

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NETFLIX, INC.,¹
Petitioner,

v.

REALTIME ADAPTIVE STREAMING LLC,
Patent Owner.

IPR2018-01227
Patent 9,578,298 B2

Before GREGG I. ANDERSON, GARTH D. BAER, and
KAMRAN JIVANI, *Administrative Patent Judges*.

ANDERSON, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining No Challenged Claims Unpatentable
35 U.S.C. § 318(a)

¹ Before institution of *inter partes* review, Amazon.com, Inc. and Hulu, LLC reached a settlement with Realtime Adaptive Streaming LLC and this proceeding was terminated with respect to those parties only, continuing with respect to Netflix, Inc. Paper 13, 3.

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, Netflix, Inc. (“Netflix” or “Petitioner”)² filed a Petition (Paper 4, “Pet.”) pursuant to 35 U.S.C. §§ 311–19 to institute an *inter partes* review of claims 1–19 (“challenged claims”) of U.S. Patent No. 9,578,298 B2 (Ex. 1001, “’298 patent”), filed on June 27, 2011.³ Realtime Adaptive Streaming LLC (“Patent Owner”) filed a Preliminary Response (Paper 14, “Prelim. Resp.”). We instituted an *inter partes* review of claims 1–19 (Paper 15, “Inst. Dec.”). After institution, Patent Owner filed a Patent Owner Response (Paper 22, “PO Resp.”), Petitioner filed a Reply (Paper 28, “Reply”), and Patent Owner filed a Sur-Reply (Paper 30, “Sur-Reply”). An oral hearing was held on October 10, 2019, and a transcript made of record (Paper 38, “Tr.”).

The Petition is supported by the Declaration of James A. Storer, Ph.D. (Ex. 1003, “Storer Declaration”). The Reply is supported by the Second Declaration of Dr. James A. Storer (Ex. 1016, “Second Storer Declaration”). The deposition of Dr. Storer was taken by Patent Owner after the Storer Declaration (Ex. 2002, “Storer Deposition”). The Response is supported by the Declaration of Dr. Kenneth A. Zeger (Ex. 2001, “Zeger Declaration”). The deposition of Dr. Zeger was taken by Petitioner after the Zeger Declaration (Ex. 1015, “Zeger Dep.”).

² See footnote 1.

³ The ’298 patent lists a prior filed foreign application TO2010A0549, filed June 28, 2010. Ex. 1001, code (30); *see also* Pet. 9 (the ’298 patent is not entitled to a priority date earlier than June 28, 2010). Patent Owner does not dispute that the prior art relied on is prior art. *See* Section II.E below.

II. BACKGROUND

A. *Real Parties in Interest*

Petitioner alleges the real parties in interest are Netflix and Netflix Streaming Services, Inc. Pet. 63. Patent Owner, Realtime Adaptive Streaming LLC, identifies itself as the sole real party in interest. Paper 5, 1.

B. *Related Matters*

The parties advise us that the '298 patent is the subject of twelve pending civil actions. Pet. 63–64; Paper 5, 2–3. The actions include: *Realtime Adaptive Streaming LLC v. Hulu, LLC*, Case No. 2:17-cv-07611 (C.D. Cal.); *Realtime Adaptive Streaming LLC v. Google LLC et al.*, Case No. 2:18-cv-03629 (C.D. Cal.); *Realtime Adaptive Streaming LLC v. Apple Inc.*, Case No. 1:17-cv-02869 (D. Colo.); *Realtime Adaptive Streaming LLC v. Wowza Media Systems LLC*, Case No. 1:18-cv-00927 (D. Colo.); *Realtime Adaptive Streaming LLC v. Brightcover Inc. et al.*, Case No. 1:17-cv-01519 (D. Del.); *Realtime Adaptive Streaming LLC v. Haivision Network Video Inc.*, Case No. 1:17-cv-01520 (D. Del.); *Realtime Adaptive Streaming LLC v. Netflix, Inc. et al.*, Case No. 1:17-cv-01692 (D. Del.); *Realtime Adaptive Streaming LLC v. Sony Electronics Inc.*, Case No. 1:17-cv-01693 (D. Del.); *Realtime Adaptive Streaming LLC v. Adobe Systems Incorporated*, Case No. 1:18-cv-10355 (D. Mass.); *Realtime Adaptive Streaming LLC v. Amazon.com, Inc. et al.*, Case No. 6:17-cv-00549 (E.D. Tex.); *Realtime Adaptive Streaming LLC v. Cisco Systems, Inc.*, Case No. 6:17-cv-00591 (E.D. Tex.); *Realtime Adaptive Streaming LLC v. Samsung Electronics Co., Ltd et al.*, Case No. 6:18-cv-00113 (E.D. Tex.). Pet. 63–64; Paper 5, 2–3.

