

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC, SAMSUNG ELECTRONICS CO. LTD., and
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioners

v.

EYESMATCH LTD.,
Patent Owner

Case No. IPR2024-00856
U.S. Patent No. 8,982,109

**PATENT OWNER EYESMATCH LTD.'S PRELIMINARY RESPONSE TO
PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,982,109**

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2003	Declaration of Natasha M. Saputo in Support of Patent Owner's Unopposed Motion for <i>Pro Hac Vice</i> Admission
2004	Docket Navigator, E.D. Texas Time to Trial (Jan. 1, 2019-Aug. 13, 2024)
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2006	Defendants' Unopposed Motion for Leave to Supplement Invalidity Contentions to Add Three Related Prior Art References, [Proposed] Order, and Exhibits 1-7; E.D. Texas Case No. 2:23-cv-00363-JRG-RSP
2007	Order Granting Motion for Leave to Supplement Invalidity Contentions to Add Three Related Prior Art References; E.D. Texas Case No. 2:23-cv-00363-JRG-RSP

I. INTRODUCTION

The Petition should be denied because Petitioners fail to demonstrate a reasonable likelihood of prevailing as to any of the challenged claims.

All the challenged claims, directly or via claim dependency, require Claim 1, limitation 1(h) “varying rate at which the non-ordered steps are performed on the series of images according to the distance”. Petitioners have not asserted that any single reference anticipates any claim of the 109 Patent. Rather, Petitioners rely on a combination of references to meet limitation 1(h) but fail to show motivation to combine, or even that, if combined, that combination would disclose the challenged claims. Since a person of ordinary skill in the art would not be motivated to combine Petitioners’ asserted references for this limitation, institution should be denied.

II. BACKGROUND

A. THE 109 PATENT

On March 17, 2015, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,982,109 (the “109 Patent”), entitled “Devices, Systems and Methods of Capturing and Displaying Appearances,” to Nissi Vilcovksy and Ofer Saban. EyesMatch Ltd. is the owner of the remaining right, title, and interest in and to the 109 Patent, with the exclusive right to enforce the 109 Patent.

The field of endeavor of the 109 Patent is digital mirror systems that emulate traditional mirrors. As the 109 Patent explains, a traditional video camera is a poor

substitute for a mirror: while “[a] few alternatives have been proposed by prior art around the combination of a camera and a screen to replace the conventional mirror,” it explains that “these techniques are not convincing and are not yet accepted as a reliable image of the individual as if he was looking at himself in a conventional mirror,” primarily “because the image generated by a camera is very different from an image generated by a mirror.” [Ex. 1001 (109 Patent) at 1:61-2:3]. For example, “When a user looks at himself in the mirror, what he actually sees is the reflection of himself as if he was standing at a distance that is double the distance from him to the mirror” [Ex. 1001 (109 Patent) at 2:4-6)] but with a camera, “wherein as the user gets closer to the camera he appears larger in the image. This is mainly because the FOV of a camera is fixed and is determined mainly by the size of the camera lens, or focal length.” [Ex. 1001 (109 Patent) at 2:23-27]. Similarly, “when the user approaches the mirror, the reflection of his eyes will always stay on the same virtual line into the mirror. Conversely, depending on a camera’s height, as the user gets closer to the camera, the user’s eyes may appear at different levels.” [Ex. 1001 (109 Patent) at 2:29-33].

The 109 Patent describes a solution to these problems by implementing a series of software transformations of the received image that cause a camera and conventional computer to mimic a mirror with a captured video stream. First, the image is flipped. *See, e.g.*, Claim 1. Then, a “transformation mapping” is applied to

modify the image to mimic a mirror image; the 109 Patent specification explains that such “transformation mappings” can include an algorithm that moves the image of the subject in the frame so as to keep their eyes consistently at the same level of the frame, as would occur with a mirror. [Ex. 1001 (109 Patent) at 19:31-52, Claim 1]. The image is then resized to reduce variations based on changes in the object’s distance; for example, this can cause the camera/computer to display the subject at a consistent size when they approach or move away from the camera, as a mirror does, instead of increasing in size to the point at which they take up the entire frame. *See, e.g.*, [Ex. 1001 (109 Patent) at Claim 1]. Finally, the system applies these transformations at a rate that varies according to the distance to the user in order to smoothly mimic a mirror. *See, e.g.*, [Ex. 1001 (109 Patent) at Claim 1].

The 109 Patent includes 18 claims, one of which is an independent claim. [Ex. 1001 (109 Patent)]. Petitioners challenge all 18 claims as unpatentable on grounds of obviousness, relying on combinations of references to meet the limitations of the challenged claims. All the challenged claims require a novel combination of elements.

Independent Claim 1 claims a method for operating a system with a monitor, camera, and processor to display a mirror-mimicking image on the monitor by performing non-ordered steps comprising: (i) obtaining a digital image from a camera; (ii) flipping the image about a vertical axis to reverse the right and left sides

of the image; (iii) applying a transformation mapping to the image to modify it such that it appears to mimic a reflection of a mirror; (iv) resizing the image to reduce variations caused by changes in the object's distance to the camera; and (v) displaying the image on the monitor after performing the flipping, transformation mapping, and resizing; (vi) the non-ordered steps are performed on a series of images of a live video feed from the camera; (vii) determining the distance to a user appearing in the live video feed; and (viii) varying the rate at which the non-ordered steps are performed on the series of images according to the distance. Claims 2-18 of the 109 Patent, either directly or through claim dependency, must meet Claim 1.

B. OVERVIEW OF THE REFERENCES

1. Rosenberg

Rosenberg discloses a “digital mirror system” which “emulates a traditional mirror by displaying real-time video imagery of a user who stands before it.” [Ex. 1005 at Abstract]. Rosenberg’s mirror system is also “adapted to provide real-time captured images that approximate what a user would see when viewing an ordinary mirror, with the addition of various other image processing features.” [Ex. 1005, ¶¶ 0006, 0050, 0075, 0077. *See also, id.*, ¶ 0028]. However, Rosenberg does not disclose applying a mapping transformation to modify the image such that it appears to mimic a reflection of a mirror. In Rosenberg, the user’s image is not transformed other than being inverted. [Ex. 1005, ¶ 0026]. The magnification or zoom feature

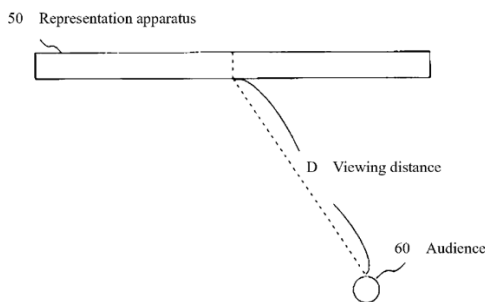
disclosed in Rosenberg is not resizing of the image to reduce variations caused by changes in the object's distance to the camera as recited by claims of the 109 Patent but is only performed at the affirmative direction of a user. [Ex. 1005, ¶¶ 0026, 0050-0052]. Similarly, Rosenberg's disclosure of proximity detection is in connection with turning on or off various modes of the display. [Ex. 1005, ¶ 0056].

2. Nakazawa

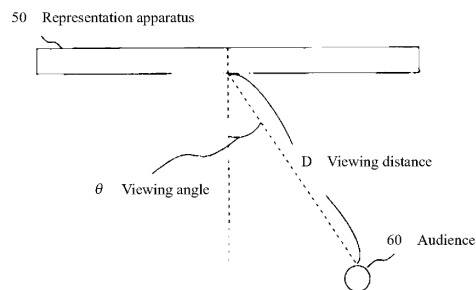
Nakazawa is directed to gaze correction in photography: “a photographing device that is capable of image correction so that the line of sight of the captured image and the displayed image are aligned”. [Ex. 1007, ¶ 0007] Nakazawa is not directed to replicating a mirror-like experience for the user. There is no disclosure of mirroring the user's image. None of the corrections to the user's image disclosed in Nakazawa are directed to modifying the image such that it appears to mimic a reflection of a mirror as recited by claims of the 109 Patent. Nakazawa discloses a “correcting means for correcting an orientation deviation of the face” based on a magnification and reduction ratios depending on the distance of the user from the photographing means [See, e.g., Ex. 1007, ¶¶ 0008-0009, 0015, 0025] and discloses correction of the orientation of the user's pupils to generate “a face image in which the line of sight is oriented toward the photographing means” [Ex. 1007, ¶ 0028].

3. Hatanaka

Hatanaka is directed to the reduction of throughput for image data processing in a communication system. [Ex. 1009, Abstract, ¶ 0012]. Hatanaka is not directed to replicating a mirror-like experience for the user. There is no disclosure of mirroring the user's image. Hatanaka is not directed to modifying the image such that it appears to mimic a reflection of a mirror as recited by claims of the 109 Patent. Hatanaka discloses use of determining the “viewing distance D ” which is “the distance between representation apparatus 50 and audience 60” and/or viewing angle Θ to determine the appropriate amount of encoding for image data. [Ex. 1009, ¶¶ 0029, 0039, 0049, 0059, 0068-0069, 0083-0085]. The resizing disclosed in Hatanaka is not to reduce variations caused by changes in the object's distance to the camera as recited by claims of the 109 Patent, but on the display size [Ex. 1009, ¶ 0027] and distance between the audience and “representation apparatus 50” [Ex. 1009, ¶ 0029]. There is no disclosure of determining distance to a user appearing in the video feed as recited by claims of the 109 Patent.



