block basis. The decoding performed on the block-by-block basis on each of the plurality of block groups in parallel includes re-executing the variable length decoding on each of the plurality of

blocks groups on which the variable length decoding has been performed in said performing to determine a prediction mode to be performed on the block group. For example, the entropy decoder re-executes variable length decoding on the blocks in the block groups using the syntax data obtained in the predecoding process. The prediction mode is dependent on the syntax elements of the current block in view of the previously decoded blocks' syntax elements. H.265 specifies that information allowing for a determination of a prediction mode to be performed on a block group is contained in the coded bitstream. The ITU-T H.265 Standard provides support for this:

Table 7-10 – Name association to prediction mode and partitioning type

CuPredMode[x0][y0]	part_mode	IntraSplitFlag	PartMode
MODE_INTRA	0	0	PART_2Nx2N
	1	1	PART_NxN
MODE_INTER	0	0	PART_2Nx2N
	1	0	PART_2NxN
	2	0	PART_Nx2N
	3	0	PART_NxN
	4	0	PART_2NxN_U
	5	0	PART_2NxN_D
	6	0	PART_nLx2N
7	0	PART_nRx2N	

<https://www.itu.int/rec/T-REC-H.265/en> p. 101

Table 8-1 – Specification of intra prediction mode and associated names

Intra prediction mode	Associated name
0	INTRA_PLANAR
1	INTRA_DC
2..34	INTRA_ANGULAR2..INTRA_ANGULAR34

<https://www.itu.int/rec/T-REC-H.265/en> p. 118

128. The technology discussion above and the exemplary Accused Products provide context for Plaintiff's allegations that each limitation of claim 7 is met.

129. At a minimum, HP has known of the '457 patent at least as early as the filing date of the Complaint. In addition, HP has known about the '457 patent at least as early as October 28, 2021, when it met with SPV to discuss the patents-in-suit. Further, HP has known about the '457 patent since at least September 21, 2021, when HP acknowledged access to a data room providing notice of its infringement. Moreover, HP has been on notice of the '457 patent as a result of previous lawsuits filed by the Plaintiff against competitors of HP and other relevant market participants, such as TCL, Hisense, and Acer.

130. Prior to the filing of the Complaint, HP knew or should have known of the '457 patent, and knew or should have known that they infringed the '457 patent's claims. Indeed, at a minimum, they exercised willful blindness to the existence of the '457 patent and took deliberately wrongful steps to ignore their infringement of the '457 patent

131. On information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '457 patent to directly infringe one or more claims of the '457 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, HP does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '457 patent. HP intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, *inter alia*, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to H.265 decoding in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As noted above, this includes, but is not limited to, the willful blindness of HP, including its singular and collective refusal to investigate whether the Accused Products infringe the '457 patent.

132. In the alternative, on information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has contributorily infringed, under U.S.C. § 271(c), one or more claims of the '457 patent. For example, HP contributes to the direct infringement of such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the Accused Products. To the extent that the Accused Products do not directly infringe one or more claims of the '457 patent, such products contain instructions, such as source code, that are especially adapted to cause the Accused Products to operate in an infringing manner. Such instructions are specifically designed to cause the Accused Products to decode H.265 video in an infringing manner and are a material part of the invention of the '457 patent and are not a staple article of commerce suitable for substantial non-infringing use.

133. On information and belief, despite having knowledge of the '457 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '457 patent, HP has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. HP's infringing activities relative to the '457 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

134. SPV has been damaged as a result of HP's infringing conduct described in this Count. HP is, thus, liable to SPV in an amount that adequately compensates SPV for HP's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT VII

(INFRINGEMENT OF U.S. PATENT NO. 9,414,059)

135. Plaintiff incorporates paragraphs 1 through 134 herein by reference.

136. SPV is the assignee of the '059 patent, entitled "Image Processing Device, Image Coding Method, and Image Processing Method" with ownership of all substantial rights in the '059 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

137. The '059 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '059 patent issued from U.S. Patent Application No. 13/877,389.

138. HP has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '059 patent in this judicial district and elsewhere in Texas and the United States.