C. '298 Patent (Ex. 1001)

The '298 patent describes a

decoding method that allows extracting a 2D-compatible (2D) video signal from a stereoscopic digital video stream and, in particular, a method for decoding a 2D-compatible stereoscopic digital video stream based on the use of composite frames which is applicable whatever the method employed for packing the right and left images within said composite frames.

Ex. 1001, 3:3–10.

The video stream includes metadata that describes a frame packing format description. Ex. 1001, 4:17–19. Based on the frame packing description, a decoder determines “the region occupied by one of the two stereoscopic images . . . and then cuts that region to send it to the 2D visualization apparatus.” *Id.* at 4:20–22. “This determination may be obtained either explicitly or implicitly starting from the metadata.” *Id.* at 4:23–24.

In explicit mode, the geometry of the frame packing, e.g., side-by-side or top-bottom (see Figs. 1a and 1b, respectively), is described in the metadata, for example, by “expressly stating the coordinates of the vertices of the areas occupied by each stereoscopic image.” Ex. 1001, 4:25–28. “In implicit mode, instead, only the frame packing type (e.g. side-by-side) is stated in the metadata, said indication being sufficient for the decoder to determine such areas.” *Id.* at 4:29–31.

The decoder has software components that implement algorithms “necessary for obtaining one of the two images that make up the stereoscopic video depending on the frame packing format in use.” Ex. 1001, 4:46–49. Upon receipt of “an explicit description of the frame packing format (e.g. the format of FIG. 1c), then the decoder 212 will select

the information necessary for cutting one of the two component images from the frames of the stereoscopic video stream.” *Id.* at 4:61–65.

D. Illustrative Claim

Claims 1 and 11 of the challenged claims are independent claims relating, respectively, to a method for processing a video stream and a video processing device for processing video streams of digital images. Claims 2 through 10 depend directly from claim 1. Claims 12 through 19 depend from claim 11.

Claim 1 is reproduced below as illustrative.

- 1.a.⁴ A method for processing a video stream of digital images, the method comprising the steps of:
- 1.b. receiving the video stream which comprises at least one composite frame (FC), each composite frame containing a pair of stereoscopic digital images (L,R) according to a predetermined frame packing format;
- 1.c. generating an output video stream which can be reproduced on a visualization apparatus,
- 1.d. receiving metadata which determine an area occupied by one of the two images within said composite frame (FC), said metadata indicating either a geometry of the frame packing format or a frame packing type of said composite frame (FC);

⁴ We follow the format adopted by Petitioner where each limitation is identified by the claim number followed by a lowercase letter. For example, the preamble is 1.a and the following limitation is 1.b. *See, e.g.*, Pet. 19–21. The formatting does not imply any structural or functional aspect of the claim. Further, we do not find the preamble imparts a limitation to the claim, but rather “merely states a purpose or intended use of the invention.” *In re Paulsen*, 30 F.3d 1475, 1479 (Fed. Cir. 1994).

- 1.e. determining the area in the composite frame (FC) which is occupied by said one image of the stereoscopic pair within the composite frame based on said metadata;
- 1.f. decoding only that part of the composite frame (FC) which contains said one image to be displayed, and
- 1.g. generating an output frame containing said decoded image.

E. Prior Art and Asserted Grounds

Petitioner's challenges to claims 1–19 of the '298 patent are based on the references below. Pet. 4 (labeling the challenges as Grounds 1 through 5).

Claim(s) Challenged	35 U.S.C.⁵ §	Reference(s)/Basis
1–13, 15–19	102	Tian ⁶
1–13, 15–19	103	Tian
1–13, 15–19	103	Lei, ⁷ 2010 H.264 Amendment ⁸
14	103	Tian, Shimada ⁹

⁵ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), which revised 35 U.S.C. §§ 102 and 103, became effective March 16, 2013. The '298 patent claims to have an effective filing date of at least June 28, 2010 (see Section I, n.2 above), prior to the effective date of the AIA. Thus, the grounds asserted are under the pre-AIA versions of §§ 102 and 103.

⁶ Tian, US 9,036,714 B2, issued May 19, 2015, filed January 26, 2010 (“Tian,” Ex. 1004).

⁷ Lei, US 2005/0084006 A1, published April 21, 2005 (“Lei,” Ex. 1005).

⁸ Telecommunication Standardization Sector of the International Telecommunication Union (“ITU-T,” see Pet. 16), Draft AVC amendment text to specify Constrained Baseline profile, Stereo High profile, and frame packing SEI message, Gary J. Sullivan, Alexis Tourapis, Tomoo Yamakage and ChongSoon Lim, 31st Meeting: London, UK, 28 June – 3 July, 2009 (“2010 H.264 Amendment,” Ex. 1006).

⁹ Shimada, US 4,866,542, issued September 12, 1989 (“Shimada,” Ex. 1007).

