**IN THE UNITED STATES DISTRICT COURT**
**FOR THE NORTHERN DISTRICT OF GEORGIA**
**ATLANTA DIVISION**

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| INTERDIGITAL, INC., INTERDIGITAL VC HOLDINGS, INC., AND INTERDIGITAL MADISON PATENT HOLDINGS SAS,<br><br>Plaintiffs,<br><br>v.<br><br>HISENSE CO., LTD., HISENSE USA CORPORATION, and HISENSE ELECTRONICS MANUFACTURING COMPANY OF AMERICA CORPORATION,<br><br>Defendants. | Case No. 1:26-cv-<br><br>**JURY TRIAL DEMANDED** |

## COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs InterDigital, Inc., InterDigital VC Holdings, Inc., and InterDigital Madison Patent Holdings SAS (collectively, "InterDigital" or "Plaintiffs"), through their undersigned counsel, bring this action against Defendants Hisense Co., Ltd., Hisense USA Corporation, and Hisense Electronics Manufacturing Company of America Corporation (collectively, "Hisense" or "Defendants"). In support of this Complaint, Plaintiffs allege as follows:



InterDigital EX2002
TTE v. InterDigital
IPR2026-00417

## NATURE OF THE ACTION

1. For years, Hisense has directly and/or indirectly infringed and continues to infringe United States Patent Nos. 8,085,846 ("the '846 Patent"), 9,294,784 ("the '784 Patent"), 10,250,877 ("the '877 Patent"), 11,695,962 ("the '962 Patent"), 11,399,168 ("the '168 Patent), and 9,654,751 ("the '751 Patent") (collectively, the "Asserted Patents"), attached hereto as Exhibits 1-6. Plaintiffs accordingly file this Complaint seeking a judgment of and relief for Hisense's persistent and pervasive infringement of the Asserted Patents.

2. Hisense is not authorized to use Plaintiffs' Asserted Patents. This Complaint is therefore necessary to put an end to Hisense's infringing conduct. Today, Hisense continues its widespread infringement of the Asserted Patents by utilizing Plaintiffs' inventions related to AOMedia Video 1 ("AV1") and High Dynamic Range ("HDR") technologies.

## THE PARTIES

3. Plaintiff InterDigital, Inc. is a Pennsylvania corporation with its principal place of business at 200 Bellevue Parkway, Suite 300, Wilmington, Delaware 19809.

4. Plaintiff InterDigital VC Holdings, Inc. is a Delaware corporation with its principal place of business at 200 Bellevue Parkway, Suite 300, Wilmington,

Delaware 19809. InterDigital VC Holdings, Inc. is a wholly owned subsidiary of InterDigital, Inc.

5. Plaintiff InterDigital Madison Patent Holdings, SAS is a French société par actions simplifiée (simplified joint stock company) with its principal place of business at 3 Rue du Colonel Moll, Paris, France 75017. InterDigital Madison Patent Holdings, SAS is a wholly owned subsidiary of InterDigital, Inc.

6. Defendant Hisense Co., Ltd. is a corporation organized and existing under the laws of the People's Republic of China with its principal place of business at Hisense Tower No. 17, Donghaixi Road, Qingdao, Shandong Province, 266071, P.R. China. Hisense Co., Ltd. makes, uses, sells, offers to sell, and/or imports into the United States the Accused Products.[1] Hisense Co., Ltd. may be served with process under Fed. R. Civ. P. 4(f)(3) and 4(h)(2).

7. Defendant Hisense USA Corporation is a corporation organized and existing under the laws of the State of Georgia with its principal place of business at 7310 McGinnis Ferry Road, Suwanee, Georgia, 30024. Hisense USA Corporation makes, uses, sells, offers to sell, and/or imports into the United States the Accused Products.

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[1] The Accused Products include both the AV1 Accused Instrumentalities and the HDR Accused Instrumentalities. The AV1 Accused Instrumentalities include all Hisense devices capable of decoding AV1 content. The HDR Accused Instrumentalities include all Hisense devices capable of playing back HDR10, HDR10+, or Dolby Vision content.

8. Defendant Hisense Electronics Manufacturing Company of America Corporation is a corporation organized and existing under the laws of the State of Georgia with its principal place of business at 7310 McGinnis Ferry Road, Suwanee, Georgia, 30024. Hisense Electronics Manufacturing Company of America Corporation makes, uses, sells, offers to sell, and/or imports into the United States the Accused Products.

## JURISDICTION AND VENUE

9. This Court has original jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a) because the action arises under the patent laws of the United States, 35 U.S.C. § 271, *et seq*.

10. This Court has personal jurisdiction over Hisense because it has, directly and/or through agents and/or intermediaries, committed acts and continues to commit acts of patent infringement, including within Georgia, giving rise to this action, and has established minimum contacts with Georgia such that the exercise of jurisdiction would not offend traditional notions of fair play and substantial justice. Hisense, directly and/or indirectly at least through agents and intermediaries, has committed and continues to commit acts of patent infringement in this District by, among other things, making, using, selling, offering to sell, and importing the Accused Products.

11. On information and belief, Hisense regularly conducts business in Georgia, including in this District, and purposefully avails itself of the privileges of conducting business in Georgia and this District. In particular, on information and belief, Hisense, and/or its agents and/or intermediaries, make, use, import, offer for sale, sell, and/or advertise their products and affiliated services in Georgia and this District, including but not limited to the Accused Products, sufficient to give rise to jurisdiction. On information and belief, Hisense has placed and continues to place Accused Products into the stream of commerce, via an established distribution channel, with the knowledge and/or understanding that such products are sold in the United States, including in Georgia, and specifically including in this District.

12. On information and belief, Hisense derives substantial revenue from the sale of Accused Products distributed within Georgia, including within this District, and/or expects or should reasonably expect its actions to have consequences in Georgia. In addition, on information and belief, Hisense knowingly induces, and continues to knowingly induce, infringement of the Asserted Patents within Georgia and within this District by offering for sale, selling, and/or contracting with others to market Accused Products with the intent to facilitate infringing use of the products by others and by creating and/or disseminating product information and other materials providing instruction for infringing use. Further, on information and belief, Hisense's affirmative acts of selling and offering to sell the Accused Products and

causing the Accused Products to be manufactured, used, sold, and offered for sale contribute to customers' and end users' use of the Accused Products, such that the Asserted Patents are directly infringed.

13. Hisense's infringing activity has led to foreseeable harm and injury to Plaintiffs.

14. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391 and 1400(b). Defendant Hisense Company Ltd. does not reside in the United States, and thus venue is appropriate in this District under 28 U.S.C. § 1391(c)(3) ("a defendant not resident in the United States may be sued in any judicial district, and the joinder of such a defendant shall be disregarded in determining where the action may be brought with respect to other defendants"); *see also In re HTC Corp.*, 889 F.3d 1349 (Fed. Cir. 2018). In addition to the facts set forth above, Defendants Hisense USA Corporation and Hisense Electronics Manufacturing Company of America Corporation have committed acts of infringement in this District and have a regular and established place of business in this District, including at least because they conduct business at least through their principal place of business and office located in this District at 7310 McGinnis Ferry Road, Suwanee, Georgia 30024.