139. On information and belief, HP designs, develops, manufactures, assembles and markets computers, projectors, and other devices configured to decode H.265/HEVC video. The Accused Products include a processor that supports H.265/HEVC video decoding. For example, the ENVY x360 laptop includes an Intel i7 series processor. *See* https://www.hp.com/us-en/shop/pdp/hp-envy-x360-laptop-15t-ed100-174r7av-1?catEntryId=3074457345619767820&quantity=1&jumpid=ma_intel-optane_product-tile_2-in-1-laptops_8_174r7av-1_hp-envy-x360-laptop- (last visited July 5, 2022). This processor includes support for H.265/HEVC video decoding. *See* <https://www.intel.com/content/www/us/en/developer/articles/technical/encode-and-decode-capabilities-for-7th-generation-intel-core-processors-and-newer.html> (last visited July 5, 2022).

140. HP directly infringes the '059 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '059 patent.

141. For example, HP infringes claim 1 of the '059 patent via the Accused Products. The Accused Products comprise an “image processing device which performs plural first processes, by pipelining, on a coded stream obtained by dividing an image into plural coding unit blocks according to at least two numbers of pixels and coding the image on a coding unit block-by-block basis” of claim 1. For example, each of the Accused Products supports the H.265/HEVC standard. The Accused Products process H.265/HEVC encoded video via a pipelined process. A block comprises an array of samples (individual pixel data) that is used to code an image. The coding is performed on a block-by-block basis because an image will be partitioned into multiple blocks to be coded. The blocks can be of various sizes, therefore containing at least two numbers of pixels (e.g., 8x8, 16x16, etc.).

142. The Accused Products comprise “plural first process units configured to perform, by the pipelining, the plural first processes on the coded stream by each executing one of the plural first processes.” For example, the Accused Products comprise multiple first process units configured to decode the sub-streams of the coded stream in parallel. The cores of the processor on the Accused Products can comprise separate first process units. The source code within the Accused Products is believed to incorporate one or more parallel processing tools supported by the H.265/HEVC standard. Such tools include, but are not necessarily limited to, tiles, wavefront parallel processing, and entropy slices. In a wavefront parallel processing example, CTUs in

different slices are decoded in parallel. The processing units handling the respective threads via pipelining comprise the plural first process units.

143. The Accused Products comprise “a control unit configured to divide or connect portions of the coded stream into plural first processing unit blocks according to a first number of pixels, each of the first processing unit blocks having the same number of pixels in the image, and control the plural first process units to cause the plural first processes to be executed for each of the first processing unit blocks.” For example, the control path for the CABAC decoder in the Accused Products serves as the control unit. The source code within the Accused Products that operates the HEVC functionality, including dividing portions of the coded stream into slices that are further partitioned into CTUs of the same size serves as the control unit. The plural first processes are executed for each of the CTUs. The syntax data of the bitstream uses entry points to indicate how to construct the substreams for parallel processing.

144. The technology discussion above and the exemplary Accused Products provide context for Plaintiff’s allegations that each limitation of claim 1 is met.

145. At a minimum, HP has known of the ’059 patent at least as early as the filing date of the Complaint. In addition, HP has known about the ’059 patent at least as early as October 28, 2021, when it met with SPV to discuss the patents-in-suit. Further, HP has known about the ’059 patent since at least September 21, 2021, when HP acknowledged access to a data room providing notice of its infringement. Moreover, HP has been on notice of the ’059 patent as a result of previous lawsuits filed by the Plaintiff against competitors of HP and other relevant market participants, such as TCL, Hisense, and Acer.

146. Prior to the filing of the Complaint, HP knew or should have known of the ’059 patent, and knew or should have known that they infringed the ’059 patent’s claims. Indeed, at a

minimum, they exercised willful blindness to the existence of the '059 patent and took deliberately wrongful steps to ignore their infringement of the '059 patent.

147. On information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '059 patent to directly infringe one or more claims of the '059 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, HP does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '059 patent. HP intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, *inter alia*, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to H.265 decoding in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As noted above, this includes, but is not limited to, the willful blindness of HP, including its singular and collective refusal to investigate whether the Accused Products infringe the '059 patent.

148. In the alternative, on information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has contributorily infringed, under U.S.C. § 271(c), one or more claims of the '059 patent. For example, HP contributes to the direct infringement of

such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the Accused Products. To the extent that the Accused Products do not directly infringe one or more claims of the '059 patent, such products contain instructions, such as source code, that are especially adapted to cause the Accused Products to operate in an infringing manner. Such instructions are specifically designed to cause the Accused Products to decode H.265 video in an infringing manner and are a material part of the invention of the '059 patent and are not a staple article of commerce suitable for substantial non-infringing use.