Claim(s) Challenged	35 U.S.C. ⁵ §	Reference(s)/Basis
14	103	§103 Lei, 2010 H.264 Amendment, Shimada

III. ANALYSIS

A. Claim Construction

This Petition was filed prior to November 13, 2018, and so we interpret terms of the challenged claims using the broadest reasonable construction in light of the specification of the patent in which the claims appear. 37 C.F.R. § 42.100(b) (2017); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016) (upholding the use of broadest reasonable construction standard in *inter partes* review); *see also* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (final rule) (“This rule is effective on November 13, 2018 and applies to all IPR, PGR and CBM petitions filed on or after the effective date.”).

We presume that claim terms have their ordinary and customary meaning. *See TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016) (“Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” (citation omitted)); *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). “[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.” *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Petitioner proposes constructions for “composite frame” and “undivided.” Pet. 11–14. In the Institution Decision, we adopted Petitioner’s proposals for construction of the two terms. Inst. Dec. 9–11. Patent Owner asserts the terms are not in dispute and construction is unnecessary. PO Resp. 11; *see Nidec*, 868 F.3d at 1017 (“[O]nly those terms need be construed that are in controversy . . .”). Petitioner does not dispute this position.¹⁰

We address claim interpretation to the extent necessary within the unpatentability analysis below. *See, e.g.*, Section III.F.3 below. We agree that no term requires express construction beyond the plain and ordinary meaning.

B. Law of Anticipation

In order for a prior art reference to serve as an anticipatory reference, it must disclose every limitation of the claimed invention, either explicitly or inherently. *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). Anticipation “requires that every element and limitation of the claim was previously described in a single prior art reference, either expressly or inherently, so as to place a person of ordinary skill in possession of the invention.” *Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1082 (Fed. Cir. 2008) (citing *Schering Corp. v. Geneva Pharms., Inc.*, 339 F.3d 1373,

¹⁰ In the Institution Decision, we advised Patent Owner that its Response “should include the proposed construction of any disputed claim term that may be dispositive on patentability with any supporting arguments on the proposed construction.” Inst. Dec. 11. Petitioner was advised to address any construction in its Reply. *Id.*

1379 (Fed. Cir. 2003); *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1267–69 (Fed. Cir. 1991)).

[U]nless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102.

Net MoneyIN, Inc. v. VeriSign, Inc., 545 F.3d 1359, 1371 (Fed. Cir. 2008). Whether a patent is invalid as anticipated is a two-step inquiry. *See Power Mosfet Tech., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1406 (Fed. Cir. 2004). The first step requires construction of the claims. *Id.* The second step in the analysis requires a comparison of the properly construed claim to the prior art. *Id.*

*C. Anticipation of Claims 1–13 and 15–19 by Tian
(Ground 1)*¹¹

Petitioner alleges Tian anticipates claims 1–13 and 15–19. Pet. 4, 19–38. Petitioner also relies on the Storer Declaration. Ex. 1003 ¶¶ 114–157.

1. Tian (Ex. 1004)

Tian describes methods and systems for “access[ing] a video picture that includes multiple pictures combined into a single picture,” as well as “additional information indicating how the multiple pictures in the accessed video picture are combined.” Ex. 1004, Abstract.

Figure 24 of Tian is reproduced below.

¹¹ Petitioner does not separate its anticipation and obviousness analyses. *See* Pet. 19 (“Tian anticipates Claims 1–13 and 15–19 of the ’298 Patent. Tian also renders Claims 1–13 and 15–19 of the ’298 Patent obvious.”). Obviousness over Tian is discussed in Section III.E below.

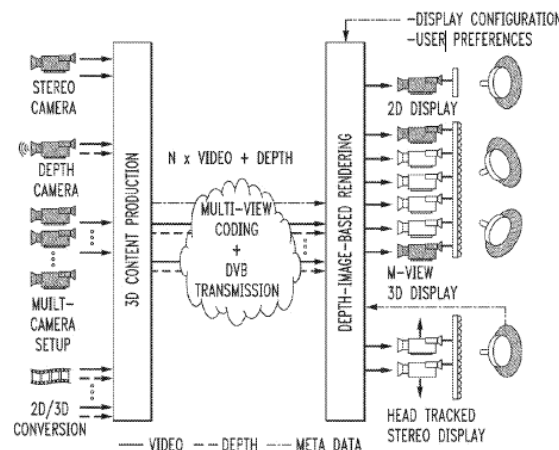


FIG. 24

Figure 24 is a schematic drawing of a video system supporting the production and use of 3D images.

Ex. 1004, 6:37–38. The left side of Figure 24 shows a content production side of the system that captures images by various means, including stereo cameras. *Id.* at 6:38–40. For example, the system can capture left and right views of the same scene. *Id.* at 6:44, Fig. 25. The video image is processed and coded, and the information can be “distributed, transmitted, and ultimately rendered.” *Id.* at 6:45–49. Metadata is also generated with the video content, which can be rendered in 2D display systems or 3D displays. *Id.* at 6:49–52.

