

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTEL CORP., DELL INC., and DELL TECHNOLOGIES INC.,

Petitioners,

v.

GENERAL VIDEO, LLC,

Patent Owner.

Case No. IPR2025-01036

Patent No. 9,036,010

PATENT OWNER'S PRELIMINARY RESPONSE

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I. INTRODUCTION

Patent Owner General Video, LLC submits this preliminary response to the Petition filed by Petitioners requesting *inter partes* review of claims 1-8 and 12-18 (the “Challenged Claims”) of U.S. Pat. No. 9,036,010 (the “010 Patent”).

The Board must deny institution because the Petition fails to demonstrate a reasonable likelihood that the Challenged Claims of the 010 Patent are unpatentable.¹ Each ground in the Petition is based on obviousness, and the obviousness arguments are clearly based on hindsight. Each of the asserted prior art references differs significantly from the inventions claimed by the 010 Patent, claim limitations are missing from each of the asserted prior art references, and Petitioners fail to show the Challenged Claims would have been obvious over the asserted prior art references. Indeed, the primary reference the Petition relies on, Suzuki, was before the Examiner during examination of the 010 Patent, and the Examiner found the claims of the 010 Patent allowable over Suzuki. *See* Ex. 1002 at 40-42.

In particular, with respect to certain limitations of the claims, the Petition's arguments are not based on what the prior art references actually disclose. Instead,

¹ Patent Owner previously filed a Request for Discretionary Denial (Paper No. 8) that includes several reasons why the Board should, for discretionary reasons, deny institution, but it did not go into detail on the merits of the Petition.

the Petition points to teachings of the prior art that are not the same as what is recited in the limitations of the Challenged Claims, and then, relying solely on conclusory, *ipse dixit* expert testimony, fills the gaps in the teachings by asserting that a POSITA would have somehow *understood* those teachings to be the same as the language in the limitations and/or that it would have been obvious to a POSITA to combine those teachings to arrive at the limitation. Indeed, the constant refrain of “a POSITA would have understood/recognized” (supported solely by verbatim and conclusory *ipse dixit* expert testimony) throughout the Petition is the glue that tries, but fails, to hold the Petition’s evidence-deficient unpatentability arguments together.

In that regard, with respect to Ground 1, the Petition has failed to show that the combination of Tu, Suzuki, and Yun teaches or suggests the following limitations of independent Challenged Claims 1 and 16:

- “a formatter . . . wherein the formatter, in accordance with signal information received from the second audio-device, is operable in: a first mode . . . and, a second mode” (claim 1); and
- “formatting . . . in accordance with capabilities of the second audio-visual device received in a signaling information” (claim 16).

With respect to Ground 3, the Petition has failed to show that the combination of Tu and Suzuki teaches or suggests the following limitations of independent Challenged Claims 12 and 18:

- “a processor arranged to extract said image data . . . wherein in a first mode, the processor extracts pixel image data for a 2D image from a stream of first data elements” (claim 12); and
- “extracting pixel image data for a 2D image from a stream of first data elements” (claim 18).

And with respect to Grounds 2 and 4, the Petition fails to show that Lida cures the deficiencies of the art relied on in Grounds 1 and 3, respectively.

Accordingly, Petitioners have not carried their burden of showing that any of the Challenged Claims are likely unpatentable.

II. SUMMARY OF THE 010 PATENT

The 010 Patent describes a novel solution that improves how stereoscopic image, or 3D image, data is delivered over a digital display interface. In particular, the 010 Patent describes a digital display interface part for use in a first audio-visual device for supporting a digital display interface between the first audio-visual device and a second audio-visual device. Ex. 1001 at 1:66-2:2. The interface part includes an input for receiving image data and a formatter arranged to format the data for transport over the interface. *Id.* at 2:4-6. The formatter is operable in a first mode in which the formatter generates a stream of first data elements which carry pixel data of a 2D image and a second mode in which the formatter generates a stream of second data elements which carry a multiplexed combination of components of a

stereoscopic image. *Id.* at 2:6-11. The second data elements have a capacity which is no greater than the first data elements. *Id.* at 2:28-30.