## FACTUAL BACKGROUND

### A. Plaintiffs and Their Enduring Innovation

15. InterDigital is one of the most successful and innovative research and development companies of the last half century. For more than 50 years InterDigital has been at the forefront of developing foundational video, wireless communication, and other digital technologies.

16. InterDigital was founded by Sherwin Seligsohn in 1972 as International Mobile Machines Corporation (IMM). Led by a young innovator with a keen desire to stay connected, the company's first product line was a portable analog radio system, including a wireless handheld analog telephone capable of connecting to a public network. IMM demonstrated its wireless telephone during the bicentennial celebrations in Philadelphia's Fairmount Park, the same place that Alexander Graham Bell first demonstrated his telephone 100 years earlier. Above all else, InterDigital is an engineering company. In fact, InterDigital has developed and implemented a wide variety of wireless technologies, systems, and products, many of which form the backbone of modern-day digital wireless communication. InterDigital has helped develop and shape technologies in every aspect of the network—from handsets to base stations and mobile edge computing; from IoT sensors to streaming video and beyond.

17. Every year, InterDigital pours a massive amount of money into its world-class research and IP portfolio development engine. For example, in the most recently reported fiscal year alone, InterDigital reinvested well over nine figures—a sum representing nearly 50 percent of its recurring revenues—back into this cycle of innovation. It has invested a total of more than one billion dollars in research and development alone. At its facilities throughout the United States, and its bespoke video research laboratories in Rennes, France, InterDigital researches, develops, engineers, and licenses advanced video-related innovations as well as other cutting-edge technology. InterDigital's world-class Research and Innovation Lab—with locations in Indiana, New Jersey, and Washington, D.C.—has designed and developed a range of key technologies instrumental to video coding.

18. InterDigital and its employees' technical contributions have been recognized all over the world. As just one example, InterDigital has been named as one of the world's 100 most innovative businesses by LexisNexis.[2] From mobile

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[2] *See Innovation Momentum 2022: The Global Top 100*, LEXISNEXIS (Jan. 18, 2022), https://go.lexisnexisip.com/hubfs/~IP%20-%20Intellectual%20Property%20Files/IP%20-%20PatentSight/2022%20Innovation%20Momentum%20Report/LexisNexis%20Innovation%20 Momentum%20Report%202022.pdf; *Innovation Momentum 2023: The Global Top 100*, LEXISNEXIS (Jan. 2023), https://www.lexisnexisip.com/wp-content/uploads/2024/02/LexisNexisInnovation-Momentum-Report-2023.pdf; *Innovation Momentum 2024: The Global Top 100*, LEXISNEXIS (Jan. 2024), https://go.lexisnexisip.com/hubfs/LexisNexis-Innovation-MomentumReport-

technologies that underpin smartphones, networks and services to video technologies that are the foundation for today's most popular products and services, InterDigital's research and development teams help improve every product they work on, from the most basic to the most advanced. Today, InterDigital still follows in the footsteps of its founder, developing an even more connected world.

19. As one of the world's largest pure research and innovation companies, InterDigital relies heavily on the cycle of invention to enable its future research and development efforts. In particular, InterDigital relies on obtaining fair compensation for its novel contributions to technological advancement in multiple industry segments, including in video coding, to fund its ongoing work, breaking new ground for implementers and consumers alike.

20. Protecting its innovations is a key component to InterDigital's business and, to this end, it has a massive portfolio of over 38,000 patent assets, with a strong emphasis on video technologies and wireless telecommunications. More specifically, InterDigital has approximately 6,800 patents in its video portfolio, with over 3,500 patents and applications relating to current and developing codec technologies such as AVC, HEVC, VP9, AV1, and VVC. InterDigital also has a

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portfolio of video-related patents including those related to improved dynamic range and many other improvements to the user video experience.

### B. Video Coding Technology

21. Video coding technology refers to encoding video into a compressed form and decoding video so that it can be displayed and viewed by a user. This technology allows efficient transmission of video while at the same time maximizing quality.

22. In digital video, video content is represented by a series of images (called "frames"), which are displayed in sequence one after another to produce the illusion of motion. A frame is composed of many picture elements ("pixels"), which represent the smallest addressable unit of a digital video. These pixels are arranged in a grid, the resolution of which is expressed in terms of the number of pixels in the horizontal and vertical directions for each frame. For example, video with frames 1,920 pixels wide by 1,080 pixels high may be referred to as 1920x1080 or "1080p," commonly referred to as High Definition or HD. As another example, Ultra High Definition video, also known as UHD or 4K, typically has frames that are 3,840 pixels wide by 2,160 pixels high.

23. A pixel represents a specific color or brightness value. For example, a pixel may encode the red, green, and blue ("RGB") values of a unit of a frame or, equivalently, may encode the luminance, blue chrominance, and red chrominance

("YCbCr") components of a unit of a frame. Each of these components can be expressed as a collection of bits. For example, in 8-bit video each color component can take a value from 0 to 255 (*i.e.*, from 0 to 28–1) with 0 indicating the minimum amount of that component and 255 indicating the maximum. Thus, a black pixel would have the color components [0, 0, 0] and a white pixel would have the components [255, 255, 255]. Higher bit-depths, *e.g.*, 10-bit video, allow a wider range of colors to be represented—but require commensurately greater information per pixel.

24. While the number of pixels in a frame, and a screen capable of displaying them, can be expressed in height and width, or in X and Y axes, the color and quality characteristics of each individual pixel can be thought of as a separate Z axis. Each of these axes is important in playing high quality digital video.

25. Modern digital video typically consists of frames displayed at a rate of around 30 frames per second ("fps"), allowing the total amount of data required for a single second of video to be calculated. For an 8-bit 1080p video at 30 fps, each pixel requires 24 bits (3 components x 8 bits), and each frame consists of 1920x1080 or 2,073,600 pixels, representing a total of 49,766,400 bits. Given a frame rate of 30 fps, just one second of raw video would require transmitting or storing nearly 1.5 billion bits, or about 187 megabytes of data.

26. The large amount of information and bandwidth required to store or transmit digital video is a fundamental problem that experts in the field have aimed to solve by introducing a range of video encoders and decoders, often referred to as a "codecs" ("coder/decoder"), which allow video to be compressed prior to storage and transmission then later decompressed prior to display. Video codecs take advantage of mathematical and statistical techniques to eliminate redundancy in digital video and reduce the amount of information that must be stored and transmitted to reproduce its content. Modern video codecs are very efficient, allowing consumers of digital video to store many hours of content on disk or to stream digital video directly to their TVs, computers, tablets, smartphones, and other devices over the internet.