Tian uses a “Supplemental Enhancement Information (SEI) message for signaling multi-view information in a MPEG-4 AVC Standard compatible bitstream where each picture includes sub-pictures which belong to a different view.” Ex. 1004, 7:40–44. A stated object of Tian is to facilitate “the easy and convenient display of multi-view video streams on three-dimensional (3D) monitors which may use such a framework.” *Id.* at 7:44–47.

Tian discloses a “higher level syntax such as the SEI message” that “include[s] information about which of the plurality of spatial interleaving modes is attributable to the pictures that are tiled as the single picture.” Ex. 1004, 32:13–18. Tian also discloses the “the syntax is expanded to include relationship information about the content in the tiled pictures,” and “[r]elationship information can include a designation of the left and right pictures in a stereo image.” *Id.* at 32:20–24. Tian discloses that “[t]he video picture is decoded to provide a decoded representation of at least one of the multiple pictures.” *Id.* at 2:49–50.

In its Background section, Tian discloses that it was known that “H.264/AVC, though designed ostensibly for 2D video, can also be used to transmit stereo contents by exploiting a frame-packing technique.” Ex. 1004, 1:41–43. Tian also explains that it was well known that “on the encoder side, two views or pictures are generally downsampled for packing into one single video frame, which is then supplied to a H.264/AVC encoder for output as a bitstream.” *Id.* at 1:44–47. Then, “on the decoder side, the bitstream is decoded and the recovered frame is then unpacked,” which “permits the extraction of the two original views from the recovered frame and generally involves an upsampling operation to restore the original size to each view so that the views can be rendered for display.” *Id.* at 1:47–52.

2. Multiple Embodiments and Anticipation

Patent Owner argues Tian cannot anticipate the claims of the '298 patent because Petitioner relies on multiple embodiments of Tian, which are not “about the same embodiment or . . . even compatible.” PO Resp. 1. Thus, according to Patent Owner, Petitioner has not shown that Tian discloses “all of the limitations arranged or combined in the same way as

recited in the claim.” *Id.* at 1, 21–31 (citing *Net MoneyIN*, 545 F.3d at 1371).

Tian’s column 2 describes “general aspects” of the disclosed invention. *See, e.g.*, Ex. 1004, 2:6, 2:20, 2:36; *see also* PO Resp. 12 (discussing “general teachings” of Tian). Patent Owner contends that “[t]he rest of Tian’s written description after column 2 is not labeled as general teachings but labeled as detailed description.” *Id.* Tian further describes different embodiments, equating the embodiments to “implementations.” Tian states:

Reference in the specification to “one embodiment” (or “one implementation”) or “an embodiment” (or “an implementation”) of the present principles means that a particular feature, structure, characteristic, and so forth described in connection with the embodiment is included in at least one embodiment of the present principles. Thus, the appearances of the phrase “in one embodiment” or “in an embodiment” appearing in various places throughout the specification are not necessarily all referring to the same embodiment.

Ex. 1004, 5:43–53; *id.* at 46:32–42.

Patent Owner identifies portions of Tian where reference is made to different “embodiments,” “implementations,” or “applications.” *See* PO Resp. 23–24. Relying on the Zeger Declaration, Patent Owner contends the use of “embodiments,” “implementations,” and “applications” would all be understood by a person of ordinary skill to describe different embodiments. *Id.* at 24 (citing Ex. 2001 ¶ 74).

Petitioner argues Dr. Zeger’s testimony is not technical testimony but rather expresses a legal conclusion. *See* Reply 4–5 (citing Ex. 1015, 30:22–31:25 (“embodiment” not used in relevant field)). Petitioner does not

otherwise contradict Patent Owner’s assertion that Tian discloses and describes multiple embodiments.

We find that Tian describes multiple embodiments of the disclosed invention. Tian states that “implementations” and “applications,” as well as “embodiment,” all relate to embodiments of the invention disclosed. *See* Ex. 1004, 5:43–53 (quoted above). We also give weight to the Zeger Declaration testimony that a person of ordinary skill would have understood Tian’s disclosure to relate to various embodiments. Ex. 2001 ¶ 74. We are not persuaded that identifying and understanding what is or is not an embodiment requires a legal conclusion. Rather, what is disclosed in separate embodiments falls within what would have been understood by a person of ordinary skill. Dr. Zeger supports his testimony about multiple embodiments with specific reference to different teachings in Tian described variously as “different embodiments,” “another embodiment,” and “additional embodiments.” *See id.* ¶ 76.