As the 010 Patent explains, an advantage of this arrangement is that the stereoscopic image data can be carried across a digital display interface using the existing capacity of the interface. *Id.* at 2:12-14. Where the display interface supports various color depths of image data, the higher capacity transport modes which are intended to transport higher color depth data can be re-used to carry the multiplexed stereoscopic image data. *Id.* at 2:14-19. Therefore, no additional capacity is required from the interface to carry the stereoscopic data, and good color depth for the stereoscopic content is still allowed for. *Id.* at 2:19-22. The arrangement also requires little or no change to an existing standard defining the display interface and allows stereoscopic image content to be sent with a resolution which is significantly higher than schemes which sacrifice part of the active image area to carry the stereo image data. *Id.* at 2:22-27. Further, because the second data elements have a capacity which is no greater than the first data elements, stereoscopic data can be carried with minimal modification to the standards that define the interface. *Id.* at 2:28-32.

III. CLAIM CONSTRUCTION

For purposes of determining whether to institute based on the Petition only, Patent Owner does not construe any claim terms of the 010 Patent, but Patent Owner does not waive its right to propose new or additional constructions in litigation

involving the 010 Patent, or later in this proceeding if the Board should decide to institute a trial.

IV. NO REVIEW SHOULD BE INSTITUTED WITH RESPECT TO THE GROUNDS RAISED BY PETITIONERS

As explained in detail below, the Petition fails to establish a reasonable likelihood that the Challenged Claims are unpatentable. The Petition proposes four grounds against the 010 Patent:

- **Ground 1.** Unpatentability of claims 1, 2, 6, 7, 16, and 17 under 35 U.S.C. § 103 over U.S. Patent Pub. No. 2008/0134237 (“Tu”), U.S. Patent Pub. No. 2007/0296859 (“Suzuki”), and U.S. Patent Pub. No. 2004/0027452 (“Yun”).
- **Ground 2.** Unpatentability of claims 3-5 and 8 under 35 U.S.C. § 103 over Tu, Suzuki, Yun, and U.S. Patent Pub. No. 2008/0187028 (“Lida”).
- **Ground 3.** Unpatentability of claims 12, 13, 15, and 18 under 35 U.S.C. § 103 over Tu and Suzuki.
- **Ground 4.** Unpatentability of claim 14 under 35 U.S.C. § 103 over Tu, Suzuki, and Lida.

As discussed in more detail below, the cited references do not, individually or collectively, disclose, teach, or suggest all of the elements of the Challenged Claims. Where none of the references discloses an element of the claims, *inter partes* review for obviousness cannot be instituted. *See CustomPlay, LLC v. ClearPlay, Inc.*,

IPR2013-00484, Paper 29 at 12-13 (P.T.A.B. 2014) (claims not unpatentable where none of the asserted prior art references disclosed a claim element).

For the foregoing reasons and as further discussed below, the Petition does not establish a reasonable likelihood that the Challenged Claims are unpatentable, and the Board should therefore not institute an *inter partes* review.

A. Ground 1: Unpatentability of claims 1, 2, 6, 7, 16, and 17 over Tu, Suzuki, and Yun

The Petition does not show that there is a reasonable likelihood that the Petitioners would prevail on Ground 1 with respect to claims 1, 2, 6, 7, 16, and 17. In particular, those claims would not have been obvious over the combination of Tu, Suzuki, and Yun.

1. Claims 1, 2, 6, and 7

The Petition fails to show that the combination of the Ground 1 references teaches or suggests, or renders obvious, “[a] digital display interface part . . . comprising: a formatter . . . wherein the formatter, in accordance with signal information received from the second audio-device, is operable in: a first mode . . . and, a second mode,” as recited in claims 1, 2, 6, and 7. In the first mode, the formatter generates a stream of first data elements comprising pixel data of a 2D image, and in the second mode, the formatter generates a stream of second data elements which carry a multiplexed combination of components of a stereoscopic, or 3D, image. *See* Ex. 1001 at 11:13-19.