[Ex. 1009, Fig. 2(b)]



[Ex. 1009, Fig. 5(b)]

4. Iwai

Iwai is directed to calibration of a digital camera based on registration between a base image and a picked-up image. [Ex. 1010, Abstract, 7:11-21, 8:23-34]. For example, Iwai discloses that a calibration pattern with a geometrical configuration known in advance is photographed – this is the base image. [Ex. 1010 at 12:5-10]. The picked-up image is a photograph of the base image. [See, e.g., Ex. 1010 at 5:5-9, 6:5-9]. A calculation of a distortion parameter is made using the base image and the picked up image. [See, e.g., Ex. 1010 at 12:26-28]. There is no suggestion in Iwai about the applicability of this reference image method outside of the context of digital camera calibration.

Iwai is not directed to replicating a mirror-like experience for a user. There is no disclosure of mirroring a user's image. Iwai does not disclose modifying a user's image such that it appears to mimic a reflection of a mirror as recited by claims of the 109 Patent.

5. Kubota

Kubota is directed to providing “a liquid crystal display device capable of optimally setting the backlight control according to the viewing environment and the image display mode.” [Ex. 1011, ¶ 0011; see also ¶ 0014]. Kubota discloses light control areas with illumination controlled according to pre-set modes selected by the user, e.g., “in-store demonstration”, “power reduction”, or “high image quality”.

[Ex. 1011, ¶ 0044; see also, Ex. 1011, Figs. 4-5, ¶¶ 0053-0055, 0067]. Kubota is not directed to replicating a mirror-like experience for the user. There is no disclosure of mirroring the user's image.

6. Cho

Cho is directed to a digital camera with distortion correction based on a focal length to correct wide-angle or optical distortion with coordinate transform processing using an appropriate coefficient from a coefficient table. [*See, e.g.*, Ex. 1012, Abstract, ¶¶ 0017, 0059, 0063, 0111-0112]. Cho is not directed to replicating a mirror-like experience for the user. There is no disclosure of mirroring the user's image. None of the corrections to the user's image disclosed in Cho are directed to modifying the image such that it appears to mimic a reflection of a mirror as recited by claims of the 109 Patent.

Cho neither discloses neither resizing to reduce variations based on changes in the object's distance to the camera nor determining distance to a user as recited by claims of the 109 Patent. Cho uses focal length to determine image transformations. [*See, e.g.*, Ex. 1012, Abstract, ¶¶ 0059, 0063-0064, 0078, 0081-0082, 0102, 0105, 0111-0013, 0147, Figs. 8, 10-11, 13, 15, 17-19]. Focal length determines the lens' field of view – the shorter the focal length the wider the view and the longer the focal length the narrower the view. Focal length is not a

determination of distance to a user appearing in the live video feed as recited by claims of the 109 Patent.

7. Kuranov

Kuranov is directed to constructing a “panorama” by “joining and stitching multiple images or videos taken from different locations or angles and viewpoints.” [Ex. 1013, ¶ 0005]. Kuranov discloses “both automatic and manual methods of stitching and/or joining images” and discloses “adjusting features, and blending and smoothening of images that have been combined.” [Ex. 1013, ¶ 0005; see also Ex. 1013, ¶¶ 0043-0044, 0057-0060, 0066-0068, Figs. 2A, 2B, 6]. Kuranov is not directed to replicating a mirror-like experience for the user. There is no disclosure of mirroring the user’s image. None of the corrections to the panoramic image disclosed in Kuranov are directed to modifying the image such that it appears to mimic a reflection of a mirror as recited by claims of the 109 Patent.

Kuranov discloses resizing or zooming of the panoramic image only for better display [Ex. 1013, ¶¶ 0045, 0049] and not to account for variations in the object’s distance to the camera as recited by claims of the 109 Patent. Kuranov’s disclosure that “Some images may be moved forwards or backwards to compensate for the differences among the cameras in distances from the cameras to the objects of interest” [Ex. 1013, ¶ 0094] discloses neither resizing to reduce variations based on

changes in the object's distance to the camera nor discloses determining distance to a user as recited by claims of the 109 Patent.

8. Chang

Chang is directed to the use of multiple cameras to create a display system capable of generating 3D images as well as 2D images. [Ex. 1014, Abstract, ¶¶ 0003, 0013-0015, 0087, 0099].

Chang discloses using several direction parallax image signals. [Ex. 1014, Abstract, ¶¶ 0018, 0024-0025; see also, e.g., Ex. 1014, Figs. 3A-3B, 4A-4B, 5]. Parallax image signals are not mirrored or inverted. Chang is not directed to replicating a mirror-like experience for the user. There is no disclosure of mirroring the user's image. None of the corrections to the user's image disclosed in Chang are directed to modifying the image such that it appears to mimic a reflection of a mirror as recited by claims of the 109 Patent.

9. Park

Park is directed to an image capturing apparatus and image capturing method to compensate for 3D distortion which occurs when the user's image is captured while looking down towards a camera, such as a phone camera, based on the determined tilt of the device capturing the image. [Ex. 1016, ¶¶ 0009, 0010, 0047-0048].

Park discloses neither resizing to reduce variations based on changes in the object's distance to the camera nor discloses determining distance to a user as recited by claims of the 109 Patent.

10. Lizze

Lizze is directed to a virtual presence system. [Ex. 1017, Abstract]. Lizze discloses an image capture device to capture a user's image "from which a virtual representation of the user may be generated and displayed" "by applying a mirrored silhouette transformation to the user image" [Ex. 1017, Abstract, ¶¶ 0012, 0014]. Both the orientation of the user and directions of the user in the real world "are substantially the same in the virtual environment". [Ex. 1017, ¶ 0035]. Lizze does not apply a transformation mapping to the captured image such that it appears to mimic a reflection of a mirror as recited by claims of the 109 Patent. Rather, Lizze uses the captured image to create a silhouette of the user, and the image displayed is that of a virtual representation. [See, e.g., Ex. 1017, ¶ 0012].

Lizze does not disclose determining distance to a user as recited by claims of the 109 Patent. Rather, Lizze's determination of distance relies on pixels and inverse proportionality and is based on pixels of the virtual image rather than the user's captured image that is used as a silhouette. [Ex. 1017, ¶¶ 0043-0045].

11. Tripathi

Tripathi is directed to a variable frame rate display that can change the frame rate based on, *inter alia*, the device power supply, type of content displayed, or user input. [Ex. 1040, Abstract, 6:10-20]. For example, if static display content is detected, the display can decrease the frame rate and thereby “reduce power consumption for the device”. [Ex. 1040 at 1:60-67]. If dynamic display content is detected, the frame rate can be increased to “result in a higher perceived display resolution for a user of the electronic device.” [Ex. 1040 at 2:1-8; see also 5:65-6:3].

Tripathi is not directed to replicating a mirror-like experience for the user. There is no disclosure of mirroring the user’s image. Tripathi does not disclose modifying the user’s image such that it appears to mimic a reflection of a mirror as recited by claims of the 109 Patent. Any resizing of the displayed content is done based on affirmative inputs from a user [see, e.g., Ex. 1040 at 10:40-50] and not to reduce variations based on changes in the object’s distance to the camera as recited by claims of the 109 Patent. Similarly, Tripathi includes a disclosure for varying the frame rate based on affirmative user inputs [see, e.g., 11:20-24; 12:61-67, Claim 5], but this variation in frame rate is not varied according to distance to a user as recited by claims of the 109 Patent.

III. PERSON HAVING ORDINARY SKILL IN THE ART (“POSITA”)

Petitioners propose a POSITA “as of December 18, 2012, would have a bachelor’s degree in electrical or computer engineering, or a closely related field such as computer science, and two years of work experience with image capture and processing systems or related fields. A person with less and/or different education, but more relevant practical experience, or vice versa, may also meet this standard.” [Pet. at 7]. Patent Owner applies Petitioners’ proposed level of skill for purposes of this Preliminary Response and reserves the right to propose a different level of skill should the Board grant institution.

IV. CLAIM CONSTRUCTION

Claim construction briefing of certain terms proposed by both Samsung and Patent Owners in the pending district court litigation is ongoing. In the Petition, Petitioners do not identify any claims requiring construction. Patent Owner does not believe that resolution of any claim construction issue is necessary at this time to conclude that Petitioners have not shown that there is a reasonable likelihood that they would prevail with respect to at least one of the challenged claims. 35 U.S.C. § 314(a). Patent Owner reserves the right to raise claim construction should the Board grant institution.