27. One example of modern video coding is VP9, a codec developed as a successor to VP8 and an alternative to H.265/HEVC. VP9 defines a format for compressing and decompressing digital video data that maximizes both efficiency and visual quality. Like earlier codecs, VP9 removes spatial and temporal redundancies to represent video content using far less data than raw, uncompressed video. In practical terms, VP9 offers compression efficiency comparable to or better than HEVC, often reducing file sizes by 30-50% relative to AVC (H.264), while maintaining similar perceptual quality. VP9 has been widely adopted in streaming

platforms and browsers, particularly for delivery of 4K and HDR content on services such as YouTube.

28. Another codec is AV1, developed as a successor to both VP9 and HEVC. AV1 incorporates numerous technical improvements, including enhanced motion prediction, transform coding, and entropy coding, enabling up to 30% greater compression efficiency than HEVC at the same visual quality. AV1 has been increasingly adopted across the video ecosystem, with support from major technology companies and integration into hardware decoders, browsers, and streaming services. As demand grows for higher resolutions, wider color gamuts, and high dynamic range video, AV1 provides a scalable, efficient solution for next-generation internet video delivery.

**C. HDR**

29. High Dynamic Range ("HDR") video technology represents a major step forward in digital video, allowing content to display a much wider depth and range of brightness, contrast, and color than traditional Standard Dynamic Range ("SDR") video. The goal of HDR is simple: to make on-screen images look closer to what the human eye sees in the real world—bright highlights that still retain detail, deep shadows that do not crush to black, and richer, more realistic color overall.

30. In regular SDR systems, the image is limited to a narrow dynamic range and a smaller color space. This means bright parts of an image can look washed out

and dark areas can lose detail. HDR expands both the brightness range and color gamut to cover far more of the visible spectrum. To make that work, HDR video includes extra information (called metadata) that tells the display how bright or colorful different parts of the picture should be. This metadata can be static—applied once for the whole video—or dynamic, changing scene-by-scene or even frame-by-frame so each moment looks its best on the viewer's screen.

31. Among the most common HDR formats are HDR10, HDR10+, and Dolby Vision. HDR10 is an open format used across most modern TVs and streaming platforms. It relies on the Perceptual Quantizer ("PQ") transfer function defined in SMPTE ST 2084 and uses static metadata that describes the mastering display and content brightness levels. Dolby Vision, as described in specifications including ETSI GS CCM 001 v1.1.1 (2017-02), builds on the same foundation but adds dynamic metadata defined in SMPTE ST 2094-10, allowing the tone-mapping process to adjust continually as scenes change. HDR10+, developed by Samsung and defined in SMPTE ST 2094-40, similarly adds dynamic metadata to the HDR10 framework. Together, these formats enable HDR playback across a wide range of devices, providing brighter highlights, deeper contrast, and more accurate color reproduction than conventional video.

## OVERVIEW OF THE ASSERTED PATENTS

### A. The ’846 Patent

32. United States Patent No. 8,085,846 is entitled “Method and Apparatus for Decoding Hybrid Intra-Inter Coded Blocks,” issued on December 27, 2011, and names Alexandros Tourapis, Jill MacDonald Boyce, and Peng Yin as the inventors. The ’846 Patent is attached as Exhibit 1.

33. InterDigital Madison Patent Holdings SAS owns, by assignment, all right, title, and interest in and to the ’846 Patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

34. The ’846 Patent is valid and enforceable and directed to patentable subject matter.

35. The ’846 Patent is directed to a method and device for hybrid intra-inter bi-predictive coding. In conventional video compression, each block of an image is predicted using either information from the same image (intra prediction) or from a previous or future image in the sequence (inter prediction). The ’846 Patent introduces a hybrid approach that allows both intra and inter predictions to be combined for a single block. The invention of the ’846 Patent allows for improved compression, reduced error propagation, and enhanced video quality.

36. At a high level, a video decoder processes data representing a two-dimensional video image which has been produced by a conventional commercially available video camera. The ’846 Patent discloses a video decoder that receives and decodes a data stream that may contain a hybrid intra-inter bi-predictive (or multi-predictive) block. The hybrid intra-inter bi-predictive (or multiple-predictive) coding mode allows both intraframe (intra) and interframe (inter) predictions to be combined together for a current macroblock or a sub-block.

37. As such, the ’846 Patent is directed to a specific means or method for improving conventional digital video systems that uniquely solves the known problem in video compression technology of improving video quality without adding unnecessary processing and/or complexity as well as limiting unwanted artifacts or other data errors that may result from the decoding process. The ’846 Patent discloses “the combination of intra predictions and inter predictions in the encoding and decoding of a given macroblock, subblock, or partition.” ’846 Patent at 7:4-7. “The combination of intra and inter predictions enables improved gain and/or encoding efficiency and/or may further reduce video data error propagation.” *Id*. at 7:7-10. The ’846 Patent further discloses that “[t]his new bi-predictive (or multi-predictive) mode, provides that two (or more) predictions, which may include one or more intra predictions, are to be used (combined) for making the final prediction of a given block or macroblock.” *Id*. at 8:2-5.

38. The claimed invention discloses a solution to a problem specifically arising in the realm of digital video technology, and in video decoding specifically. The asserted claims identify specific improvements to the operation of video decoding technology (and are not limited to disclosing a desirable result or function). For example, while existing decoding architectures may use multiple predictions for a macroblock or sub-block, the claimed invention uniquely discloses the use of both intraframe (spatial) prediction and interframe (temporal) prediction modes that may give better predictions for a given macroblock as well as reduce blocking artifacts and improve performance. '846 Patent at 8:21-45.[3]

39. The claims of the '846 Patent describe computer-implemented functionality that was not well-understood, routine, or conventional at the time of the invention and the disclosed solutions would be contrary to the conventional method of using only one predictive decoding mode at a time (*e.g.*, inter or intra frame predictions). By potentially increasing the computational complexity in the decoding process, the claims reflect an unconventional solution to the problem of efficient transmission of high quality video data.

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[3] "Additionally, the disclosed bi-predictive (or multi-predictive) macroblock coding mode supports inter prediction modes that are not constrained to use the same partition types, and allows the use of all possible combinations of intra and single-list inter-types." *Id.* at 8:45-50. Indeed, the multi-predictive coding mode supports inter and intra predictions to be performed on different partitions of the same block to be decoded. *Id*. at 8:51-54.

### B. The ’784 Patent

40. United States Patent No. 9,294,784 is entitled “Method and Apparatus for Region-Based Filter Parameter Selection for De-Artifact Filtering,” issued on March 22, 2016, and names Yunfei Zheng, Qian Xu, Joel Sole, Peng Yin, and Xiaoan Lu as the inventors. The ’784 Patent is attached as Exhibit 2.

41. InterDigital Madison Patent Holdings SAS owns, by assignment, all right, title, and interest in and to the ’784 Patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

42. The ’784 Patent is valid and enforceable and directed to patentable subject matter.

43. The ’784 Patent is directed to a method and device for region-based filter parameter selection and de-artifact filtering. In an exemplary embodiment, the device includes a decoder for decoding picture data for at least a region of a picture. ’784 Patent at 7:47-61. The decoder of this embodiment uses a de-artifact filter for performing de-artifact filtering on the region using region-based filter parameter selection. *Id.* at 7:54-59. The region includes any of a non-block-boundary, a block boundary, a combination thereof, and the region may involve only a non-block-boundary to the exclusion of any block boundaries. *Id.* at 6:3-22.