We further find that the Petition relies on multiple embodiments from Tian to teach all of the elements of claim 1. *See* PO Resp. 27–29 (chart comparing limitations 1.b, 1.d, and 1.f from the Petition to Tian’s identification of the disclosure as a separate embodiment). Petitioner argues that the portions of Tian relied upon for limitations 1.b and 1.d are part of the general teachings of Tian and “are not embodiment-specific.” Reply 6–8. We disagree for the following reasons.

Limitation 1.b recites “receiving the video stream which comprises at least one composite frame (FC), each composite frame containing a pair of stereoscopic digital images (L,R) according to a predetermined frame packing format.” Although the general teachings of Tian from column 2 are cited in the Petition, other embodiments of Tian are also cited as part of

Petitioner's showing. The general teaching cited is "provid[ing] tiling and appropriate signaling to allow multiple views (pictures, more generally) to be tiled into a single picture, ***encoded as a single picture, and sent as a single picture.***" See Pet. 21 (quoting Ex. 1004, 2:36–39). But the column 2 disclosure does not teach all of limitation 1.b. For the "stereoscopic digital images" recitation of limitation 1.b, Petitioner cites to Tian's teaching of "side-by-side" interleaving, as shown in Figure 27. *Id.* at 21–22 (citing Ex. 1004, 34:10–14, Fig. 27). As Patent Owner's chart illustrates, column 34 of Tian is a separate "implementation" to the general teachings of Tian. See PO Resp. 28.

Limitation 1.d is treated similarly in the Petition in that the general teachings from column 2 of Tian are cited. See Pet. 25 (citing Ex. 1004, 2:39–45). As with limitation 1.b, additional embodiments of Tian are cited to teach the entirety of limitation 1.d. Specifically, limitation 1.d further recites "receiving metadata which determine an area occupied by one of the two images within said composite frame (FC)." Tian's teaching of SEI is relied on, along with expert testimony, to actually show metadata. Pet. 24 (citing Ex. 1003 ¶¶ 125–126 (citing Ex. 1004, 32:13–27 (regarding SEI))); see also PO Resp. 28–29 (citing "various implementations" and "one or more embodiments"). The portions of Tian relied on to teach "metadata" are associated with the description of a different embodiment and are not general teachings of Tian.

Petitioner also argues that its showing regarding limitation 1.f is supported by the general teachings of Tian. Reply 8–13. Petitioner argues that "at a minimum," a person of ordinary skill "would have at once envisaged the arrangement of this limitation with Tian's general teachings for the remaining limitations." Reply 6 (referenced at Reply 8).

Limitation 1.f recites “decoding only that part of the composite frame (FC) which contains said one image to be displayed.” Petitioner argues, “Tian explicitly discloses ‘decoding the video picture to provide a decoded representation of ***at least one of the multiple pictures***,’ where the ‘video picture [] includes multiple pictures combined into a single picture, the video picture being part of a received video stream.’” Pet. 28 (alteration in original) (citing Ex. 1004, 48:40–42, 49:1–2); *see also id.* at 28–30 (citing Ex. 1004, 49:1–2, 46:21–27, 44:46–62, 4:31–34, 2:34–35, 32:23–27, 49:3–4, 30:39–44, 30:53–61; Ex. 1003 ¶¶ 131–135). Patent Owner disputes that Petitioner relies on Tian’s general teachings, first pointing out that the Petition also relies on claim 1 of Tian. Sur-Reply 5–6 (citing Ex. 1004, 48:40–42, 49:1–2). Patent Owner argues that the cited portions of column 44 and 30 of Tian that Petitioner relies on are to “one application” and “various implementations.” PO Resp. 29 (chart).

It is unclear from Petitioner’s arguments just what general teachings of Tian are relied on. We are not persuaded that all of the cited portions of Tian are all general teachings, as opposed to different “applications” or “implementations,” as Patent Owner contends.

Petitioner’s argues that *Net MoneyIN* represents a “narrow view of anticipation.” Reply 3. Petitioner alleges that all the limitations of a claim need not be spelled out as being arranged as in the claim so long as “a person of skill in the art, reading the reference, would ‘at once envisage’ the claimed arrangement or combination.” *Id.* at 3–4 (citing *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015)). Petitioner also cites authority for the proposition that “a reference may still anticipate if that reference teaches that the disclosed components or functionalities may be combined and one of skill in the art would be able to

implement the combination.” Reply 4 (citing *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1343–44 (Fed. Cir. 2016)).

At oral argument, Petitioner argued that there was “no evidence in the record that the general teachings that all come out of a single column, column 2, are *not combinable*.” Tr. 27:14–17 (emphasis added). This argument puts the burden on Patent Owner to prove the proposition. This is contrary to established law. *Cuozzo*, 136 S. Ct. at 2144 (“In inter partes review, the challenger (or the Patent Office) must establish unpatentability . . .”).