a. Suzuki

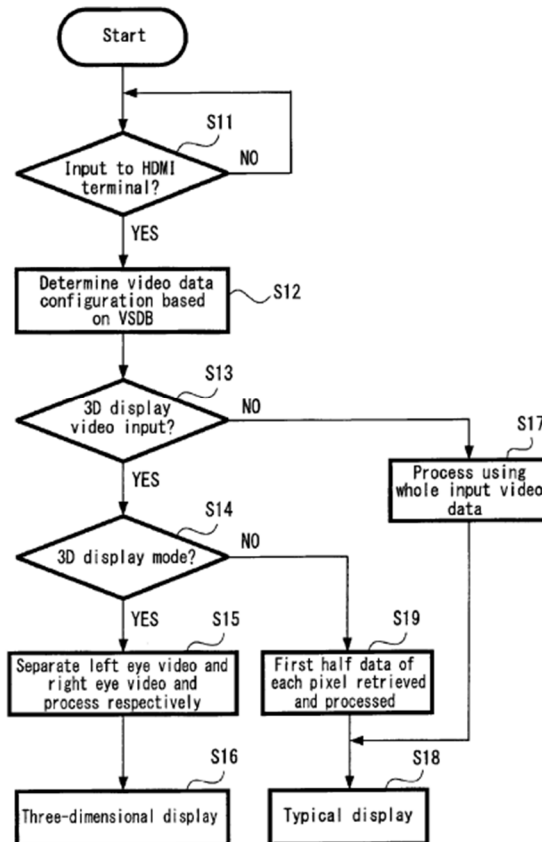
Starting with Suzuki – which, again, was in front of the Examiner of the 010 Patent – that reference does not teach or suggest a formatter that operates in a first mode “*in accordance with signal information received from the second audio-device.*”

With reference to Figure 11 of Suzuki below, the display device, *e.g.*, a television, receives VSDB data from the source device, *e.g.*, a DVD player, that includes pixels of 2D image data or pixels of 3D image data (*i.e.*, stereoscopic image data including data for the right eye and data for the left eye). At step S12, the display device determines what kind of video data it received from the source device, *i.e.*, 2D image data or 3D image data, and then at step S13 it asks if that received data is 3D data or not. If the received image data is 3D data, then at step S14 it is detected whether or not the present video display mode of the display device is a three-dimensional mode. *See id.* at [0065], [0067]. If the display device is in the three-dimensional display mode, then the 3D image data for the left eye and right eye are separated or combined and then displayed. *See Ex. 1006* at [0065]. Conversely, if the display device is not in a three-dimensional display mode, the display device selects only the first half of the 3D image data in each pixel (*e.g.*, data for the left eye) and transmits the selected data for processing and displaying as 2D video. *See id.* at [0067]. Suzuki states that the display device’s ability to select and display half

of the 3D image data as 2D data in such circumstances “is convenient for the user.”

Id. at [0069].

FIG. 11



Nowhere does Suzuki teach or suggest that a second audio-video device (*e.g.*, a display device such as a television) sends signal information to a source device so that the “formatter”² of the source device operates in accordance with that

² The Petition asserts that “Suzuki’s HDMI transmission processing unit, illustrated at Figure 3 . . . includes a multiplexer circuit 21, an HDCP coding unit 22, and a transmission processing unit 23 that perform transmission formatting[.]” Pet. at 44.

information. The Petition recognizes as much. *See* Pet. at 48 (“Suzuki, however, leaves the implementation details to a POSITA of how to determine the mode (*i.e.*, 2D or 3D) in which to operate.”).

However, the Petition then (erroneously) argues that it would have been obvious to modify Suzuki’s display device to inform the source device of the display device’s capabilities:

A POSITA would have recognized that it would be useful for the display device to inform the source device of its capabilities so that the source device understands which video multiplexing algorithm (*i.e.*, 2D or 3D) to perform. *See* Ex.1008, [0104]. That is, **it would have been obvious for** the display device to inform the source device whether or not it is capable of supporting 3D video, and in the case where 3D video is not supported the source device would operate in 2D mode and transmit typical 2D video data. **A POSITA would have understood that** with this approach the display device does not need to disregard additional data in the case where stereoscopic 3D video data was sent but only typical 2D video was supported for display. Ex.1006, [0020], [0067], FIG. 11. Accordingly, **a POSITA would have understood that** this approach beneficially (1) reduces unnecessary computation on the display device since no need to disregard the additional data, and (2) allows the interface full capacity to be used for deep color mode for typical 2D video or alternatively using only half the capacity for standard color in typical 2D video. *See* Ex. 1006, FIGS. 1, 2. Ex.1003, ¶183.