**V. THE PETITION FAILS TO DEMONSTRATE A REASONABLE
LIKELIHOOD OF PREVAILING IN ITS CHALLENGES TO ANY
CLAIMS**

**A. Ground 1: Petitioners Fail to Show a Motivation to Combine
Rosenberg and Nakazawa as to Limitation 1(h)**

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg and Nakazawa to meet the limitations of the challenged claims, including limitation 1(h). All the challenged claims, directly or via claim dependency, require this limitation of Claim 1.

Petitioners contend that Rosenberg and Nakazawa are in the same field of endeavor. [Pet. at 14]. They are not. Rosenberg discloses a “digital mirror system” which “emulates a traditional mirror by displaying real-time video imagery of a user who stands before it.” [Ex. 1005 at Abstract]. Nakazawa is not directed to replicating a mirror-like experience at all. Rather, Nakazawa is directed to gaze correction in photography. [Ex. 1007, ¶ 0007].

Even assuming they are in the same field of endeavor, that alone is not sufficient for motivation to combine. *Johns Manville Corp. v. Knauf Insulation, Inc.*, IPR2018-00827, Paper 9 at 10 (P.T.A.B. Oct. 16, 2018) (denying institution and holding “Demonstrating that a reference is analogous art or relevant to the field of endeavor of the challenged patent is not sufficient to establish that one of ordinary skill would have had reason to combine its teachings with other prior art in the manner set forth in the claim.”); *William Wesley Carnes, Sr., Inc. v. Seaboard Int’l*

Inc., IPR2019-00133, Paper 10 at 18 (P.T.A.B. May 8, 2019) (denying institution and holding that a “statement of similarity, however, does not constitute an articulated reasoning with rational underpinning as to why a POSITA would combine elements of one reference with another, and why a POSITA would modify the teachings of the references to arrive at the claimed invention.”).

A POSITA would regard Rosenberg’s emphasis on a complex physical placement of the camera [*see, e.g.*, Ex. 1005, ¶¶ 0075-0076] as actually teaching away from a digital transformation solution for image modification as recited by the claims of the 109 Patent. Therefore, a POSITA would not be motivated to combine the hardware-centric solution of Rosenberg with the software-based gaze correction solution of Nakazawa. There would be no such motivation to combine because the invention disclosed by the Rosenberg reference is the optical components and specialized displays. The entire inventive concept of Rosenberg is the hardware solution: “embodiments of the present invention often strive to achieve placement of the camera such that the image captured by the camera is taken from a vantage point that is centered horizontally with respect to the display screen and at an elevation vertically that generally corresponds with a user’s typical eye level.” [Ex. 1005, ¶ 0028; *see also, e.g.*, ¶¶ 0075-0076]. Consequently, Petitioners have failed to demonstrate why a POSITA would have been motivated to combine it with a software solution such as Nakazawa.

There especially would not have been motivation to combine Rosenberg's virtual mirror with the software-based gaze correction solution of Nakazawa with respect to the subject matter for limitation 1(h). Neither Rosenberg nor Nakazawa disclose varying the frame rate or rate of performing processing steps at all, let alone varying them according to the distance to the user as recited by claims of the 109 Patent. Moreover, the disclosure in Rosenberg relating to proximity detection is in connection with turning on or off various modes and not in connection with modifying the captured image or performing processing steps. [Ex. 1005, ¶ 0076].

B. Ground 1: Petitioners Fail to Show Obviousness of Claims 1-6, 8, and 17 in View of Rosenberg and Nakazawa

Even assuming motivation to combine Rosenberg and Nakazawa, which there is not, this combination would obviate any of Claims 1-6, 8, and 17 at least because it would fail to meet limitation 1(h).

Neither Rosenberg nor Nakazawa discloses limitation 1(h). Rosenberg discloses complex, physical placement of one or more cameras to achieve a desired perspective. [See, e.g., Ex. 1005, ¶¶ 0076-0076]. Rosenberg does not disclose determining distance to the user appearing in the live video feed to adjust the processes performed on the image nor to vary the rate at which those processes are performed. Nakazawa does not disclose determining distance to a user appearing in the live video feed to vary the rate at which processes are performed.

C. Ground 2: Petitioners Fail to Show a Motivation to Combine Rosenberg, Nakazawa, and Hatanaka as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, and Hatanaka to meet the limitations of the challenged claims, including limitation 1(h).

Petitioners have failed to show motivation to combine Rosenberg and Nakazawa as to limitation 1(h) for all the reasons given in § V.A., which is incorporated herein by reference¹. Petitioners contend that Rosenberg, Nakazawa, and Hatanaka are in the same field of endeavor. [Pet. at 49]. They are not. [§ V.A.]. Hatanaka is also not in the same field of endeavor as either Rosenberg or Nakazawa. Hatanaka is directed to the reduction of throughput for image data processing in a communication system. [Ex. 1009, Abstract. ¶ 0012]. Hatanaka is not directed to replicating a mirror-like experience for the user like Rosenberg nor is Hatanaka directed to gaze correction of the user like Nakazawa.

Even assuming the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

¹ Hereinafter, all citations to sections of Patent Owner's Preliminary Response should be deemed incorporated by reference into the section in which they are being cited.

Unlike Rosenberg or Nakazawa, Hatanaka is not directed toward manipulation of the captured images other than encoding them to reduce throughput. [Ex. 1009, Abstract ¶¶ 0012, 0027, 0039, 0049, 0068-0069, 0083-0085]. Consequently, Petitioners have failed to demonstrate why a POSITA would have been motivated to combine the encoding/decoding reference of Hatanaka with the hardware-centric mirror reference of Rosenberg and the gaze correction reference of Nakazawa. [§ V.A.].

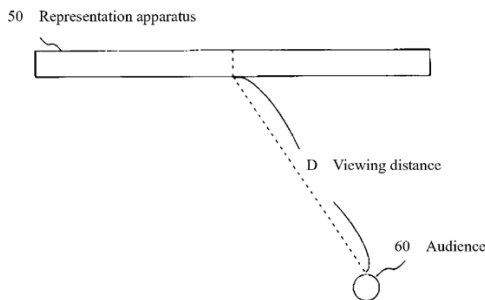
Nor would there have been motivation to combine these references with Hatanaka with respect to the subject matter for limitation 1(h). The resizing disclosed in Hatanaka is instead based on the display size [Ex. 1009, ¶ 0027] and distance between the audience and “representation apparatus 50” [Ex. 1009, ¶ 0029]. There is no disclosure of determining the distance to the user appearing in the video feed as recited by claims of the 109 Patent. And there is no disclosure of varying the frame rate or rate of performing processing steps at all, let alone varying them according to the distance to the user as recited by limitation 1(h).

D. Ground 2: Petitioners Fail to Show Obviousness of Claims 1-6, 8, 11, and 17 in View of Rosenberg, Nakazawa, and Hatanaka

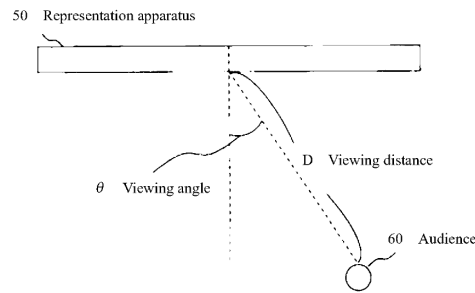
Even assuming motivation to combine Rosenberg, Nakazawa, and Hatanaka, which there is not, this combination would obviate any of Claims 1-6, 8, 11, and 17 at least because it would fail to meet limitation 1(h).

Petitioners have failed to show obviousness of Claims 1-6, 8, and 17 in view of Rosenberg and Nakazawa, [§ V.B.], which is equally applicable to Claim 11.

Hatanaka does not disclose limitation 1(h). The “viewing distance D” in Hatanaka is “the distance between representation apparatus 50 and audience 60” and/or viewing angle Θ to determine the appropriate amount of encoding for image data. [Ex. 1009, ¶¶ 0029, 0039, 0049, 0059, 0068-0069, 0083-0085]. This is *not* the distance to the user appearing in the video feed as recited by limitation 1(h).



[Ex. 1009, Fig. 2(b)]



[Ex. 1009, Fig. 5(b)]

E. Ground 3: Petitioners Fail to Show a Motivation to Combine Rosenberg, Nakazawa, and Tripathi as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, and Tripathi to meet the limitations of the challenged claims, including limitation 1(h). [§ V.A.]

Petitioners contend that Rosenberg, Nakazawa, and Tripathi are in the same field of endeavor. [Pet. at 54]. They are not. [§ V.A.]. Tripathi is also not in the same field of endeavor as either Rosenberg or Nakazawa. Tripathi is directed to a variable frame rate display that can change the frame rate based on, *inter alia*, the device

power supply, type of content displayed, or user input. [Ex. 1040, Abstract, 6:10-20]. Tripathi is not directed to replicating a mirror-like experience for the user like Rosenberg nor is Tripathi directed to gaze correction of the user like Nakazawa.