44. The ’784 Patent describes problems with known “general de-artifacting approaches,” including that previous de-artifacting filters did “not take the video content itself into account” while others, such as the MPEG-4 AVC Standard deblocking filter, “cannot reduce artifacts caused by quantization errors which appear inside a block” and “are not suited for processing image singularities such as edges or textures.” *Id.* at 1:40-2:20. The ’784 Patent further explains that “[v]ideo content varies both spatially and temporally” and that “[t]he noise or artifacts level of a video sequence under the same quantization parameter (QP) or coding mode can be very different, which calls for different filtering parameters.” *Id*. at 2:57-60. The ’784 Patent describes an embodiment that adapts the parameter based on the statistics of the current block, such as the local variance, which does not need to be signaled, and/or the variance of the noise. *Id*. at 9:8-12. The ’784 Patent discloses that this exemplary embodiment is one of several disclosed embodiments that can be applied to “save the overhead for signaling the parameter.” *Id*. at 9:1-3.

45. Accordingly, to address these and other drawbacks and disadvantages, the ’784 Patent claims an inventive application of a de-artifact filter for performing de-artifact filtering using a region-based filter parameter. The de-artifact filtering is based on local variance of the region, and the region-based filter parameter is not signaled in the bit stream. The claims of the ’784 Patent describe computer-implemented functionality that was not well-understood, routine, or conventional at

the time of the invention and the disclosed solution improved decoding performance by adapting the region-based filter parameter based on the local variance of the region. As such, the ’784 Patent is directed to a specific means or method for improving conventional digital video systems that uniquely solves the known problem in video compression technology of reducing artifacts with a novel de-artifact filter that adapts to the varying video content by using a region-based filter parameter that is not signaled in the bit stream.

**C. The ’877 Patent**

46. United States Patent No. 10,250,877 is entitled “Method and Device for Coding an Image Block, Corresponding Decoding Method and Decoding Device,” issued on April 2, 2019, and names Philippe Bordes, Pierre Andrivon, and Philippe Salmon as the inventors. The ’877 Patent is attached as Exhibit 3.

47. InterDigital Madison Patent Holdings SAS owns, by assignment, all right, title, and interest in and to the ’877 Patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

48. The ’877 Patent is valid and enforceable and directed to patentable subject matter.

49. The ’877 Patent is directed to a specific means or method for improving digital video systems by solving a known problem in coding and decoding video that

ameliorates the memory-intensive requirements of prior video compression methods. Prior art methods of coding and decoding video using adaptive resolution—*i.e.*, when a current frame to be encoded or reconstructed is a different size from the reference frame used for prediction—required storing multiple versions of reference frames resized to fit the dimensions of the current frame. The ’877 Patent claims an inventive application of filters that eliminates the need to store resized reference images, thus reducing the amount of memory required for video compression. Specifically, “each 2D filter is divided into a 1D vertical filter and a 1D horizontal filter, which are successively applied to the columns and lines of a pixel block or of an image,” and “only the reconstructed reference images are stored” (*i.e.*, no resampled version of the reconstructed reference image is stored in a decoded picture buffer). ’877 Patent at 4:30-33, 5:40-44.

50. Claim 1 of the ’877 Patent provides for the joint application of an interpolation filter and resampling filter to improve upon the adaptive resolution process by increasing the storage space of a device’s decoded picture buffer. *See id*. at 12:1-3 (providing the mechanism where a horizontal motion compensation interpolation filter and a horizontal resampling filter are “applied jointly wherein no resampled version of said reconstructed reference image is stored in the decoded picture buffer.”). Moreover, representative claim 1 of the ’877 Patent recites an algorithmic method by which the horizontal motion compensation interpolation

filter and the horizontal resampling filter work simultaneously wherein "no resampled version of . . . [a] reference image is stored in the decoded picture buffer." *Id*. at claim 1.

51. As the '877 Patent explains, "[t]he [prior art] adaptive resolution method thus requires more memory space as several versions (reconstructed image and upsampled and/or subsampled versions) of a same reference image are stored" which is an issue because "[i]ncreasing the memory size is a problem notably in the hardware implementations for which the surface of the component is notably critical." *Id*. at 2:8-13. The '877 Patent further explains that while "it [was] thus known to apply the filters . . . on the reconstructed reference images with a view to generating upsampled and/or subsampled images which are stored in the DPB memory," in the claimed invention, "by advantageously grouping, the filters for interpolation and resampling horizontally on the one hand and vertically on the other hand, no resampled reference image . . . is stored in the DPB memory in addition to the reconstructed reference image." *Id*. at 5:23-26, 6:2-6.

52. Accordingly, the claims of the '877 patent relate to a method for reconstructing a current block of a current image from at least one block of a reconstructed image that is a different size from the size of the current image and, unlike previous methods for reconstructing image blocks, the claimed invention of the '877 patent does not require the storage of resized versions of the reference image

in the DPB memory. Thus, the claims are not directed to just any form of encoding or decoding image data, but rather to a specific and unique coding mechanism that increases the memory capacity of devices when transmitting images. As such, the ’877 Patent improves the use of computers through a specific filtering mechanism that increases the storage capacity in the DPB and, accordingly, the improvement results in more computer memory.

53. Not only did the ’877 Patent provide an improvement to video coding technology, but the invention has been incorporated into the AV1 video decoding protocol that millions of consumers use today for fast and reliable video streaming.

**D. The ’962 Patent**

54. United States Patent No. 11,695,962 is entitled “Encoding and Decoding Methods and Corresponding Devices,” issued on July 4, 2023, and names Fabrice Le Leannec, Tangi Poirier, and Ya Chen as the inventors. The ’962 Patent is attached as Exhibit 4.

55. InterDigital VC Holdings, Inc. owns, by assignment, all right, title, and interest in and to the ’962 Patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

56. The ’962 Patent is valid and enforceable and directed to patentable subject matter. The ’962 Patent introduces a method and apparatus for decoding

video data which includes determining a context for a syntax element associated with a current transform coefficient of a current sub-block of a picture. ’962 Patent at 17:63-65. The current sub-block results from a partitioning of a current block of samples according to a split mode selected from a plurality of split modes for splitting a block into at least one of rectangular sub-blocks or square sub-blocks. *Id.* at 17:65-18:2. The ’962 Patent discloses various split modes, including without limitation binary tree symmetric split mode, binary tree asymmetric split mode, triple tree split mode, and quad-tree split mode. *Id*. at 6:37-7:24. Binary tree symmetric split modes allow a coding unit to be split horizontally or vertically into two coding units of equal size, binary tree asymmetric split mode allows a coding unit to be split horizontally and/or vertically into two coding units with respective rectangular sizes, triple tree split mode allows a coding unit to be split into three coding units in both vertical and horizontal directions, and quad-tree split modes allow a coding unit to be split into square quadrants. *Id.* at 6:58-7:10; *see also id.* at FIG. 5.