Pet. at 48-49 (emphasis added).

To start with, the Petition's argument is based heavily on statements about what a POSITA allegedly would have understood, recognized, and found obvious. Those statements are based on conclusory and nearly verbatim expert *ipse dixits* and, thus, carry no weight. Ex. 1003 at ¶ 183; *Kinetic Techs., Inc. v. Skyworks Solutions, Inc.*, IPR2014-00529, Paper 8 at 15 (P.T.A.B. Sept. 23, 2014) (“Merely repeating an argument from the Petition in the declaration of a proposed expert does not give that argument enhanced probative value.”); *Roxane Labs., Inc. v. Novartis AG*, IPR2016-01461, Paper 9 at 10 (P.T.A.B. Feb. 13, 2017) (“[C]onclusory expert testimony is entitled to little or no weight. . . . Where, as here, the conclusory testimony is the sole basis for establishing that a claim limitation is taught or suggested by the prior art, we find it insufficient to establish a reasonable likelihood of prevailing regarding that claim.”); *Initiative for Medicines, Access & Knowledge v. Gilead Pharmasset LLC*, IPR2018-00390, Paper 7 at 14-15 (P.T.A.B. Jul 29, 2018) (denying institution where, “by way of evidentiary support, the Petition directs us only to opinion testimony of [its expert], which merely repeats verbatim the conclusory statements set forth in the Petition, without providing any factual analysis or citing any supporting objective proof....[this] inadequately supported opinion on the question of obviousness ‘is entitled to little or no weight’”); *Hyundai Motor Company v. Blitzsafe Texas, LLC*, IPR2016-01476, Paper 12 at 21 (P.T.A.B. Jan. 24, 2017)

(denying institution where the expert's "representations are particularly unconvincing and of minimal probative weight given that they merely repeat verbatim the precise statements in the Petition"); *see also* 37 C.F.R. § 42.104(b)(4); Director's July 31, 2025 Memorandum regarding "Enforcement and Non-Waiver of 37 C.F.R. § 42.104(B)(4) and Permissible Uses of General Knowledge in Inter Partes Reviews" at 1 ("expert testimony, common sense, and other evidence that is not 'prior art consisting of patents or printed publications' . . . may not be used to supply a missing claim limitation").

Further, the Petition's statements are based on hindsight. Again, Suzuki teaches that the display device determines if the input it receives from the source device is 3D image data or not, and, if it is, then it determines if it is in 3D display mode. If it is in that mode, it separates left eye and right eye image data and displays it as 3D video, but, if it is not in that mode, it processes the first half of data of each pixel and displays it as a 2D video. *See* Ex. 1006 at Figure 11. Thus, Suzuki's system is efficient and flexible because the display device receives, and processes for display, image data from the source device as is, without the display device having to send the formatter information about what kind of image data the display device can show and/or how the formatter needs to format the image data. *See id.* at [0069] (the system is "convenient for the user").

The Petition (and Petitioners' expert) makes the conclusory statement that it would have been obvious to have Suzuki's display device inform the source device whether or not the display device is capable of supporting 3D video because doing so allegedly would reduce unnecessary computation on the display device and allow the interface's full capacity to be used for deep color mode for 2D video or half of its capacity for standard color in 2D video. Pet. at 48-49. However, that proposed modification would require Suzuki's display device to engage in the additional step of sending information to the formatter about its mode and how to format image data and require the formatter to have to engage in specific computations to format the data in accordance with the display device's instructions. The Petition does not explain how those extra steps "reduce unnecessary computation" in Suzuki's system, especially when Suzuki's alleged "unnecessary computation" merely requires the simple step of selecting half of the 3D image data for display as 2D video data and allows the formatter to send data as it sees fit. In addition, nothing about Suzuki's unmodified system prevents the use of the full capacity of the interface or half of its capacity for 2D image data – and, indeed, the Petition does not explain why it does. *See* Pet. at 48-49.

Further, neither the Petition, nor Petitioners' expert, explains *why or how* their proposed modification improves on Suzuki's already efficient and "convenient" system, which allows for the display device to be more flexible, does not put

constraints on how the formatter formats image data, and eliminates communication steps. Instead, they ignore the benefits and simplicity of Suzuki's system and assume, without any basis, that a POSITA would have been motivated to change Suzuki's "convenient" system as they propose – even though, as discussed above, the purported benefits of their proposed modification are illusory.