Even assuming they are in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.]

Petitioners contend that a POSITA would have been motivated to combine Rosenberg and Tripathi because Rosenberg “seeks to reduce power consumption” [Pet. at 54]. But the passages from Rosenberg that Petitioners cite to concern a low-power idle mode for when the user is *not* present. [See, e.g., Ex. 1005, ¶¶ 0025, 0032, 0033, 0069, 0070, 0071, 0072]. Conversely, Tripathi’s solution is directed to varying the frame when the display device is in use: “The variable frame rate may be actively determined *during operation* of device 10 based on whether static or dynamic display content is to be displayed”. [Ex. 1040 at 6:10-12]. In short, unlike Tripathi, Rosenberg’s solution to power consumption is to reduce power when the user is *not* present by putting the display in an idle or off mode and there is no suggestion in Rosenberg that other solutions to power consumption are desirable.

There especially would not have been motivation to combine these references with respect to the subject matter for limitation 1(h). [§ V.A.]. Unlike limitation 1(h), Tripathi’s disclosure for varying the frame rate is based on affirmative user inputs.

[*See, e.g.*, Ex. 1040, 11:20-24, 12:61-67, Claim 5]. Moreover, this variation in frame rate is not based on the distance to a user as recited by limitation 1(h).

F. Ground 3: Petitioners Fail to Show Obviousness of Claims 1-6, 8, and 17 in View of Rosenberg, Nakazawa, and Tripathi

Even assuming motivation to combine Rosenberg, Nakazawa, and Tripathi, which there is not, this combination would not obviate any of Claims 1-6, 8, and 17 at least because it would fail to meet limitation 1(h). [§ V.B.].

Tripathi does not disclose limitation 1(h). Tripathi's disclosure for varying the frame rate is based on affirmative user inputs [*see, e.g.*, Ex. 1040, 11:20-24; 12:61-67, Claim 5], but this variation in frame rate is not according to the user's distance as recited by limitation 1(h).

G. Ground 4: Petitioners Fail to Show a Motivation to Combine Rosenberg, Nakazawa, Tripathi, and Hatanaka as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Tripathi, and Hatanaka to meet the limitations of the challenged claims, including limitation 1(h). Claim 11 directly requires this limitation of Claim 1. [§§ V.E § V.C.].

Petitioners contend that Tripathi and Hatanaka are in the same field of endeavor. [Pet. at 58, 67]. They are not. Hatanaka is directed to the reduction of *throughput* for image data processing in a communication system based on encoding/decoding. [Ex. 1009, Abstract, ¶ 0012]. Whereas Tripathi is directed to

reduction in *power consumption of a device* by varying display frame rate or powering down memory entirely. [*See, e.g.*, Ex. 1040, 5:65-6:3].

Even assuming they are in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.]

There especially would not have been motivation to combine these references with respect to the subject matter for limitation 1(h). [§§ V.C; V.E.]. Neither Tripathi nor Hatanaka disclose limitation 1(h). The resizing disclosed in Hatanaka is based on the display size [Ex. 1009, ¶ 0027] and distance between the audience and “representation apparatus 50” [Ex. 1009, ¶ 0029]. There is no disclosure of determining the distance to the user appearing in the video feed as recited by claims of the 109 Patent. And there is no disclosure of varying the frame rate or rate of performing processing steps at all, let alone varying them according to the distance to the user as recited by limitation 1(h). Unlike limitation 1(h), Tripathi’s disclosure for varying the frame rate is based on affirmative user inputs. [*See, e.g.*, Ex. 1040, 11:20-24; 12:61-67, Claim 5]. Moreover, this variation in frame rate is not according to the user’s distance as recited by limitation 1(h).

H. Ground 4: Petitioners Fail to Show Obviousness of Claim 11 in View of Rosenberg, Nakazawa, Tripathi, and Hatanaka

Even assuming motivation to combine Rosenberg, Nakazawa, Tripathi, and Hatanaka, which there is not, this combination would not obviate Claim 11 at least

because it would fail to meet limitation 1(h). Claim 11 directly requires this limitation of Claim 1. [§§ V.D., V.F.].

I. Grounds 5-7: Petitioners Have Failed to Show Claim 7 is Unpatentable

1. Ground 5: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, and Iwai as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, and Iwai to meet the limitations of the challenged claims, including limitation 1(h). [§ V.A.]. Petitioners contend that Rosenberg, Nakazawa, and Iwai are in the same field of endeavor. [Pet. at 58]. They are not. [§ V.A.]. Iwai is directed to calibration of a digital camera based on registration between a base image and a picked-up image. [Ex. 1010, Abstract, 7:11-21, 8:23-34]. Iwai is not directed to replicating a mirror-like experience for the user like Rosenberg nor Iwai is directed to gaze correction of the user like Nakazawa. Moreover, there is no suggestion in Iwai about the applicability of this reference image method outside of the context of digital camera calibration.

Even assuming the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There especially would not have been motivation to combine these references with respect to the subject matter for limitation 1(h). [§ V.A.]. Iwai does not disclose varying the frame rate or rate of performing the processing steps at all, let alone

varying them according to the distance to the user as recited by claims of the 109 Patent. Nor does Iwai identify a problem or question which would require varying either the frame rate or the rate of performing the processing steps.

2. Ground 5: Petitioners Have Failed to Show Obviousness of Claim 7 in View of Rosenberg, Nakazawa, and Iwai

Even assuming motivation to combine Rosenberg, Nakazawa, and Iwai, which there is not, this combination would not obviate Claim 7 at least because it would fail to meet limitation 1(h). Claim 7 directly requires this limitation of Claim 1. [§ V.B.].

Iwai does not disclose limitation 1(h). Iwai does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by claims of the 109 Patent.

3. Ground 6: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Hatanaka, and Iwai as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Hatanaka, and Iwai to meet the limitations of the challenged claims, including limitation 1(h). [§§ V.C., V.I.1.]. Iwai and Hatanaka are also not in the same field of endeavor. Iwai is directed to calibration of a digital camera based on registration between a base image and a picked-up image. [Ex. 1010, Abstract, 7:11-21, 8:23-34]. Iwai is not directed to reduction of throughput for image data processing in a communication system like Hatanaka.

Even assuming they are in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.]

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.C., V.I.1.].

4. Ground 6: Petitioners Have Failed to Show Obviousness of Claim 7 in View of Rosenberg, Nakazawa, Hatanaka, and Iwai

Even assuming motivation to combine Rosenberg, Nakazawa, Hatanaka, and Iwai, which there is not, this combination would not obviate Claim 10 at least because it would fail to meet limitation 1(h). Claim 7 directly requires this limitation of Claim 1. [§§ V.D, V.I.2.].

5. Ground 7: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Tripathi, and Iwai as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Tripathi, and Iwai to meet the limitations of the challenged claims, including limitation 1(h).

Petitioners contend that Rosenberg, Nakazawa, Tripathi, and Iwai are in the same field of endeavor. [Pet. at 58]. They are not. [§§ V.E., V.I.1.]. Iwai and Tripathi are also not in the same field of endeavor. Iwai is directed to calibration of a digital camera based on registration between a base image and a picked-up image. [Ex.

1010, Abstract, 7:11-21, 8:23-34]. Iwai is not directed to a variable frame rate display like Tripathi.

Even assuming they are in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.]

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.E., V.I.1.].

6. Ground 7: Petitioners Have Failed to Show Obviousness of Claim 7 in View of Rosenberg, Nakazawa, Tripathi, and Iwai

Even assuming motivation to combine Rosenberg, Nakazawa, Tripathi, and Iwai, which there is not, this combination would not obviate Claim 7 at least because it would fail to meet limitation 1(h). Claim 7 directly requires this limitation of Claim 1. [§§ V.F, V.I.2.].

J. Grounds 8-10: Petitioners Fail to Show Claim 9 is Unpatentable

1. Ground 8: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, and Kubota as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, and Kubota to meet the limitations of the challenged claims, including limitation 1(h). [§ V.A.]. Petitioners contend that Rosenberg, Nakazawa, and Kubota are in the same field of endeavor. [Pet. at 67]. They are not. [§ V.A.] Kubota is also not in the same field of endeavor as either Rosenberg or Nakazawa. Kubota is directed to providing “a liquid crystal display

device capable of optimally setting the backlight control according to the viewing environment and the image display mode.” [Ex. 1011, ¶ 0011; *see also* ¶ 0014]. Kubota is not directed to replicating a mirror-like experience for the user like Rosenberg nor is Kubota directed to gaze correction of the user like Nakazawa.

Even assuming they in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.]