57. The context is determined based on an area of said current sub-block, a position of the current transform coefficient within the current sub-block, and transform coefficients in a local template. *Id.* at 18:2-6. The local template is a subset of transform coefficients of the current sub-block comprising transform coefficients in a causal neighborhood of the current transform coefficient. *Id.* at 18:6-9. The local

template used to assign context models to decode the transform coefficient syntax elements depends on the shape of the transport block and may be, for example, horizontal, vertical, or diagonal. *Id.* at 12:48-65; *see also id.* at FIGS. 12-13. Accordingly, regardless of the position of the current transform coefficient in the current sub-block, a position of at least one of the transform coefficients of the local template with respect to the current transform coefficient depends on the shape of the current sub-block resulting from the portioning of the current block of samples according to the selected split mode. *Id.* at 18:11-16, 12:48-65, FIGS. 12-13.

58. The claims of the '962 Patent describe computer-implemented functionality that was not well-understood, routine, or conventional at the time of the invention and the disclosed solution improved upon a system that used fixed block shapes and limited context modeling for entropy coding which was overall less efficient. By adapting the local template based on the shape of the sub-block, higher compression efficiency and increased accuracy is achieved, and by tailoring the context model to the structure of the data (*e.g.*, the edges of one shape in front of a solid background), visual quality is improved.

**E. The '168 Patent**

59. United States Patent No. 11,399,168 is entitled "Method for Encoding and Method for Decoding a Color Transform and Corresponding Devices," issued

on July 26, 2022, and names Pierre Andrivon, Philippe Bordes, and Emmanuel Jolly as the inventors. The ’168 Patent is attached as Exhibit 5.

60. InterDigital VC Holdings, Inc. owns, by assignment, all right, title, and interest in and to the ’168 Patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

61. The ’168 Patent is valid and enforceable and directed to patentable subject matter.

62. The ’168 Patent is directed to a method and apparatus for encoding and decoding target parameters describing characteristics for a target color space for a video picture to be displayed in the target color space and parameters that facilitate remapping the video picture from a first color space to the target color space. At the time of the invention, a wide range of color formats and display characteristics made it difficult to render a reconstructed image onto a display device. Display devices may not have had the capability to adapt to a particular color space or did not have the required knowledge to perform color conversions. The ’168 Patent introduced an apparatus and method for advantageously remapping the video picture to display the remapped video picture in the target color space.

63. At a high level, encoding and decoding color space parameters allows artistic intent to be more properly displayed across a variety of consumer displays

and allows enhanced data displays to play enhanced transmitted videos. Accordingly, the ’168 Patent discloses encoding and decoding target parameters, which describe the characteristics of the target color space in which to play a video picture.

64. As such, the ’168 Patent is directed to a specific means or method for improving the encoding and decoding of target parameters for a video picture that uniquely solves the known problem of rendering reconstructed images onto a display device without compromising the artistic intent of the video picture. The ’168 Patent discloses encoding and decoding “target parameters [that] describe[e] . . . target color space [characteristics]” and “color transform parameters that represent at least three successively applied color transforms.” ’168 Patent at 14:9-15. In an embodiment, the first and third color transforms can utilize a “function,” such as a “1D LUT” or a “piece-wise linear function,” on each of the color components, outputting a plurality of color components. *Id.* at 14:38-44, 14:49-55, 14:56-62, 15:13-15. In an embodiment, the second color transform can, for example, “comprise a three-by-three matrix” and may “compensate for decorrelation between components by reintroducing component correlation and the offsets.” *Id.* at 15:7-13. Together, these three successively applied color transforms can be used to “facilitate remapping a video picture from a first color space to the target color space . . . and display the remapped video picture in the target color space.” *Id.* at 15:35-39, 15:52-

56. The target parameters and color transform parameters are encoded on and/or decoded from, for example, multiple Supplemental Enhancement Information ("SEI") messages, each SEI message applying to a display output standard (such as Rec. 2020 or Rec. 709), which a display can use to "perform the appropriate signal conversion corresponding to its supported output video formats." *Id.* at 4:10-17, 4:58-63, 5:51-54, 6:1-57.

65. The claimed invention discloses a solution to a problem specifically arising in the realm of display technology, and remapping the video picture to a target color space specifically. The asserted claims identify specific improvements to encoding and decoding a video picture color transform (and are not limited to disclosing a desirable result or function). For example, while existing methods struggled to accurately reconstruct images because of the wide range of color formats on consumer display devices, the claimed invention uniquely discloses using encoded and decoded color transform parameters tied to specific output video formats to properly display a video picture. *Id.* at 6:1-57.

66. The claims of the '168 Patent describe computer-implemented functionality that was not well-understood, routine, or conventional at the time of the invention and the disclosed solution improved upon systems and methods that could not properly remap video picture to target color spaces to be displayed in the target color space. For example, the '168 Patent explains that previous solutions

would transmit the color transform or more generally color metadata at the transport system level in private streams, but most of the transmission systems discard those metadata because they do not know how to interpret them. *Id.* at 2:6-11. By utilizing three successively applied color transforms, which are encoded in and decoded from target parameters, the claims reflect the unconventional solution to the problem of rendering a reconstructed image across a multitude of displays with different specifications and capabilities.

**F. The ’751 Patent**

67. United States Patent No. 9,654,751 is entitled “Method, Apparatus and System for Providing Color Grading for Displays,” issued on May 16, 2017, and names Ingo Tobias Doser, Xueming Henry Gu, Pierre Jean Ollivier, Michael Allan Sterling, Bongsun Lee, Rainer Zwing, Carlos Correa, and Jurgen Stauder as the inventors. The ’751 Patent is attached as Exhibit 6.

68. InterDigital Madison Patent Holdings SAS owns, by assignment, all right, title, and interest in and to the ’751 Patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

69. The ’751 Patent is valid and enforceable and directed to patentable subject matter.

70. The ’751 Patent is directed to methods, and systems for providing color grading or color correction and adapting picture data to be displayed on a display. At the time of the invention, a wide range of available features, such as display brightness and contrast ratio, for common consumer display devices made it difficult for displays to consistently and accurately depict a filmmaker’s use of color to express artistic intent. The ’751 Patent introduced a system and method that adapts picture data using virtual device models that include at least one parameter for specifying at least one display feature by comparing the given display specification on a device and matching it to a virtual device model that is most equivalent to the specification and adapting the picture data to be displayed based on the selected virtual device model.