Lastly, the Petition and Petitioners' expert cite to another reference (Glen, which is not even a reference relied on in any of the Grounds) to support their argument, but Glen merely says "the [sink device] 14 [TV] generates one or more commands 19 for causing the [source device] 12 to effect the video processing algorithm(s)." *See* Pet. at 48; Ex. 1003 at ¶ 183; Ex. 1008 at [0104]. Glen's generic description of a sink device sending commands to a source device, however, is not a reason to modify Suzuki's *specific* teachings related to receiving, processing, and displaying image data (and lose the benefits, efficiencies, and "convenience" of Suzuki's system).

b. Tu

Aware that Suzuki does not disclose or render obvious a "formatter, *in accordance with signal information received from the second audio-device*, [that] is operable in: a first mode," the Petition next points to the disclosure in Tu of a source device receiving "extended display identification (EDID)" that describes "what kind

of monitor is connected” and its “capabilities” and asserts that it would have been obvious to combine those teachings of Tu with Suzuki to arrive at that limitation:

It would have been obvious to a POSITA to apply Tu’s EDID information teachings, when implementing the combination of Tu and Suzuki, so that the source device may determine the display device’s capabilities and operate in a corresponding mode (i.e., 2D or 3D). As discussed at [1.0.1], Tu’s source device would include an HDMI transmission processing unit, as Suzuki teaches, **which a POSITA would have recognized** is a type of “special application extension module” that can provide both typical 2D and stereoscopic 3D video data and also performs HDCP encoding. See Ex.1006, [0043], Claim, 4, FIG. 3. In the instance where the EDID information indicates that Tu’s display device is capable of processing typical 2D video (but not stereoscopic 3D video), **it would have been obvious** for the source device to transmit typical 2D video. And, in the instance where the EDID information indicates that display device is capable of processing stereoscopic 3D video (e.g., because TV 102 has special application extension modules for that purpose, as Suzuki illustrates at Figure 3), **it would have been obvious** for the source device to transmit stereoscopic 3D video. Likewise, **it would have been obvious that** in the instance where the display device has HDCP capability (e.g., because the TV 102 includes an HDCP decoding unit 428 as Tu illustrates at Figure 9), the source device performs HDCP encoding before transmission. Ex.1003, ¶186.

Pet. at 50-51 (emphasis added).

First, the numerous bolded statements regarding what a POSITA allegedly would have understood or found obvious are doing the heavy lifting in this argument, and those statements carry no weight because they are supported by conclusory, verbatim expert *ipse dixits*. See Ex. 1003 at ¶ 186.

Second, Tu's EDID does not include information about whether the display device is in a mode to display 2D image data or in a mode to display 3D image data. Rather, the EDID identifies a TV as being capable of working with a range of special application extension modules and as having HDCP capability. See Ex. 1005 at [0083]. The Petition just baselessly assumes that Tu's EDID information indicates that Tu's display device is capable of processing typical 2D video or 3D video. Further, the Petition does not explain ***why or how*** Tu's EDID teachings would have led a POSITA to change Suzuki's specific teachings to add the step of the display device sending signals to the source device about whether the display device is in a mode for displaying 2D data or in a mode for displaying 3D data or how to format image data when Suzuki's system allows for the display device to process the image data it receives from the source device regardless of how it is formatted.

The Petition further states that Tu teaches that the display device utilizes "back-channel communication" to send "certain control commands" for "controlling operation of the external device" and then asserts

It would have been obvious to a POSITA, when implementing the combination of Suzuki and Tu, to utilize both the back-channel information (which allows “for controlling operation of the external device through the television apparatus” Ex.1005, [0019]) and the EDID information (which provides display characteristics) to control the source device mode of operation. This information would allow for controlling the source device such that it outputs typical 2D video when the user elects to watch typical 2D video (using back-channel information) and when the display device is not capable of displaying 3D video (using EDID information). Also, **it would have been obvious** to output stereoscopic 3D video when both the user desires to watch 3D video (using back-channel information) and when the display device is capable of displaying stereoscopic 3D video (using EDID information). Ex.1003, ¶189.