Petitioners contend that a POSITA would have been motivated to combine Rosenberg and Kubota because Rosenberg is “concerned with power efficiency.” [Pet. at 68] But the passages from Rosenberg that Petitioners cite to concern a low-power idle mode for when the user is *not* present. [See, e.g., Ex. 1005, ¶¶ 0025, 0032, 0033, 0069, 0070, 0071, 0072]. Conversely, Kubota’s power efficiency solution of controlling illumination intensity of each backlight cell in an LCD display for when the display device is in use, e.g., “in-store demonstration mode”, “power reduction mode”, and “high image quality mode”. [See, e.g., Ex. 1011, ¶¶ 0012, 0054]. In short, unlike Kubota, Rosenberg’s solution to power consumption is to reduce power when the user is *not* present by putting the display in an idle or off mode and there is no suggestion in Rosenberg that other solutions to power consumption are desirable. Consequently, Petitioners have failed to demonstrate why a POSITA would have been motivated to combine these references which have starkly different and complete methods of power consumption.

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§ V.A.] Kubota does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by claims of the 109 Patent.

2. Ground 8: Petitioners Have Failed to Show Obviousness of Claim 9 in View of Rosenberg, Nakazawa, and Kubota

Even assuming motivation to combine Rosenberg, Nakazawa, and Kubota, which there is not, this combination would not obviate Claim 9 at least because it would fail to meet limitation 1(h). Claim 9 directly requires this limitation of Claim 1. [§ V.B.].

Kubota does not disclose limitation 1(h). Kubota does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by claims of the 109 Patent.

3. Ground 9: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Hatanaka, and Kubota as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Hatanaka, and Kubota to meet the limitations of the challenged claims, including limitation 1(h). [§ V.C.]. Petitioners contend that Rosenberg, Nakazawa, Hatanaka, and Kubota are in the same field of endeavor. [Pet. at 67]. They are not. Hatanaka is directed to the reduction of *throughput* for image data processing in a communication system based on encoding/decoding. [Ex. 1009,

Abstract. ¶ 0012]. Whereas Kubota is directed to reduction in *power consumption of a device* by controlling the illumination intensity of each backlight cell of an LCD display. [See, e.g., Ex. 1011, ¶ 0012]. Nakazawa is directed to gaze correction in photography. [Ex. 1007, ¶ 0007]. And Rosenberg is directed to a “digital mirror system” which “emulates a traditional mirror by displaying real-time video imagery of a user who stands before it.” [Ex. 1005 at Abstract].

Even assuming they are in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§ V.C.]. Kubota does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by limitation 1(h).

4. Ground 9: Petitioners Have Failed to Show Obviousness of Claim 9 in View of Rosenberg, Nakazawa, Hatanaka, and Kubota

Even assuming motivation to combine Rosenberg, Nakazawa, Hatanaka, and Kubota, which there is not, this combination would not obviate Claim 9 at least because it would fail to meet limitation 1(h). Claim 9 directly requires this limitation of Claim 1. [§§ V.D, V.J.2.].

5. Ground 10: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Tripathi, and Kubota as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Tripathi, and Kubota to meet the limitations of the challenged claims, including limitation 1(h). [§ V.E.].

Petitioners contend that Rosenberg, Nakazawa, and Kubota are in the same field of endeavor. [Pet. at 67]. They are not. [§§ V.E., V.J.1].

Even assuming they are in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.]

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.E., V.J.1.]. Neither Tripathi nor Kubota disclose limitation 1(h). Unlike limitation 1(h), Tripathi's disclosure for varying the frame rate is based on affirmative user inputs. [*See, e.g.*, Ex. 1040, 11:20-24; 12:61-67, Claim 5]. Kubota does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by limitation 1(h). Nor does Kubota identify a problem or question which would require varying either the frame rate or the rate of performing the processing steps.

6. Ground 10: Petitioners Have Failed to Show Obviousness of Claim 9 in View of Rosenberg, Nakazawa, Tripathi, and Kubota

Even assuming motivation to combine Rosenberg, Nakazawa, Tripathi, and Kubota, which there is not, this combination would obviate Claim 9 at least because it would fail to meet limitation 1(h). Claim 9 directly requires this limitation of Claim 1. [§§ V.F., V.J.2.].

K. Grounds 11-13: Petitioners Fail to Show Claim 10 is Unpatentable

1. Ground 11: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, and Cho as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, and Cho to meet the limitations of the challenged claims, including limitation 1(h). [§ V.A.] Petitioners contend that Rosenberg, Nakazawa, and Cho are in the same field of endeavor. [Pet. at 70]. They are not. [§ V.A.]. Cho is also not in the same field of endeavor as either Rosenberg or Nakazawa. Cho is directed to a digital camera with distortion correction based on a focal length to correct wide-angle or optical distortion with coordinate transform processing using an appropriate coefficient from a coefficient table. [See, e.g., Ex. 1012, Abstract, ¶¶ 0017, 0059, 0063, 0111-0112]. Cho is not directed to replicating a mirror-like experience for the user like Rosenberg nor is Cho directed to gaze correction of the user like Nakazawa.

Petitioners contend that a POSITA would have sought to combine Cho with Rosenberg to fix wide-angle distortion in Rosenberg. [Pet. at 70]. But Rosenberg's solution of complex, physical camera placement to avoid angle distortion teaches away from further need for image correction and certainly teaches away from a software based correction like Cho.

Even assuming they are in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§ V.A.]. Cho does not disclose determining distance to a user appearing in a live video feed. Cho uses focal length to determine image transformations. [See, e.g., Ex. 1012, Abstract, ¶¶ 0059, 0063-0064, 0078, 0081-0082, 0102, 0105, 0111-0113, 0147, Figs. 8, 10-11, 13, 15, 17-19]. Focal length determines the lens' field of view – the shorter the focal length the wider the view and the longer the focal length the narrower the view. Focal length is not the distance to a user appearing in the live video feed as recited by claims of the 109 Patent. Cho does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by limitation 1(h). Nor does Cho identify a problem or question which would require varying either the frame rate or the rate of performing the processing steps.

2. Ground 11: Petitioners Have Failed to Show Obviousness of Claim 10 in View of Rosenberg, Nakazawa, and Cho

Even assuming motivation to combine Rosenberg, Nakazawa, and Cho, which there is not, this combination would not obviate Claim 10 at least because it would fail to meet limitation 1(h). Claim 10 directly requires this limitation of Claim 1. [§ V.B.].

Cho does not disclose limitation 1(h). Cho does not disclose determining distance to a user appearing in a live video feed. Cho uses focal length to determine image transformations. [See, e.g., Ex. 1012, Abstract, ¶¶ 0059, 0063-0064, 0078, 0081-0082, 0102, 0105, 0111-0113, 0147, Figs. 8, 10-11, 13, 15, 17-19]. Cho does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by limitation 1(h).

3. Ground 12: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Hatanaka, and Cho as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Hatanaka, and Cho to meet the limitations of the challenged claims, including limitation 1(h).

Petitioners contend that Rosenberg, Nakazawa, Hatanaka, and Cho are in the same field of endeavor. [Pet. at 67]. They are not. [§§ V.C., V.K.1]. Cho and Hatanaka are also not in the same field of endeavor. Cho is directed to a digital

camera with distortion correction based on a focal length to correct wide-angle or optical distortion with coordinate transform processing using an appropriate coefficient from a coefficient table. [See, e.g., Ex. 1012, Abstract, ¶¶ 0017, 0059, 0063, 0111-0112]. Cho is not directed to reduction of throughput for image data processing in a communication system like Hatanaka.

Even assuming the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§ V.C., § V.K.1.].

4. Ground 12: Petitioners Have Failed to Show Obviousness of Claim 10 in View of Rosenberg, Nakazawa, Hatanaka, and Cho

Even assuming motivation to combine Rosenberg, Nakazawa, Hatanaka, and Cho, which there is not, this combination would not obviate Claim 10 at least because it would fail to meet limitation 1(h). Claim 10 directly requires this limitation of Claim 1. [§§ V.D, V.K.2.].

5. Ground 13: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Tripathi, and Cho as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Tripathi, and Cho to meet the limitations of the challenged claims, including limitation 1(h).

Petitioners contend that Rosenberg, Nakazawa, Tripathi, and Cho are in the same field of endeavor. [Pet. at 70]. They are not. [§§ V.E., V.K.1]. Cho and Tripathi are also not in the same field of endeavor. Cho is directed to a digital camera with distortion correction based on a focal length to correct wide-angle or optical distortion with coordinate transform processing using an appropriate coefficient from a coefficient table. [See, e.g., Ex. 1012, Abstract, ¶¶ 0017, 0059, 0063, 0111-0112]. Cho is not directed to variable frame rate display like Tripathi.

Even assuming they are in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.E., V.K.1.].

6. Ground 13: Petitioners Have Failed to Show Obviousness of Claim 10 in View of Rosenberg, Nakazawa, Tripathi, and Cho

Even assuming motivation to combine Rosenberg, Nakazawa, Tripathi, and Cho, which there is not, this combination would not obviate Claim 10 at least because it would fail to meet limitation 1(h). Claim 10 directly requires this limitation of Claim 1. [§§ V.F, V.K.2.].

L. Grounds 14-16: Petitioners Fail to Show Claim 12 is Unpatentable

1. Ground 14: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, and Park as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, and Park to meet the limitations of the challenged claims, including limitation 1(h). [§ V.A.].