71. At a high level, the ’751 Patent describes embodiments disclosing a virtual device model includes a specification of display attributes or features such as color gamut, viewing condition, color reproduction accuracy, motion behavior, spatial behavior, display characteristics, and non-linear characteristics. ’751 Patent, at 5:58-6:3. A virtual device model, which in an embodiment is created by comparing a picture displayed on a device to a reference device, compensates for display attribute differences such as those between the reference display and the display used for viewing (such as a consumer display). To show the appropriate color corrected video, a consumer display device selects a virtual device model based on

a comparison to the displayed specification of the display device and adapts the picture data based on the virtual device model. For example, in an embodiment, the virtual device model contains parameters that specify display features, such as for a given class of displays and/or viewing conditions, and the consumer display device adapts the picture data to be displayed based on the virtual device model. This allows, for example, the colors to be changed to achieve the original artistic intent on the output medium.

72. As such, the ’751 Patent is directed to a specific means or method for improving color grading or color correction that uniquely solves the known problem of displaying a video in accordance with a filmmaker’s artistic intent on a display that may have device specifications and parameters that differ from other displays, including from a reference display. The ’751 Patent discloses “color correction [that] is provided on one or several display devices that are representative of the displays that are actually used or will be used by . . . consumers.” ’751 Patent at 7:62-64. These color corrections can be stored as “virtual device model[s] . . . which correct[] for aspect(s) of the display (display attribute) which causes a difference in the display of the picture between the first reference display and the subsequent display group/class.” *Id.* at 8:65-9:2. The ’751 Patent further discloses a “selection process . . . performed on the display side where virtual device model specifications

and actual device specification are matched, and the appropriate virtual device model is chosen so that the best picture data is selected." *Id.* at 3:42-45.

73. The claimed invention discloses a solution to a problem specifically arising in the realm of color grading, color correction, and adjusting the display picture and the '751 Patent identifies specific improvements to the operation of color correction technology (and are not limited to disclosing a desirable result or function). For example, while existing methods would result in picture quality suffering because a display would lack at least one property of a reference display or would have to "downgrade" to the standard display specification, the claimed invention uniquely discloses using a picture selector to select from a plurality of virtual device models to control a display picture based on a comparison to the display's specification, and a picture calibration component to adapt the picture data based on the selected virtual device, thus rendering a video that most accurately reflects the original color correction. '751 Patent at 10:13-44. The '751 Patent further explains that previous solutions that relied on display manufacturers to build displays that better resemble the reference display resulted in picture quality suffering because at least one property of the reference device would be impossible to achieve. *Id*. at 2:65-3:6. The '751 Patent explains that "the artistic intent and the display intent are inherently intertwined" such that, while in previous systems "[i]f the content is shown on a display other than the one used for color correction, then

the correct representation of the artistic intent cannot be provided," the claimed invention "permits the actual display used to view the image product . . . to easily adapt itself to [virtual] device model parameters" to, for example, better achieve artistic intent. *Id*. at 7:55-8:2.

74. The claims of the '751 Patent describe computer-implemented functionality that was not well-understood, routine, or conventional at the time of the invention and the disclosed solutions improved upon systems that would unsuccessfully or inefficiently attempt to adapt picture data, such as from a reference display, due to, for example, differences between the reference device and consumer display device. By utilizing a picture selector to select a virtual device model based on a comparison to a display's specifications, and a picture calibration component that adapts the picture data to be displayed based on the virtual device model, the claims reflect an unconventional solution to the problem of adapting picture data to a consumer display device's specifications and/or viewing conditions.

## COUNT I: INFRINGEMENT OF THE '846 PATENT

75. Plaintiffs incorporate the allegations of all of the foregoing paragraphs as if fully restated herein.

76. Hisense has infringed and continues to infringe, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271, by making, using, selling, and/or offering for sale in the United States or importing into the United

States infringing products and/or services, including at least the AV1 Accused Instrumentalities,[4] and/or contributing to and/or inducing others to do the same. Hisense derives revenue from the activities relating to the AV1 Accused Instrumentalities.

77. As illustrated in Exhibit 7, Hisense infringes at least claims 1, 4, 5, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22 by enabling AV1 decoding on the AV1 Accused Instrumentalities.

78. Hisense took the above actions intending to infringe and/or cause infringing acts by others. For example, Hisense advertises its devices as offering applications, *e.g.*, Netflix and YouTube, that are able to decode and playback AV1 content:

[4] AV1 Accused Instrumentalities include all Hisense devices capable of decoding AV1 content.

Hisense 70" Class QD6030G Series Hi-QLED 4K Google TV

Where to Buy

Add to Compare

*See, e.g.*, Hisense 70" Class QD6030G Series Hi-QLED 4K Google TV, HISENSE, *available at* https://www.hisense-usa.com/category/televisions.

79. Hisense has been aware of the ’846 Patent and its infringement thereof at least as of the filing of this Complaint.

80. On information and belief, Hisense also actively, knowingly, and intentionally induces infringement of one or more claims of the ’846 Patent under 35 U.S.C. § 271(b) by actively encouraging others to make, use, sell, offer to sell, and/or import in the United States, the AV1 Accused Instrumentalities.

81. On information and belief, Hisense also contributes to the direct infringement committed by others, such as customers and end users, in the United States. Hisense’s affirmative acts of selling and offering to sell the AV1 Accused

Instrumentalities and causing the AV1 Accused Instrumentalities to be manufactured, used, sold, and offered for sale contribute to customers' and end users' use of the AV1 Accused Instrumentalities, such that the '846 Patent is directly infringed. The accused components within the AV1 Accused Instrumentalities are material to the invention of the '846 Patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Hisense to be especially adapted for use in infringement of the '846 Patent. Hisense has performed and continues to perform these affirmative acts with knowledge of the '846 Patent and with intent, or willful blindness, that they cause the direct infringement of the '846 Patent.

82. Hisense's acts of infringement have caused damage to Plaintiffs. Plaintiffs are entitled to recover from Hisense the damages sustained by Plaintiffs as a result of its wrongful acts in an amount subject to proof at trial.

83. Plaintiffs provide the foregoing explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Plaintiffs reserve the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

## COUNT II: INFRINGEMENT OF THE '784 PATENT

84. Plaintiffs incorporate the allegations of all of the foregoing paragraphs as if fully restated herein.

85. Hisense has infringed and continues to infringe, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271, by making, using, selling, and/or offering for sale in the United States or importing into the United States infringing products and/or services, including at least the AV1 Accused Instrumentalities, and/or contributing to and/or inducing others to do the same. Hisense derives revenue from the activities relating to the AV1 Accused Instrumentalities.

86. As illustrated in Exhibit 8, Hisense infringes at least claims 9, 13, and 15 by enabling AV1 decoding on the AV1 Accused Instrumentalities.

87. Hisense took the above actions intending to infringe and/or cause infringing acts by others. For example, Hisense advertises its devices as offering applications, *e.g.*, Netflix and YouTube, that are able to decode and playback AV1 content:

Hisense 70" Class QD6030G Series Hi-QLED 4K Google TV

Where to Buy

Add to Compare

*See, e.g.*, Hisense 70" Class QD6030G Series Hi-QLED 4K Google TV, HISENSE, *available at* https://www.hisense-usa.com/category/televisions.