Pet. at 51-52 (emphasis added).

This is again hindsight-based analysis. The Petition's statements regarding what would have been obvious carry no weight because they are conclusory and supported solely by verbatim expert *ipse dixits*. See Ex. 1003 at ¶ 189. Moreover, the Petition does not explain **how or why** a person would have combined Suzuki and Tu as proposed. Suzuki's display device does not have to send information to the source device about what mode it is in because the display device is able to respond to whatever kind of image data the source device sends regardless of the mode it is in. The Petition does not explain why or how using back-channel and EDID

information to control the source device improves upon Suzuki's teaching. If anything, it just adds unnecessary additional steps. Indeed, if the user elects to watch typical 2D videos with Suzuki's device, the display device will process and display as 2D video the image data from the source device regardless of whether the image data is sent as 2D image data or 3D image data. *See* Ex. 1006 at [0066]-[0067]. And if the user elects to watch 3D videos, Suzuki's display device will process and display as 3D videos any 3D image data it receives. *See id.* at [0065].

c. Yun

Lastly, the Petition turns to a third reference – Yun – to try to fill the obvious gaps in Suzuki's and Tu's teachings. The Petition states that Yun describes a source device that uses “back-channel information” to control the source's mode of operation, including a “two-dimensional display mode,” and asserts that

It would have been obvious to a POSITA to apply Yun's teachings when implementing Tu (as modified per Suzuki) such that back-channel information is used to determine the operation mode of the source device. Yun's teachings would beneficially allow for sending back-channel signals from the display device to control the source device such that it operates in a 2D mode if the user elects to watch typical 2D videos.

Pet. at 52-54 (emphasis added). Again, the Petition's statement about why the proposed combination would have been obvious is supported solely by a conclusory, verbatim expert *ipse dixit* and should be given no weight. *See* Ex. 1003 at ¶ 192.

Further, the Petition does not explain *why or how* a POSITA would have wanted to add the extra step of having Suzuki's display device send the source device information about the mode the display device is in when the display device is "conveniently" configured to process image data from the source device regardless of whether it is 2D data or 3D data. If the user elects to watch typical 2D videos with Suzuki's display device, the display device will process and display the image data from the source device as 2D video regardless of whether the image data is sent as 2D image data or 3D image data. *See* Ex. 1006 at [0066]-[0067].

For at least the aforementioned reasons, the Petition fails to show that the Ground 1 references teach or suggest, or render obvious, the limitation of "a formatter . . . wherein the formatter, in accordance with signal information received from the second audio-device, is operable in: a first mode . . . and, a second mode." Indeed, it is readily apparent that Petitioners' 8+ pages of argument that that single limitation would have been obvious over a combination of the disparate teachings of three different references is based solely on improper hindsight. *See TQ Delta, LLC v. CISCO Sys.*, 942 F.3d 1352, 1362 (Fed. Cir. 2019) ("[The expert's] *ipse dixit* declaration 'fail[s] to provide any meaningful explanation for why one of ordinary skill in the art would be motivated to combine these references *at the time of this invention*.' It also 'fails to explain why a person of ordinary skill in the art would

have combined elements from specific references *in the way the claimed invention does.*' Without this support, Dr. Tellado's declaration ultimately fails 'to resist the temptation to read into the prior art the teachings of the invention in issue.'") (internal citations omitted); *Delphix Corp. v. Actifio, LLC*, IPR2015-01678, Paper 8 at 20 (P.T.A.B. Feb. 10, 2016) ("[T]here are multiple instances in which Petitioner has failed to show a teaching of a claim limitation in the prior art. Petitioner has attempted to fill those gaps with conclusory expert testimony that, itself, does not cite to evidentiary support. . . . [W]e are persuaded that Petitioner's proposed combination . . . is not driven by the teachings of those references but, rather, is built on impermissible hindsight."); *RPX Corp. v. Parity Networks, LLC*, IPR2018-00097, Paper 7 at 11-12 (P.T.A.B. Apr. 24, 2018) ("Petitioner's reliance on the conclusory testimony of its Declarant to prove the unpatentability of a claim limitation is not supported by S-Ma's disclosure or by other evidence of record. We further note that . . . '[e]xpert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.'").