Petitioners contend that Rosenberg, Nakazawa, and Park are in the same field of endeavor. [Pet. at 73]. They are not. [§ V.A.]. Park is also not in the same field of endeavor as either Rosenberg or Nakazawa. Park is directed to compensate for 3D distortion which occurs when the user's image is captured while looking down towards a camera, such as a phone camera, based on the determined tilt of the device capturing the image. [Ex. 1016, ¶¶ 0009, 0010, 0047-0048]. Park is not directed to replicating a mirror-like experience for the user like Rosenberg nor is Park directed to gaze correction of the user like Nakazawa.

Even assuming the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§ V.A.]. Park does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by claims of the 109 Patent. Nor does

Park identify a problem or question which would require varying either the frame rate or the rate of performing the processing steps.

2. Ground 14: Petitioners Have Failed to Show Obviousness of Claim 12 in View of Rosenberg, Nakazawa, and Park

Even assuming motivation to combine Rosenberg, Nakazawa, and Park, which there is not, this combination would not obviate Claim 12 at least because it would fail to meet limitation 1(h). Claim 12 directly requires this limitation of Claim 1. [§ V.B.].

Park does not disclose limitation 1(h). Park does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by claims of the 109 Patent.

3. Ground 15: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Hatanaka, and Park as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Hatanaka, and Park to meet the limitations of the challenged claims, including limitation 1(h).

Petitioners contend that Rosenberg, Nakazawa, Hatanaka, and Park are in the same field of endeavor. [Pet. at 73]. They are not. [§§ V.C., V.L.1.] Park and Hatanaka are not in the same field of endeavor. Park is directed to compensate for 3D distortion which occurs when the user's image is captured while looking down towards a camera, such as a phone camera, based on the determined tilt of the device

capturing the image. [Ex. 1016, ¶¶ 0009, 0010, 0047-0048]. Park is not directed to reduction of throughput for image data processing in a communication system like Hatanaka.

Even assuming they are in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.C., V.L.1.].

4. Ground 15: Petitioners Have Failed to Show Obviousness of Claim 12 in View of Rosenberg, Nakazawa, Hatanaka, and Park

Even assuming motivation to combine Rosenberg, Nakazawa, Hatanaka, and Park, which there is not, this combination would not obviate Claim 12 at least because it would fail to meet limitation 1(h). Claim 12 directly requires this limitation of Claim 1. [§§ V.D, V.L.2.].

5. Ground 16: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Tripathi, and Park as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Tripathi, and Park to meet the limitations of the challenged claims, including limitation 1(h). [§ V.E.].

Petitioners contend that Rosenberg, Nakazawa, and Park are in the same field of endeavor. [Pet. at 73]. They are not. [§§ V.E., V.L.1.].

Even assuming, they are in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.E., V.L.1.]. Unlike limitation 1(h), Tripathi's disclosure for varying the frame rate is based on affirmative user inputs. [See, e.g., 11:20-24; 12:61-67, Claim 5]. Moreover, this variation in frame rate is not according to the user's distance as recited by limitation 1(h). Park does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them in the manner required by claims of the 109 Patent. Nor does Park identify a problem or question which would require varying either the frame rate or the rate of performing the processing steps.

6. Ground 16: Petitioners Have Failed to Show Obviousness of Claim 12 in View of Rosenberg, Nakazawa, Tripathi, and Park

Even assuming motivation to combine Rosenberg, Nakazawa, Tripathi, and Park, which there is not, this combination would obviate Claim 9 at least because it would fail to meet limitation 1(h). Claim 9 directly requires this limitation of Claim 1. [§§ V.F., V.L.2.].

M. Grounds 17-19: Petitioners Fail to Show Claims 13-15 are Unpatentable

1. Ground 17: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, and Kuranov as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, and Kuranov to meet the limitations of the challenged claims, including limitation 1(h). [§ V.A.].

Petitioners contend that Rosenberg, Nakazawa, and Kuranov are in the same field of endeavor. [Pet. at 77]. They are not. [§ V.A.]. Kuranov is also not in the same field of endeavor as either Rosenberg or Nakazawa. Kuranov is directed to constructing a “panorama” by “joining and stitching multiple images or videos taken from different locations or angles and viewpoints.” [Ex. 1013, ¶ 0005]. Unlike the 109 Patent, “stitching and/or joining of images” [Ex. 1013, ¶ 0005] disclosed in Kuranov is not performed on inverted/flipped images as recited by claims of the 109 Patent. And Kuranov is not directed to replicating a mirror-like experience for the user like Rosenberg nor is Kubota directed to gaze correction of the user like Nakazawa.

Even assuming the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

Petitioners contend that a POSITA would have been motivated to combine the image stitching disclosed in Kuranov with the digital mirror system of Rosenberg.

[Pet. at 77-78]. However, A POSITA would not be motivated to combine Rosenberg with Kuranov because Rosenberg was directed to complex, physical placement of the camera to address distortion issues. Rosenberg expressly discloses physical placement of multiple cameras to obtain different perspectives. [See, e.g., Ex. 1005, ¶ 61]. And the “composite images” disclosed in Rosenberg are simply a series of concurrently displayed images taken from different cameras and/or at difference times. [See, e.g., Ex. 1005, ¶¶ 0025, 0048]. A POSITA would not be motivated to combine this physical solution with the stitching disclosed in Kuranov.

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§ V.A.]. Kuranov does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by claims of the 109 Patent. Nor does Kuranov identify a problem or question which would require varying either the frame rate or the rate of performing the processing steps.

2. Ground 17: Petitioners Have Failed to Show Obviousness of Claims 13-15 in View of Rosenberg, Nakazawa, and Kuranov

Even assuming motivation to combine Rosenberg, Nakazawa, and Kuranov, which there is not, this combination would not obviate Claim 9 at least because it would fail to meet limitation 1(h). Claims 13-15 directly or via claim dependency requires this limitation of Claim 1. [§ V.B.]

Kuranov does not disclose limitation 1(h). Kuranov does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by claims of the 109 Patent.

3. Ground 18: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Hatanaka, and Kuranov as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Hatanaka, and Kuranov to meet the limitations of the challenged claims, including limitation 1(h). [§ V.C.].

Petitioners contend that Rosenberg, Nakazawa, Hatanaka, and Kuranov are in the same field of endeavor. [Pet. at 77]. They are not. [§§ V.C., V.M.1.] Nor are Hatanaka and Kuranov in the same field of endeavor. Kuranov is directed to constructing a “panorama” by “joining and stitching multiple images or videos taken from different locations or angles and viewpoints.” [Ex. 1013, ¶ 0005]. Kuranov is not directed to reduction of throughput for image data processing in a communication system like Hatanaka.

Even assuming the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.C., V.M.1.].

4. Ground 18: Petitioners Have Failed to Show Obviousness of Claims 13-15 in View of Rosenberg, Nakazawa, Hatanaka, and Kuranov

Even assuming motivation to combine Rosenberg, Nakazawa, Hatanaka, and Kuranov, which there is not, this combination would not obviate Claims 13-15 at least because it would fail to meet limitation 1(h). Claims 13-15, directly or via claim dependency, require this limitation of Claim 1. [§§ V.D, V.M.2.].

5. Ground 19: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Tripathi, and Kuranov as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Tripathi, and Kuranov to meet the limitations of the challenged claims, including limitation 1(h).

Petitioners contend that Rosenberg, Nakazawa, Tripathi, and Kuranov are in the same field of endeavor. [Pet. at 67]. They are not. [§§ V.E., V.M.1]. Kuranov and Tripathi are also not in the same field of endeavor. Kuranov is directed to constructing a “panorama” by “joining and stitching multiple images or videos taken from different locations or angles and viewpoints.” [Ex. 1013, ¶ 0005]. Kuranov is not directed to a variable frame rate display like Tripathi.

Even assuming they are in the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.E., V.M.1.].

6. Ground 19: Petitioners Have Failed to Show Obviousness of Claims 13-15 in View of Rosenberg, Nakazawa, Tripathi, and Kuranov

Even assuming motivation to combine Rosenberg, Nakazawa, Tripathi, and Kuranov, which there is not, this combination would not obviate Claims 13-15 at least because it would fail to meet limitation 1(h). Claims 13-15, directly or via claim dependency, require this limitation of Claim 1. [§§ V.F, V.M.2.].

N. Grounds 20-22: Petitioners Fail to Show Claim 16 is Unpatentable

1. Ground 20: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, and Chang as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, and Chang to meet the limitations of the challenged claims, including limitation 1(h). [§ V.A.].

Petitioners contend that Rosenberg, Nakazawa, and Chang are in the same field of endeavor. [Pet. at 85]. They are not. [§ V.A.]. Chang is also not in the same field of endeavor as either Rosenberg or Nakazawa. Chang is directed to the use of multiple cameras to create a display system capable of generating 3D images as well as 2D images with parallax image signals. [Ex. 1014, Abstract, ¶¶ 0003, 0013-0015, 0018, 0024-0025, 0087, 0099; *see also, e.g.*, Ex. 1014, Figs. 3A-3B, 4A-4B, 5].