88. Hisense has been aware of the ’784 Patent and its infringement thereof at least as of the filing of this Complaint.

89. On information and belief, Hisense also actively, knowingly, and intentionally induces infringement of one or more claims of the ’784 Patent under 35 U.S.C. § 271(b) by actively encouraging others to make, use, sell, offer to sell, and/or import in the United States, the AV1 Accused Instrumentalities.

90. On information and belief, Hisense also contributes to the direct infringement committed by others, such as customers and end users, in the United States. Hisense’s affirmative acts of selling and offering to sell the AV1 Accused Instrumentalities and causing the AV1 Accused Instrumentalities to be

manufactured, used, sold, and offered for sale contribute to customers' and end users' use of the AV1 Accused Instrumentalities, such that the '784 Patent is directly infringed. The accused components within the AV1 Accused Instrumentalities are material to the invention of the '784 Patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Hisense to be especially adapted for use in infringement of the '784 Patent. Hisense has performed and continues to perform these affirmative acts with knowledge of the '784 Patent and with intent, or willful blindness, that they cause the direct infringement of the '784 Patent.

91. Hisense's acts of infringement have caused damage to Plaintiffs. Plaintiffs are entitled to recover from Hisense the damages sustained by Plaintiffs as a result of its wrongful acts in an amount subject to proof at trial.

92. Plaintiffs provide the foregoing explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Plaintiffs reserve the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

## COUNT III: INFRINGEMENT OF THE '877 PATENT

93. Plaintiffs incorporate the allegations of all of the foregoing paragraphs as if fully restated herein.

94. Hisense has infringed and continues to infringe, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271, by making, using, selling, and/or offering for sale in the United States or importing into the United States infringing products and/or services, including at least the AV1 Accused Instrumentalities, and/or contributing to and/or inducing others to do the same. Hisense derives revenue from the activities relating to the AV1 Accused Instrumentalities.

95. As illustrated in Exhibit 9, Hisense infringes at least claims 1 and 4 by enabling AV1 decoding on the AV1 Accused Instrumentalities.

96. Hisense took the above actions intending to infringe and/or cause infringing acts by others. For example, Hisense advertises its devices as offering applications, *e.g.*, Netflix and YouTube, that are able to decode and playback AV1 content:

Hisense 70" Class QD6030G Series Hi-QLED 4K Google TV

Where to Buy

Add to Compare

*See, e.g.*, Hisense 70" Class QD6030G Series Hi-QLED 4K Google TV, HISENSE, *available at* https://www.hisense-usa.com/category/televisions.

97. Hisense has been aware of the ’877 Patent and its infringement thereof at least as of the filing of this Complaint.

98. On information and belief, Hisense also actively, knowingly, and intentionally induces infringement of one or more claims of the ’877 Patent under 35 U.S.C. § 271(b) by actively encouraging others to make, use, sell, offer to sell, and/or import in the United States, the AV1 Accused Instrumentalities.

99. On information and belief, Hisense also contributes to the direct infringement committed by others, such as customers and end users, in the United States. Hisense’s affirmative acts of selling and offering to sell the AV1 Accused

Instrumentalities and causing the AV1 Accused Instrumentalities to be manufactured, used, sold, and offered for sale contribute to customers' and end users' use of the AV1 Accused Instrumentalities, such that the '877 Patent is directly infringed. The accused components within the AV1 Accused Instrumentalities are material to the invention of the '877 Patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Hisense to be especially adapted for use in infringement of the '877 Patent. Hisense has performed and continues to perform these affirmative acts with knowledge of the '877 Patent and with intent, or willful blindness, that they cause the direct infringement of the '877 Patent.

100. Hisense's acts of infringement have caused damage to Plaintiffs. Plaintiffs are entitled to recover from Hisense the damages sustained by Plaintiffs as a result of its wrongful acts in an amount subject to proof at trial.

101. Plaintiffs provide the foregoing explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Plaintiffs reserve the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

## COUNT IV: INFRINGEMENT OF THE ’962 PATENT

102. Plaintiffs incorporate the allegations of all of the foregoing paragraphs as if fully restated herein.

103. Hisense has infringed and continues to infringe, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271, by making, using, selling, and/or offering for sale in the United States or importing into the United States infringing products and/or services, including at least the AV1 Accused Instrumentalities, and/or contributing to and/or inducing others to do the same. Hisense derives revenue from the activities relating to the AV1 Accused Instrumentalities.

104. As illustrated in Exhibit 10, Hisense infringes at least claims 1 and 13 by enabling AV1 decoding on the AV1 Accused Instrumentalities.

105. Hisense took the above actions intending to infringe and/or cause infringing acts by others. For example, Hisense advertises its devices as offering applications, *e.g.*, Netflix and YouTube, that are able to decode and playback AV1 content:

Hisense 70" Class QD6030G Series Hi-QLED 4K Google TV

Where to Buy

Add to Compare

*See, e.g.*, Hisense 70" Class QD6030G Series Hi-QLED 4K Google TV, HISENSE, *available at* https://www.hisense-usa.com/category/televisions.

106. Hisense has been aware of the ’962 Patent and its infringement thereof at least as of the filing of this Complaint.

107. On information and belief, Hisense also actively, knowingly, and intentionally induces infringement of one or more claims of the ’962 Patent under 35 U.S.C. § 271(b) by actively encouraging others to make, use, sell, offer to sell, and/or import in the United States, the AV1 Accused Instrumentalities.

108. On information and belief, Hisense also contributes to the direct infringement committed by others, such as customers and end users, in the United States. Hisense’s affirmative acts of selling and offering to sell the AV1 Accused

Instrumentalities and causing the AV1 Accused Instrumentalities to be manufactured, used, sold, and offered for sale contribute to customers' and end users' use of the AV1 Accused Instrumentalities, such that the '962 Patent is directly infringed. The accused components within the AV1 Accused Instrumentalities are material to the invention of the '962 Patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Hisense to be especially adapted for use in infringement of the '962 Patent. Hisense has performed and continues to perform these affirmative acts with knowledge of the '962 Patent and with intent, or willful blindness, that they cause the direct infringement of the '962 Patent.

109. Hisense's acts of infringement have caused damage to Plaintiffs. Plaintiffs are entitled to recover from Hisense the damages sustained by Plaintiffs as a result of its wrongful acts in an amount subject to proof at trial.

110. Plaintiffs provide the foregoing explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Plaintiffs reserve the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

## COUNT V: INFRINGEMENT OF THE '168 PATENT

111. Plaintiffs incorporate the allegations of all of the foregoing paragraphs as if fully restated herein.

112. Hisense has infringed and continues to infringe, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271, by making, using, selling, and/or offering for sale in the United States or importing into the United States infringing products and/or services, including at least the HDR Accused Instrumentalities,[5] and/or inducing others to do the same. Hisense derives revenue from the activities relating to the HDR Accused Instrumentalities.

113. As illustrated in Exhibit 11, Hisense infringes at least claim 18 by enabling HDR playback on the HDR Accused Instrumentalities.