We do not find that the authority cited requires us to discount the multiple embodiments Petitioner cites to support the Petition or to find that they are combinable. *Kennametal* and *Blue Calypso* reach a different result from *Net MoneyIN* on distinguishable facts. *Blue Calypso* relied on “key factors” absent from *Net MoneyIn*, including expert testimony that a person of ordinary skill would have understood the reference to disclose “the ability to combine the tools to arrive at the invention recited.” *Blue Calypso*, 815 F.3d at 1343. No such expert testimony is present here. *Kennametal* held that a reference must be “sufficiently clear in disclosing the combinability” of elements “such that a skilled artisan would ‘at once envisage’ the claimed combination.” *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1350 (Fed. Cir. 2019). We find that Tian is not sufficiently clear that the artisan would at once envisage the combinability of the embodiments disclosed.

Indeed, Tian is lengthy and unclear in its description of the various “embodiments,” “applications,” and “implementations.” We credit the Zeger Declaration testimony that Tian discloses multiple different systems “often in a very confusing and complicated manner.” See Ex. 2001 ¶¶ 75–

77. The Zeger Declaration also includes testimony that the number of embodiments disclosed in Tian is indeterminate but is a “large number.” *Id.* ¶ 74; *see also* Ex. 2002, 42:2–15 (Storer Deposition testimony that “Tian uses the word ‘embodiment’ in many places, in many different ways”). The Zeger testimony is not countered by any testimony from Dr. Storer from either of his declarations or in his deposition. Neither the First nor Second Storer Declaration discusses the embodiment issue at all. The Second Storer Declaration, submitted after the Zeger Declaration, makes no mention of Tian. There is no expert testimony supporting Petitioner’s position that the teachings are combinable. *See Blue Calypso*, 815 F.3d at 1343 (distinguishing over *Net MoneyIn* because of expert testimony). Petitioner’s showing requires combining multiple embodiments of Tian without any showing that they would have been combinable or that a person of ordinary skill would immediately envisage they would have been combinable. In sum, in light of Petitioner’s reliance on multiple embodiments of Tian, Petitioner has not established, by a preponderance of the evidence, that Tian anticipates claim 1.

3. “*decoding only that part of the composite frame (FC) which contains said one image to be displayed.*”

Petitioner’s showing regarding limitation 1.f, reproduced above, relies on Tian’s disclosure that “decoding the video picture to provide a decoded representation of **at least one of the multiple pictures**,” where the “video picture [] includes multiple pictures combined into a single picture, the video picture being part of a received video stream.” Pet. 28 (citing Ex. 1004 at 48:40–42, 49:1–2; *see also id.* at 49:1–2 (“The video picture is decoded to provide a decoded representation of at least one of the multiple pictures.”)). Petitioner argues that “a picture may also be **a subset of a frame such**

conclusory but seems to follow *as, for example, a top half of a frame, a single macroblock, alternating columns, alternating rows*, or periodic pixels.” *Id.* at 28–29 (citing Ex. 1004 46:21–27).

Patent Owner disputes that limitation 1.f is disclosed by Tian. *Id.* at 32–42. Patent Owner argues the disclosures of Tian cited in the Petition and by Dr. Storer do not disclose “decoding only that part of the composite frame.” PO Resp. 33 (citing Ex. 2001 ¶¶ 79–80). Patent Owner argues that Tian discloses “multiple pictures combined into a single picture,” which Patent Owner contends means more than “only that part of the composite frame.” *Id.* at 33–34 (citing Ex. 1004, 48:40–41; Ex. 2001 ¶ 82). Patent Owner distinguishes providing a picture, as disclosed by Tian, from the “decoding” claimed. *Id.* at 34 (citing Ex. 2001 ¶ 82).

Petitioner responds that Tian discloses decoding a “selected view” as well as “*any required reference pictures from other views, and provides the decoded view 2790 for display on a television.*” Reply 10 (citing Ex. 1004, 44:46–62; Ex. 1003 ¶ 132). Patent Owner maintains that decoding in Tian requires “two views, since it always teaches at least one required picture reference.” Sur-Reply 6–7 (citing Ex. 2001 ¶¶ 84–86).

We find that Tian discloses decoding a reference picture along with the selected picture. Tian does not disclose decoding “only” the “image to be displayed.” In making our finding, we give weight to the Zeger Declaration. *See* Ex. 2001 ¶¶ 84–86; *see also* Sur-Reply 7 (“[W]hat a reference teaches is necessarily informed by context, including reference’s written description.”). The Second Storer Declaration does not rebut Dr. Zeger’s testimony, nor does it even discuss the Tian grounds. *See generally* Ex. 1016. We also find support for our finding from the portion of Tian relied on by Petitioner that decoding a “selected view” includes “*as well as*

any reference pictures from other views,” which we find does not clearly disclose that “only” the selected view is decoded. See Sur-Reply 8. We are not persuaded by Petitioner’s argument that decoding “some other reference pictures is immaterial to the invalidity analysis because we only have to show that it teaches at least some time decoding only one picture.” Tr. 20:9–16. Petitioner’s argument is unsupported by any evidence and attorney argument is insufficient to meet Petitioner’s burden to prove unpatentability. This is particularly true when Patent Owner counters with expert testimony based on what is disclosed in Tian. Accordingly, Petitioner has not shown, by a preponderance of the evidence, that Tian discloses limitation 1.f, namely “decoding only that part of the composite frame (FC) which contains said one image to be displayed.”