2. Claims 16 and 17

The Petition states that independent "Claim 16 is substantially similar to claim 1." Pet. at 80. For the limitation of "formatting . . . in accordance with capabilities of the second audio-visual device received in a signaling information," the Petition refers to analysis it provided with respect to claim 1:

Consistent with [1.2.2] the source device receives back-channel information and EDID information that indicates the capabilities of the display device. Further, consistent with [1.2.1] and [1.4.1], the source device operates in a 2D mode when the display device is not a 3D capable display (or if the user does not elect to watch 3D videos) and it operates in a stereoscopic 3D mode when display device is a 3D capable display and the user elects to watch 3D videos.

Pet. at 82 (emphasis added).

As discussed above with respect to the claim 1 limitation [1.2.2]³ (“wherein the formatter, in accordance with signal information received from the second audio-device, is operable in: a first mode”), Suzuki’s display device does not send the source device signaling information providing information about the display device’s capabilities. Indeed, it would make no sense for it to do so because Suzuki teaches that the display device just accepts and processes the image data it receives from the source device. Moreover, Tu’s EDID information does not include information about whether the display device is in a mode to display 2D image data or in a mode to display 3D image data. Rather, the EDID identifies a TV as being capable of working with a range of special application extension modules and as having HDCP capability. *See* Ex. 1005 at [0083]. And, critically, the Petition does not explain *why or how* a POSITA would have modified Suzuki’s specific teachings,

³ For ease of reference, the Petition’s identifiers for claim limitations are used herein.

in view of Tu's teachings, to add the step of the display device sending signals to the source device about whether the display is in a mode for displaying 2D video or in a mode for displaying 3D video when Suzuki's system already conveniently allows for the display device to accommodate whatever image data the source devices sends without such a step.

Accordingly, the Petition fails to show that claim 16 – and claim 17, which depends from claim 16 – would have been obvious over the Ground 1 art.

B. Ground 2: Unpatentability of claims 3-5 and 8 over Tu, Suzuki, Yun, and Lida

Claims 3-5 and 8 depend from claim 1. As discussed above, the Petition fails to show that there is a reasonable likelihood that the Petitioners would prevail on Ground 1 with respect to claim 1. The Petition does not show that Lida cures the deficiencies of the Ground 1 references with respect to claim 1. *See* Pet. at 83-87. Accordingly, the Petition fails to show that there is a reasonable likelihood that the Petitioners would prevail on Ground 2 with respect to claims 3-5 and 8.

C. Ground 3: Unpatentability of Claims 12, 13, 15, and 18 Over Tu and Suzuki

The Petition does not show that there is a reasonable likelihood that Petitioners would prevail on Ground 3 with respect to claims 12, 13, 15, and 18. In particular, those claims would not have been obvious over the combination of Tu and Suzuki.

1. Claims 12, 13, and 15

Neither Tu, nor Suzuki, teaches or suggests “a processor arranged to extract said image data . . . wherein in a first mode, the processor extracts pixel image data for a 2D image from a stream of first data elements,” as recited in claim 12, and in claims 13 and 15, which depend from claim 12.

The Petition asserts that “the HDMI transmission processing unit 40 in Tu in combination with Suzuki (the ‘*processor*’) receives a stream of pixels comprising B, G, R pixel data of a typical 2D image (‘*pixel data of a 2D image*’). Ex.1006, [0007], FIG. 1.” Pet. at 99. The Petition also states that “Suzuki further discloses that demultiplexer circuit 44 separates (‘*extracts*’) decoded data, both ‘in the case where the . . . video data is the video data for three-dimensional display’ (a ‘*second mode*’) and for ‘a mode not displaying three-dimensional images (typical display mode)’ (the ‘*first mode*’).” *Id.*

The Petition further states that

Second, the HDMI transmission processing unit 40 in the combination of Tu and Suzuki (the “*processor*”) is operable in “a *first mode*” that “conforms to the HDMI standard” and that processes “typical video data (specifically, video data not for three-dimensional display).” Ex.1006, [0020], [0053], FIGS. 1, 2, 11. Suzuki’s Figures 1 and 2 illustrate an HDMI configuration operable in a typical 2D mode (“*first mode*”). Suzuki also discloses a “*first mode*” because

demultiplexer circuit 44 separates decoded video data in “a mode not displaying three-dimensional images (typical display mode).”