Chang is not directed to replicating a mirror-like experience for the user like Rosenberg nor is Chang directed to gaze correction of the user like Nakazawa.

Petitioners assert that a POSITA would have been motivated “to modify Rosenberg’s two-camera design to implement Chang’s 3D method to improve functionality and user experience”. [Pet. at 85]. But these two references are directed toward entirely different methods of depicting a user. Moreover, even assuming that such a motivation existed, it would be extremely difficult to implement Chang’s 3D method without wholly eviscerating the main purpose of Rosenberg to address image distortion with complex, physical placement of camera(s).

Even assuming same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§ V.A.]. Chang does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user required by claims of the 109 Patent. Nor does Chang identify a problem or question which would require varying either the frame rate or the rate of performing the processing steps. Chang also does not disclose determining distance to a user appearing in the live video feed as recited by claims of the 109 Patent.

2. Ground 20: Petitioners Have Failed to Show Obviousness of Claim 16 in View of Rosenberg, Nakazawa, and Chang

Even assuming motivation to combine Rosenberg, Nakazawa, and Chang, which there is not, this combination would not obviate Claim 16 at least because it would fail to meet limitation 1(h). Claim 16 directly requires this limitation of Claim 1. [§ V.B.].

Chang does not disclose limitation 1(h). Chang does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by claims of the 109 Patent.

3. Ground 21: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Hatanaka, and Chang as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Hatanaka, and Chang to meet the limitations of the challenged claims, including limitation 1(h).

Petitioners contend that Rosenberg, Nakazawa, Hatanaka, and Chang are in the same field of endeavor. [Pet. at 85]. They are not. [§§ V.C., V.N.1]. Chang and Hatanaka are also not in the same field of endeavor. Chang is directed to the use of multiple cameras to create a display system capable of generating 3D images as well as 2D images with parallax image signals. [Ex. 1014, Abstract, ¶¶ 0003, 0013-0015, 0018, 0024-0025, 0087, 0099; *see also, e.g.*, Ex. 1014, Figs. 3A-3B, 4A-4B, 5].

Chang is not directed to reduction of throughput for image data processing in a communication system like Hatanaka.

Even assuming the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.C., V.N.1.].

4. Ground 21: Petitioners Have Failed to Show Obviousness of Claim 16 in View of Rosenberg, Nakazawa, Hatanaka, and Chang

Even assuming motivation to combine Rosenberg, Nakazawa, Hatanaka, and Chang, which there is not, this combination would not obviate Claim 16 at least because it would fail to meet limitation 1(h). Claim 16 directly requires this limitation of Claim 1. [§§ V.D, V.N.2.].

5. Ground 22: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Tripathi, and Chang as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Tripathi, and Chang to meet the limitations of the challenged claims, including limitation 1(h). [§ V.E.].

Petitioners contend that Rosenberg, Nakazawa, Tripathi, and Chang are in the same field of endeavor. [Pet. at 85]. They are not. [§§ V.E., V.N.1.]. Chang and Tripathi are also not in the same field of endeavor. Chang is directed to the use of

multiple cameras to create a display system capable of generating 3D images as well as 2D images with parallax image signals. [Ex. 1014, Abstract, ¶¶ 0003, 0013-0015, 0018, 0024-0025, 0087, 0099; *see also, e.g.*, Ex. 1014, Figs. 3A-3B, 4A-4B, 5]. Chang is not directed to a variable frame rate display like Tripathi.

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.E., V.N.1.].

6. Ground 22: Petitioners Have Failed to Show Obviousness of Claim 16 in View of Rosenberg, Nakazawa, Tripathi, and Chang

Even assuming motivation to combine Rosenberg, Nakazawa, Tripathi, and Chang, which there is not, this combination would not obviate Claim 16 at least because it would fail to meet limitation 1(h). Claim 16 directly requires this limitation of Claim 1. [§§ V.F., V.N.2.].

O. Grounds 23-25: Petitioners Fail to Show Claim 18 is Unpatentable

1. Ground 23: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, and Lizee as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, and Lizee to meet the limitations of the challenged claims, including limitation 1(h). [§ V.A.].

Petitioners contend that Rosenberg, Nakazawa, and Lizee are in the same field of endeavor. [Pet. at 87]. They are not. [§ V.A.]. Lizee is also not in the same field of endeavor as either Rosenberg or Nakazawa. Lizee is directed to a virtual presence

system. [Ex. 1017, Abstract]. Lizee is not directed to replicating a mirror-like experience for the user like Rosenberg nor is Lizee directed to gaze correction of the user like Nakazawa.

Even assuming same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§ V.A.]. Nor would there have been motivation to combine these references with Lizee with respect to the subject matter for limitation 1(h). Lizee does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by claims of the 109 Patent. Rather, Lizee discloses using a “predetermined imaging rate”. [Ex. 1017, ¶ 0045]. Nor does Lizee identify a problem or question which would require varying either the frame rate or the rate of performing the processing steps.

2. Ground 23: Petitioners Have Failed to Show Obviousness of Claim 18 in View of Rosenberg, Nakazawa, and Lizee

Even assuming motivation to combine Rosenberg, Nakazawa, and Lizee, which there is not, this combination would not obviate Claim 18 at least because it would fail to meet limitation 1(h). Claim 18 directly requires this limitation of Claim 1. [§ V.B.].

Lizee does not disclose limitation 1(h). Lizee does not disclose varying the frame rate or rate of performing the processing steps at all, let alone varying them according to the distance to the user as recited by claims of the 109 Patent. Rather, Lizee discloses using a “predetermined imaging rate”. [Ex. 1017, ¶ 0045].

3. Ground 24: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Hatanaka, and Lizee as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Hatanaka, and Lizee to meet the limitations of the challenged claims, including limitation 1(h). [§ V.C.].

Petitioners contend that Rosenberg, Nakazawa, Hatanaka, and Lizee are in the same field of endeavor. [Pet. at 87]. They are not. [§§ V.C., V.O.1]. Cho and Hatanaka are also not in the same field of endeavor. Lizee is directed to a virtual presence system. [Ex. 1017, Abstract]. Lizee is not directed to reduction of throughput for image data processing in a communication system like Hatanaka.

Even assuming the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.C., V.O.1.].

4. Ground 24: Petitioners Have Failed to Show Obviousness of Claim 18 in View of Rosenberg, Nakazawa, Hatanaka, and Lizee

Even assuming motivation to combine Rosenberg, Nakazawa, Hatanaka, and Lizee, which there is not, this combination would not obviate Claim 18 at least because it would fail to meet limitation 1(h). Claim 18 directly requires this limitation of Claim 1. [§§ V.D, V.O.2.].

5. Ground 25: Petitioners Have Failed to Show a Motivation to Combine Rosenberg, Nakazawa, Tripathi, and Lizee as to Limitation 1(h)

Petitioners have failed to demonstrate why a POSITA would be motivated to combine Rosenberg, Nakazawa, Tripathi, and Lizee to meet the limitations of the challenged claims, including limitation 1(h). [V.E.].

Petitioners contend that Rosenberg, Nakazawa, Tripathi, and Lizee are in the same field of endeavor. [Pet. at 87]. They are not. [§§ V.E., V.O.1]. Lizee and Tripathi are also not in the same field of endeavor. Lizee is directed to a virtual presence system. [Ex. 1017, Abstract]. Lizee is not directed to a variable frame rate display like Tripathi.

Even assuming the same field of endeavor, that alone is not sufficient for motivation to combine. [§ V.A.].

There would be no motivation to combine these references for limitation 1(h) because none disclose this limitation. [§§ V.E., V.O.1.].

6. Ground 25: Petitioners Have Failed to Show Obviousness of Claim 18 in View of Rosenberg, Nakazawa, Tripathi, and Lizee

Even assuming motivation to combine Rosenberg, Nakazawa, Tripathi, and Lizee, which there is not, this combination would not obviate Claim 18 at least because it would fail to meet limitation 1(h). Claim 18 directly requires this limitation of Claim 1. [§§ V.F, V.O.2.].

VI. THE BOARD SHOULD EXERCISE ITS DISCRETION TO DENY THE PETITION UNDER § 314(A)

Even if Petitioners could meet the standard for institution on the merits, which it cannot, the Board should exercise its discretion to deny institution under 35 U.S.C. ¶ 314(a) and *Fintiv*.

A. The *Fintiv* factors collectively weigh in Favor of discretionary denial.

Under *Fintiv*, the Board evaluates the following non-exclusive factors:

1. Whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. Proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. Investment in the parallel proceeding by the court and the parties;
4. Overlap between issues raised in the petition and in the parallel proceeding;

5. Whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. Other circumstances that impact the Board's exercise of discretion, including the merits.