4. Summary of Anticipation of Claims 1–13 and 15–19

Claim 1 has not been shown to be unpatentable as anticipated by Tian. Claim 11 is the other independent claim that Petitioner argues is anticipated by Tian. Pet. 32–34. For claim 11, which includes virtually identical limitations to those discussed in our claim 1 analysis, Petitioner relies on the arguments advanced in connection with claim 1. See, e.g., *id.* at 32 (referencing discussion of claim 1). Claims 2–10 depend from claim 1 and claims 12–13 and 15–19 depend from claim 11. For the reasons discussed in connection with claim 1, Petitioner has not shown by a preponderance of the evidence that claims 1–13 and 15–19 would have been anticipated by Tian.

D. Legal Standard for Obviousness

A patent claim is invalid as obvious if the differences between the claimed subject matter and the prior art are “such that the subject matter as a whole would have been obvious at the time the invention was made to a

person having ordinary skill in the art to which said subject matter pertains.”
35 U.S.C. § 103(a).

“The ultimate determination of obviousness is a question of law, but that determination is based on underlying factual findings The underlying factual findings include (1) ‘the scope and content of the prior art,’ (2) ‘differences between the prior art and the claims at issue,’ (3) ‘the level of ordinary skill in the pertinent art,’ and (4) the presence of secondary considerations of nonobviousness such ‘as commercial success, long felt but unsolved needs, failure of others,’ and unexpected results. *In re NuVasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (citing, *inter alia*, *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)).

“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Furthermore, in assessing the prior art, the Board must consider whether a person of ordinary skill would have been motivated to combine the prior art to achieve the claimed invention. *NuVasive*, 842 F.3d at 1381. As the Federal Circuit found, in quoting from the Supreme Court’s decision in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 418–419 (2007), “‘because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known,’ ‘it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.’” *Pers. Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 991–992 (Fed. Cir. 2017).

1. Person of Ordinary Skill in the Art

Petitioner alleges a person of ordinary skill in the art would have a bachelor's degree in electrical engineering, computer science, or a similar field with at least two years of experience in data compression or a person with a master's degree in electrical engineering, computer science, or a similar field with a specialization in data compression. Ex. 1003 at ¶60. A POSITA would also have had experience with video reproduction systems. *Id.* A person with less education but more relevant practical experience may also meet this standard. *Id.*

Pet. 11. Patent Owner adopts Petitioner's proposed level of ordinary skill. PO Resp. 10 (citing Ex. 2001 ¶ 29). We find Petitioner's proposed level of ordinary skill is applicable to the '298 patent.

E. Obviousness of Claims 1–13 and 15–19 over Tian (Ground 2)

Petitioner alleges claims 1–13 and 15–19 would have been obvious over Tian for the same reasons it asserts Tian anticipates those same claims. See Pet. 19 (“Tian also renders Claims 1–13 and 15–19 of the '298 Patent obvious.”). The only testimony from Dr. Storer regarding obviousness is the statement that “Tian also renders Claims 1–13 and 15–19 of the '298 Patent obvious.” Ex. 1003 ¶ 114.

1. Tian (Ex. 1004)

Tian is described in Section III.C.1 above.

2. Analysis

Patent Owner disputes Petitioner's obviousness showing, which it argues is limited to a conclusory statement that the claims would have been obvious. PO Resp. 45–46 (citing Pet. 19; Ex. 1003 ¶ 114). Patent Owner argues the conclusory argument and testimony are insufficient to meet Petitioner's burden. *Id.* at 46 (citing *Magnum*, 829 F.3d at 1380 (“To satisfy its burden of proving obviousness, a petitioner cannot employ mere

conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.”)).

Petitioner’s only response is that Patent Owner “does not point to any reason why a POSITA would not know how to modify any single embodiment in Tian to incorporate Tian’s other teachings.” Reply 19. As was the case in Section III.C.2 above, this argument attempts to improperly shift the burden to Patent Owner to prove patentability. *See Cuozzo*, 136 S. Ct. at 2144.