149. On information and belief, despite having knowledge of the '059 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '059 patent, HP has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. HP's infringing activities relative to the '059 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

150. SPV has been damaged as a result of HP's infringing conduct described in this Count. HP is, thus, liable to SPV in an amount that adequately compensates SPV for HP's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT VIII

(INFRINGEMENT OF U.S. PATENT NO. 9,667,972)

151. Plaintiff incorporates paragraphs 1 through 150 herein by reference.

152. SPV is the assignee of the '972 patent, entitled "Image coding device, image coding method, and image coding integrated circuit" with ownership of all substantial rights in the '972

patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

153. The '972 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '972 patent issued from U.S. Patent Application No. 14/555,825.

154. HP has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '972 patent in this judicial district and elsewhere in Texas and the United States.

155. On information and belief, HP designs, develops, manufactures, assembles and markets computers, projectors, and other devices configured to decode H.265/HEVC video. The Accused Products include a processor that supports H.265/HEVC video decoding. For example, the ENVY x360 laptop includes an Intel i7 series processor. *See* https://www.hp.com/us-en/shop/pdp/hp-envy-x360-laptop-15t-ed100-174r7av-1?catEntryId=3074457345619767820&quantity=1&jumpid=ma_intel-optane_product-tile_2-in-1-laptops_8_174r7av-1_hp-envy-x360-laptop- (last visited July 5, 2022). This processor includes support for H.265/HEVC video decoding. *See* <https://www.intel.com/content/www/us/en/developer/articles/technical/encode-and-decode-capabilities-for-7th-generation-intel-core-processors-and-newer.html> (last visited July 5, 2022).

156. HP directly infringes the '972 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '972 patent.

157. For example, HP infringes claim 5 of the '972 patent via the Accused Products. The Accused Products implement an “image encoding method that causes a programmed computer to compression-encode an image in units of blocks having a predetermined size” of claim 5. For example, the Accused Products are configured to implement image encoding software that compresses and encodes images on a block-by-block basis. The encoding utilizes coding-tree units (CTUs) having a predetermined number of pixels (e.g., 64 x 64).

158. The Accused Products implement “the image encoding method having a first encoding mode in which a motion vector of an encoding-target block is not encoded and the motion vector of the encoding-target block is calculated based on motion vectors of a plurality of adjacent blocks that are adjacent to the encoding-target block.” For example, H.265 encoding allows for a target block to be encoded (“encoding-target block”) using motion vector information of adjacent blocks to the target block. The encoding-target block is a first encoding mode. Prior to encoding a motion vector of a target block the H.265 encoder calculates motion vector information of the target block with respect to a neighboring blocks adjacent to the target block to be encoded. The H.265 encoder requires spatial and temporal motion vector predictor information before encoding the target block in a first encoding mode.

159. In the image encoding method performed by the Accused Products “each of adjacent blocks being an immediate neighbor of the encoding-target block, and each of adjacent blocks preceding the encoding-target block in coding order.” For example, the adjacent blocks are immediate neighbors of the target block to be encoded by the H.265 encoder. Further, H.265 performs a raster scan where each block is coded independently by following a scan order. The left and top neighbor blocks to the target block are encoded prior to encoding the target block, while the right and bottom neighbor blocks are encoded after the target block.

160. The image encoding method performed by the Accused Products includes “speculatively calculating, when the adjacent blocks include an adjacent block whose encoding mode has not yet been determined and in case the encoding-target block is to be encoded in the first encoding mode.” For example, the H.265 encoder creates an MPM (Most Probable Mode) array based on the modes of the neighboring blocks comprised of possible encoding modes to encode the target block. When the encoding mode of the blocks adjacent to the target block (in the below example neighboring blocks C and E) are not determined, the H.265 encoder assumes a most probable mode to encode the target block (“speculatively calculating”) in case the target block is to be encoded in (“in the first encoding mode”) the encoding modes of encoded neighbor blocks (in the below example neighboring blocks B and D).

161. The image encoding method performed by the Accused Products includes “one or more motion vector candidates for encoding the encoding-target block in the first encoding mode, each of the one or more motion vector candidates corresponding to one of some or all of possible encoding modes for encoding the adjacent block.” For example, the H.265 encoder considers all possible encoding modes comprising motion vector candidates to encode the target block. The spatial and temporal motion vector information used to encode the target block corresponds to the spatial and temporal motion vector information of possible encoding modes for encoding the adjacent blocks.