Pet. at 100.

Thus, the Petition relies on Figures 1 and 2 of Suzuki – which show pixels of 2D image data – to teach the claimed “stream of first data elements” from which pixel image data for a 2D image can be extracted. Further, Petitioners assert Suzuki alone or in combination with Tu teaches a processor that operates in a “first mode” because Suzuki has a multiplexer circuit 44 that separates decoded video data in “a mode not displaying three-dimensional images.” However, when in the mode of not displaying three-dimensional images (what the Petition calls the “first mode”), Suzuki’s display device does not extract pixel image data for a 2D image from the pixels of 2D image data shown in Figures 1 and 2 (which the Petition relies on to teach a stream of first data elements). Instead, when in the mode of not displaying three-dimensional images, Suzuki’s display device retrieves just the first half of each pixel from a stream of 3D image data. See Ex. 1006 at [0045], [0067], and Figure 11 (at S14, S19).

In particular, and with reference to Figure 11 of Suzuki, at step S13, the display device asks if the received data is 3D image data or not. If the received image data is 3D data, then at step S14 it is detected whether or not the display device is in a three-dimensional display mode. See *id.* at [0065], [0067]. If the display device is not in a three-dimensional display mode (what the Petition calls the “first mode”), it

selects only the first half of data (*e.g.*, data for the left eye) and transmits the selected data for processing and display as 2D video. *See id.* at [0067]. But, if the display device is in the three-dimensional display mode (what the Petition calls the “second mode,” *see* Pet. at 99), then the video data for the left eye and right eye are processed and displayed as 3D video. *See* Ex. 1006 at [0065].

Thus, to recap, if, as the Petition asserts, the pixels of 2D image data in Figures 1 and 2 of Suzuki are the claimed “stream of first data elements,” and the non-three dimensional display mode of Suzuki’s display device disclosed in paragraphs [0045] and [0067] and Figure 11 is the claimed “first mode,” Suzuki does not teach or suggest a processor that, in the first mode, extracts pixel image data for a 2D image from a stream of first data elements. Instead, Suzuki teaches that the display device extracts half the pixel data from a stream of 3D image data (such as that shown in Figure 6) – and not from the stream of 2D image data shown in Figures 1 and 2 – when it is in the first mode.

As the Petition does not point to any teachings in Tu that cure Suzuki’s deficiencies, the Petition fails to show that the Ground 3 references teach or suggest the limitation of “a processor arranged to extract said image data . . . wherein in a first mode, the processor extracts pixel image data for a 2D image from a stream of first data elements.” Accordingly, the Petition fails to show that claims 12, 13, and 15 would have been obvious over the Ground 3 art.

2. Claim 18

The Petition states that independent “[c]laim 18 is substantially similar to claim 12,” and that for the claim 18 limitation of “extracting pixel image data for a 2D image from a stream of first data elements” [18.3.1], the analysis corresponds to that of the claim 12 limitation “wherein in a first mode, the processor extracts pixel image data for a 2D image from a stream of first data elements” [12.3.1]. Pet. at 104. Accordingly, for at least the same reasons discussed above with respect to limitation [12.3.1] of claim 12, the Petition has failed to show that the combination of Tu and Suzuki teaches or renders obvious limitation [18.3.1] of claim 18.

D. Ground 4: Unpatentability of Claim 14 Over Tu, Suzuki, and Lida

Claim 14 depends from claim 12. As discussed above, the Petition fails to show that there is a reasonable likelihood that the Petitioners would prevail on Ground 3 with respect to claim 12. The Petition does not show that Lida cures the deficiencies of the Ground 3 references with respect to claim 12. Accordingly, the Petition fails to show that there is a reasonable likelihood that the Petitioners would prevail on Ground 4 with respect to claim 14.

V. CONCLUSION

For at least the foregoing reasons, Patent Owner respectfully requests that the Board refuse to institute an *inter partes* review.

Dated: September 23, 2025

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CERTIFICATE OF SERVICE

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), the undersigned attorney for the Patent Owner declares that this Patent Owner Preliminary Response has a total of 6,108 words, according to Microsoft Word® word count tool, excluding the parts of the Response exempted by 37 C.F.R. § 42.24(a)(1).

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