114. Hisense took the above actions intending to infringe and/or cause infringing acts by others. For example, Hisense advertises its devices as playing back HDR content:

[5] HDR Accused Instrumentalities include all Hisense devices capable of playing back HDR10, HDR10+, or Dolby Vision content.

**Dolby Vision™HDR and HDR10**

Dolby Vision HDR brings the cinema to your living room. Discover the brilliant colors and sharp detail.

*See, e.g.*, Hisense 65" Class A6 Series LED 4K UHD Smart Google TV, HISENSE, *available at* https://www.hisense-usa.com/product-page/televisions-65-inch-a6-series-led-4k-uhd-smart-google-tv-2021-65a65h; *see also* Dolby Vision HDR, HISENSE, *available at* https://www.hisense-usa.com/category/dolby-vision-hdr.

| | |
|---|---|
| **High Dynamic Range (HDR)** | Yes |
| **High Dynamic Range Format** | Dolby Vision, HDR 10+, HDR 10, Hybrid Log-Gamma (HLG) |

*See, e.g.*, Hisense - 65" Class A6 4K UHD Series LED HDR Smart Fire TV (2025) – Specifications, BEST BUY, *available at* https://www.bestbuy.com/product/hisense-65-class-a6-4k-uhd-series-led-hdr-smart-fire-tv-2025/J3Z9Z42923.

115. Hisense has been aware of the ’168 Patent and its infringement thereof at least as of the filing of this Complaint.

116. On information and belief, Hisense also actively, knowingly, and intentionally induces infringement of one or more claims of the ’168 Patent under

35 U.S.C. § 271(b) by actively encouraging others to make, use, sell, offer to sell, and/or import in the United States, the HDR Accused Instrumentalities.

117. On information and belief, Hisense also contributes to the direct infringement committed by others, such as customers and end users, in the United States. Hisense's affirmative acts of selling and offering to sell the HDR Accused Instrumentalities and causing the HDR Accused Instrumentalities to be manufactured, used, sold, and offered for sale contribute to customers' and end users' use of the HDR Accused Instrumentalities, such that the '168 Patent is directly infringed. The accused components within the HDR Accused Instrumentalities are material to the invention of the '168 Patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Hisense to be especially adapted for use in infringement of the '168 Patent. Hisense has performed and continues to perform these affirmative acts with knowledge of the '168 Patent and with intent, or willful blindness, that they cause the direct infringement of the '168 Patent.

118. Hisense's acts of infringement have caused damage to Plaintiffs. Plaintiffs are entitled to recover from Hisense the damages sustained by Plaintiffs as a result of its wrongful acts in an amount subject to proof at trial.

119. Plaintiffs provide the foregoing explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Plaintiffs

reserve the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

## COUNT VI: INFRINGEMENT OF THE '751 PATENT

120. Plaintiffs incorporate the allegations of all of the foregoing paragraphs as if fully restated herein.

121. Hisense has infringed and continues to infringe, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271, by making, using, selling, and/or offering for sale in the United States or importing into the United States infringing products and/or services, including at least the HDR Accused Instrumentalities, and/or inducing others to do the same. Hisense derives revenue from the activities relating to the HDR Accused Instrumentalities.

122. As illustrated in Exhibit 12, Hisense infringes at least claim 14 by enabling HDR playback on the HDR Accused Instrumentalities.

123. Hisense took the above actions intending to infringe and/or cause infringing acts by others. For example, Hisense advertises its devices as playing back HDR content:

**Dolby Vision™HDR and HDR10**

Dolby Vision HDR brings the cinema to your living room. Discover the brilliant colors and sharp detail.

*See, e.g.*, Hisense 65" Class A6 Series LED 4K UHD Smart Google TV, HISENSE, *available at* https://www.hisense-usa.com/product-page/televisions-65-inch-a6-series-led-4k-uhd-smart-google-tv-2021-65a65h; *see also* Dolby Vision HDR, HISENSE, *available at* https://www.hisense-usa.com/category/dolby-vision-hdr.

| | |
|---|---|
| **High Dynamic Range (HDR)** | Yes |
| **High Dynamic Range Format** | Dolby Vision, HDR 10+, HDR 10, Hybrid Log-Gamma (HLG) |

*See, e.g.*, Hisense - 65" Class A6 4K UHD Series LED HDR Smart Fire TV (2025) – Specifications, BEST BUY, *available at* https://www.bestbuy.com/product/hisense-65-class-a6-4k-uhd-series-led-hdr-smart-fire-tv-2025/J3Z9Z42923.

124. Hisense has been aware of the ’751 Patent and its infringement thereof at least as of the filing of this Complaint.

125. On information and belief, Hisense also actively, knowingly, and intentionally induces infringement of one or more claims of the ’751 Patent under

35 U.S.C. § 271(b) by actively encouraging others to make, use, sell, offer to sell, and/or import in the United States, the HDR Accused Instrumentalities.

126. On information and belief, Hisense also contributes to the direct infringement committed by others, such as customers and end users, in the United States. Hisense's affirmative acts of selling and offering to sell the HDR Accused Instrumentalities and causing the HDR Accused Instrumentalities to be manufactured, used, sold, and offered for sale contribute to customers' and end users' use of the HDR Accused Instrumentalities, such that the '751 Patent is directly infringed. The accused components within the HDR Accused Instrumentalities are material to the invention of the '751 Patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Hisense to be especially adapted for use in infringement of the '751 Patent. Hisense has performed and continues to perform these affirmative acts with knowledge of the '751 Patent and with intent, or willful blindness, that they cause the direct infringement of the '751 Patent.

127. Hisense's acts of infringement have caused damage to Plaintiffs. Plaintiffs are entitled to recover from Hisense the damages sustained by Plaintiffs as a result of its wrongful acts in an amount subject to proof at trial.

128. Plaintiffs provide the foregoing explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Plaintiffs

reserve the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

## DEMAND FOR JURY TRIAL

Plaintiffs hereby demand a trial by jury for any and all issues triable.

## PRAYER FOR RELIEF

WHEREFORE, Plaintiffs ask the Court for an order granting the following relief:

A. A judgment in favor of Plaintiffs that Hisense has infringed, either literally and/or under the doctrine of equivalents, the ’846, ’784, ’877, ’962, ’168, and ’751 Patents;

B. A judgment and order finding that Hisense’s infringement has been willful;

C. A permanent injunction prohibiting Hisense from further acts of infringement;

D. An order awarding damages sufficient to compensate Plaintiffs for Hisense’s infringement of the Asserted Patents, but in no event less than a reasonable royalty, including supplemental damages post-verdict, together with pre-judgment and post-judgment interest and costs;

E. Enhanced damages pursuant to 35 U.S.C. § 284;

F. A judgment and order declaring that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding Plaintiffs their reasonable attorneys’ fees against Hisense; and

G. Any and all other relief as the Court may deem appropriate and just under the circumstances.

Dated: February 9, 2026

Respectfully Submitted,

*/s/ Lindsay C. Church*
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