162. The image encoding method performed by the Accused Products includes “determining, when the encoding mode for the adjacent block is determined from among the some or all of possible encoding modes, one of the one or more motion vector candidates that corresponds to the encoding mode for the adjacent block as a first motion vector for encoding the encoding target block in the first encoding mode.” For example, the H.265 encoder determines one

or more motion vector candidates corresponding to the encoding mode to be used to encode the target encoding block—this encoding mode (“the first encoding mode”) is obtained based on the motion vector information (“a first motion vector”) of the adjacent blocks (in the below example blocks B and D) and the H.265 encoder encodes the target block in that encoding mode (“first encoding mode”).

163. The technology discussion above and the exemplary Accused Products provide context for Plaintiff’s allegations that each limitation of claim 5 is met.

164. At a minimum, HP has known of the ’972 patent at least as early as the filing date of the Complaint. In addition, HP has known about the ’972 patent at least as early as October 28, 2021, when it met with SPV to discuss the patents-in-suit. Further, HP has known about the ’972 patent since at least September 21, 2021, when HP acknowledged access to a data room providing notice of its infringement. Moreover, HP has been on notice of the ’972 patent as a result of previous lawsuits filed by the Plaintiff against competitors of HP and other relevant market participants, such as TCL, Hisense, and Acer.

165. Prior to the filing of the Complaint, HP knew or should have known of the ’972 patent, and knew or should have known that they infringed the ’972 patent’s claims. Indeed, at a minimum, they exercised willful blindness to the existence of the ’972 patent and took deliberately wrongful steps to ignore their infringement of the ’972 patent.

166. On information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the ’972 patent to directly infringe one or more claims of the ’972 patent by using, offering for sale, selling,

and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, HP does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '972 patent. HP intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to H.265 decoding in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As noted above, this includes, but is not limited to, the willful blindness of HP, including its singular and collective refusal to investigate whether the Accused Products infringe the '972 patent.

167. In the alternative, on information and belief, since at least the above-mentioned date when HP was on notice of its infringement, HP has contributorily infringed, under U.S.C. § 271(c), one or more claims of the '972 patent. For example, HP contributes to the direct infringement of such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the Accused Products. To the extent that the Accused Products do not directly infringe one or more claims of the '972 patent, such products contain instructions, such as source code, that are especially adapted to cause the Accused Products to operate in an infringing manner. Such instructions are specifically designed to cause the Accused Products to decode H.265 video in an infringing manner and are a material part of the invention of the '972 patent and are not a staple article of commerce suitable for substantial non-infringing use.

168. On information and belief, despite having knowledge of the '972 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '972 patent, HP has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. HP's infringing activities relative to the '972 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

169. SPV has been damaged as a result of HP's infringing conduct described in this Count. HP is, thus, liable to SPV in an amount that adequately compensates SPV for HP's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

CONCLUSION

170. Plaintiff SPV is entitled to recover from HP the damages sustained by Plaintiff as a result of HP's wrongful acts, and willful infringement (including its willful blindness of infringement), in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court.

171. Plaintiff has incurred and will incur attorneys' fees, costs, and expenses in the prosecution of this action. The circumstances of this dispute may give rise to an exceptional case within the meaning of 35 U.S.C. § 285, and Plaintiff is entitled to recover its reasonable and necessary attorneys' fees, costs, and expenses.

JURY DEMAND

172. Plaintiff hereby requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

173. Plaintiff respectfully requests that the Court find in its favor and against HP, and that the Court grant Plaintiff the following relief:

1. A judgment that HP has infringed the Asserted Patents as alleged herein, directly and/or indirectly by way of inducing infringement of such patents;
2. A judgment for an accounting of all damages sustained by Plaintiff as a result of the acts of infringement by HP;
3. A judgment and order requiring HP to pay Plaintiff damages under 35 U.S.C. § 284, including up to treble damages as provided by 35 U.S.C. § 284, and any royalties determined to be appropriate;
4. A judgment and order requiring HP to pay Plaintiff pre-judgment and post-judgment interest on the damages awarded;
5. A judgment and order finding this to be an exceptional case and requiring HP to pay the costs of this action (including all disbursements) and attorneys' fees as provided by 35 U.S.C. § 285; and
6. Such other and further relief as the Court deems just and equitable.

Dated: September 7, 2022

Respectfully submitted,

/s/ Patrick J. Conroy

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