Apple Inc. v. Fintiv, IPR2020-00019, Paper 15 at 7-8 (P.T.A.B. May 13, 2020) (citing *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (P.T.A.B. Sept. 12, 2018) (precedential)). “In evaluating the factors, the Board takes a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.* at 8; see Katherine K. Vidal, *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation* (June 21, 2022).

Here, discretionary denial is warranted under Section 314(a) and *Fintiv* because: (1) Patent Owner will oppose any motion for a stay; (2) there is every reason to believe that trial in the Eastern District of Texas will occur more than six months before the Board's projected statutory deadline for any final written decision; (3) the parties and district court will have substantially invested in claim construction, fact discovery, and expert discovery by the time of the Board's institution decision; and (4) with the exception of Google, the parties to this proceeding are also parties to the district court proceeding. Moreover, based on the shortcomings in the Petition identified above, Petitioner has failed to “present[] a compelling unpatentability

challenge” under the sixth factor. *Commscope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 24 at 50-51 (P.T.A.B. Mar. 17, 2023). Thus, four of the six *Fintiv* factors favor denying institution and one factor is neutral.

1. Factor One Favors Denial

The first factor favors denial because although the Samsung Petitioners state in the Petition that they will seek a stay [Pet. at 90], they have not done so in the three months since the Petition was filed. Moreover, EyesMatch will oppose any motion for a stay, and the Board does not speculate on how the district court will rule. *Hulu LLC v. SITO Mobile R&D IP, LLC*, IPR2021-00298, Paper 11 at 10-11 (P.T.A.B. May 19, 2021). Additionally, Petitioners filed their Petition for IPR just 3 months shy of the last day permitted by statute. This delay of 9 months after service of the complaint is beyond the time that courts have found to be reasonable. *See, e.g., Tessera Advanced Technologies, Inc. v. Samsung Electronics Co., Ltd.*, Case No. 2:17-cv-00671-JRG, 2018 U.S. Dist. LEXIS 120999 at *8 (E.D. Tex. July 19, 2018) (denying motion to stay and finding that IPRs filed by Samsung nine months after service of the complaint and five months after service of infringement contentions weighed against a motion to stay).

2. Factor Two Favors Denial

The second factor strongly favors denial. Trial in the parallel litigation is scheduled to begin on June 6, 2025 – more than five months before the Board’s

projected statutory deadline for any final written decision. The Board “generally take[s] courts’ trial schedules at face value absent some strong evidence to the contrary.” *Fintiv*, IPR2020-00019, Paper 15 at 13. To the extent that consideration of median time-to-trial statistics is warranted, they confirm that the parallel litigation will almost certainly reach trial before the Board issues its final written decision. The median time to a jury trial for cases pending before Judge Gilstrap in the Eastern District of Texas is 19 months. [Ex. 2004 (Docket Navigator, E.D. Texas Time to Trial (Jan. 1, 2019-Aug. 13, 2024))]. Applying that statistic here results in a trial date projected for March 2025 – which is 9 months before any Board final written decision would be expected to issue. As a result, regardless of whether the Board “consider[s] the scheduled trial date or the trial date expected based on time-to-trial statistics,” it is clear that the trial in the parallel litigation will almost certainly “commence several months before the expected date” of any Board final written decision. *Samsung Elecs. Co., Ltd. v. Cal. Inst. of Tech.*, IPR2023-00130, Paper 10 at 16 (P.T.A.B. May 4, 2023); *see IBM Corp. v. Digital Doors, Inc.*, IPR2023-00967, Paper 7 at 9-10 (P.T.A.B. Dec. 1, 2023).

3. Factor Three Favors Denial

There has been a substantial investment by the parties and district court in the parallel proceeding, so the third *Fintiv* factor strongly favors discretionary denial as well. The parties will exchange their initial and supplemental infringement and

invalidity contentions prior to any institution decision. Substantial completion of document production will take place more than a month before any institution decision. Claim construction briefing will also finish on November 15, 2024, prior to any institution decision. And the claim construction hearing on December 6, 2024, will take place a week before any institution decision. This investment by the court and parties is clearly substantial and accordingly strongly favors discretionary denial. *See Duplo U.S.A. Corp. v. MGI Digital Tech. S.A.*, IPR2023-00936, Paper 8 at 18 (P.T.A.B. Dec. 5, 2023) (“We agree with Patent Owner that there has been substantial investment by the parties and the district court in the parallel proceeding, including the completion of preliminary disclosures and claim construction, and the near-completion of discovery.”); *BOE Tech. Grp. Co. v. Element Capital Commercial Co. PTE Ltd.*, IPR2023-00808, Paper 9 at 23-24 (P.T.A.B. Nov. 15, 2023) (finding “significant progress” and that “the parties and the District Court have invested substantial resources” where, at the time of the institution decision, “[s]ignificant discovery has been completed, including the exchange of infringement and invalidity contentions, document requests and interrogatories, and proposed claim terms for construction”; the “date for the close of fact discovery is near”; and “the claim construction phase of the District Court Litigation is now completed”).

4. Factor Four Is Neutral

The fourth *Fintiv* factor is neutral because 4 of the 12 references Petitioners are relying on in their Petition are also being relied on by the Samsung Petitioners in the parallel proceedings using the same or similar invalidity theories. *Commscope Techs.*, IPR2022-01242, Paper 24 at 59.

The 109 Patent has 18 claims. Of those 18 claims, 6 claims are being challenged as invalid in the parallel proceedings using, *inter alia*, 4 of the 12 references Petitioners rely on. Rosenberg and/or combinations with Rosenberg challenge all 18 claims in the Petition and all 6 claims asserted in the parallel proceedings. Hatanaka and/or combinations with Hatanaka challenge all 18 claims in the Petition and all 6 claims asserted in the parallel proceedings. Tripathi and/or combinations with Tripathi challenge all 18 claims in the Petition and all 6 claims asserted in the parallel proceedings. Lizee and/or combinations with Lizee challenge 1 claim in the Petition and all 6 claims asserted in the parallel proceedings. In short, 1/3 of the references relied on by Petitioners for obviousness of all 18 claims of the 109 Patent are also relied on by the Samsung Petitioners for obviousness for 6 of those claims in the parallel proceedings. [Exs. 2005-2007 (Samsung Invalidity Contentions; June 20, 2024 Samsung's Unopposed Motion for Additional References (Dkt. 39); Order Granting Motion (Dkt. 40)]. Such overlap is neutral with respect to denying institution as the Petition can be said to include neither the

“same” nor “substantially the same” nor “materially different” claims, arguments, and evidence. *See* Katherine K. Vidal, *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation* (June 21, 2022) at 7.

5. Factor Five Favors Denial

The fifth *Fintiv* factor strongly favors denial as well. Except for Google, the Petitioners are Defendants in the parallel district court proceedings, while Patent Owner is the Plaintiff. That the same parties are involved in both the district court litigation and the IPR—and that trial will almost certainly precede any final written decision—supports discretionary denial. *See IBM Corp.*, IPR2023-00967, Paper 7 at 12; *Zhuhai Cosmx Battery Co. Ltd. v. Ningde Amperex Technology Ltd.*, IPR2023-00585, Paper 12 at 17 (P.T.A.B. Oct. 24, 2023).

6. Factor Six Favors Denial

Finally, Petitioners have not presented compelling evidence of unpatentability. Indeed, the Petition fails to demonstrate a reasonable likelihood that any of the 109 Patent claims are unpatentable, let alone a compelling unpatentability challenge, at a minimum because the Petition fails to show that any of the prior art in the Grounds renders obvious the 109 Patent claims as discussed above. Even if the Board were to conclude (and it should not) that Petitioners have shown a reasonable likelihood of unpatentability, its case does not come close to establishing

so compelling a case that it can overcome the significant reasons to deny institution under *Fintiv*.

VII. CONCLUSION

None of Petitioners' grounds meet the institution standard. But even if the Board determined a claim or ground satisfied the standard, most of the grounds fail, and thus, instituting a trial on all claims and all grounds would not be an efficient use of the Board's resources. *See Chevron Oronite Co. LLC v. InfineumUSA L.P.*, IPR2018-00923, Paper 9 (Denying Inter Partes Review) (P.T.A.B. Nov. 7, 2018); *Deeper, UAB v. Vexilar, Inc.*, IPR2018-01310, Paper 7 (Denying Inter Partes Review) (P.T.A.B. Jan. 24, 2019).

Dated: September 13, 2024 Respectfully submitted.

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CERTIFICATION OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(b)(1) and (d), the undersigned hereby certifies that the Patent Owner's Preliminary Response complies with the type-volume limitation 37 C.F.R. § 42.24(b)(1) permitting a response of up to 14,000 words because, exclusive of the exempted portions, the response contains 13,349 words, as identified by Microsoft Word's word-counting feature.

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CERTIFICATION OF SERVICE (37 C.F.R. §§ 42.6(e), 42.105(a))

The undersigned hereby certifies that on September 13, 2024, copies of the foregoing were served via Electronic Mail to the following:

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