Petitioner does not argue or present any evidence directed to how or why the multiple embodiments of Tian would be combined. Indeed, as discussed above, Petitioner does not acknowledge that it relies on anything other than Tian’s general teachings. In effect, Petitioner denies that Tian teaches multiple embodiments. As discussed in Section III.C.2 above, we find that Tian teaches multiple embodiments that are confusing and are not described as combinable with one another. We are not presented with any reason to combine the different embodiments. *See KSR*, 550 U.S. at 418–419. Absent motivation or reason to combine the different embodiments of Tian, Petitioner’s obviousness challenge to claims 1–13 and 15–19 fails.

Petitioner has not shown that claims 1–13 and 15–19 would have been obvious over Tian.

F. Obviousness of Claims 1–13 and 15–19 over Lei and 2010 H.264 Amendment (Ground 3)

Petitioner alleges claims 1–13 and 15–19 would have been obvious over Lei and 2010 H.264 Amendment. Pet. 38–57. Petitioner also relies on the Storer Declaration. *See* Ex. 1003 ¶¶ 158–196.

1. Lei (Ex. 1005)

Lei describes “a system and method of encoding/decoding compressed video for three-dimensional and stereo viewing.” Ex. 1005 ¶ 4. Lei teaches that “[i]t would be advantageous if only one view of a compressed 3D or stereo-view could be decoded to permit viewing on legacy 2D displays.” *Id.* ¶ 9. Lei also explains that it “treats 3D video frames as interlaced materials” and, therefore, “a 3D view can be coded using existing interlace-coding methods, such as those in H.264, which enable better compression.” *Id.* ¶ 10. More specifically, Lei describes a system that includes a decoder “having an input connected to a channel on line 104 to accept a bitstream with a current video frame encoded with two interlaced fields.” *Id.* ¶ 22.

Lei explains:

The 3D content SEI messages may trigger the decoder 102 to analyze display capabilities. This analysis may be a result of a query directed to display 108, or a result of accessing pre-configured information in memory concerning display capabilities.

Id. ¶ 25.

2. 2010 H.264 Amendment (Ex. 1006)¹²

The 2010 H.264 Amendment is a draft amendment to the H.264 standard, promulgated by the Telecommunication Standardization Sector of the International Telecommunication Union (“ITU-T”). Ex. 1006, i. The

¹² Petitioner contends the 2010 H.264 Amendment is prior art under at least pre-AIA §102(a) because it was publicly available at least as early as March 27, 2010. Pet. 17–18 (citing Ex. 1003 ¶ 97; Ex. 1008 (Decl. of Gary Sullivan) ¶¶ 6, 13–16). Patent Owner does not contest this assertion.

2010 H.264 Amendment was discussed at the 31st meeting of the Joint Video Team (“JVT”). *Id.*¹³

The 2010 H.264 Amendment discloses an extension to “the H.264/14496-10 AVC standard to add a new Stereo High profile for stereo-view video coding” and “a new supplemental enhancement information message for enabling stereo-view and similar video functionality using existing non-MVC decoder designs.” Ex. 1010, i.

3. *“determining the area in the composite frame (FC) which is occupied by said one image of the stereoscopic pair within the composite frame based on said metadata” (claim 1)*

Patent Owner disputes Petitioner’s assertion that “Lei discloses” limitation 1.e (“determining the area”), reproduced above. Pet. 47; PO Resp. 50–57. Petitioner’s showing regarding limitation 1.e is based on paragraph 25 of Lei, the Storer Declaration, and the Second Storer Declaration. See Pet. 47 (citing Ex. 1005 ¶ 25; Ex. 1003 ¶ 170); Reply 20–23 (citing Ex. 1005 ¶ 25; Ex. 1003 ¶ [170]; Ex. 1016 ¶ 6).

Neither party has proposed a construction for “determining the area.” See Section III.A above. Nonetheless, Patent Owner argues “the phrase ‘determining the area’ has [specific] requirements.” PO Resp. 51 (citing Ex. 2001 ¶ 126); *id.* at 51–52 (citing Ex. 2001 ¶ 126; Ex. 1003 ¶ 127; Ex. 2002, 79:13–24, 80:5–9, 16–25). Petitioner argues that the word “determining” was given meaning in the Petition and by Dr. Storer, and that Patent

¹³ The Petition cites additionally Ex. 1010 (Joint Video Team (JVT) of ISO/IECMPEG & ITU-T VCEG (ISO/IEC JTC 1/SC 29/WG 11 and ITU-T SG 16 Q.6) 31st Meeting: London, UK, 28 June - 2 July, 2009), 2 (“Major Output Documents” lists “JVT-AE205 Draft ITU-T Rec. H.264 | ISO/IEC 14496-10 Advanced video coding specification text (G. Sullivan, H. Schwarz) [2009-09-18]”); Ex. 1008 ¶¶ 6, 13–14; Ex. 1003 ¶¶ 95–96.

Owner’s arguments that determining the area has “specific requirements” should be rejected and are moot.” Reply 21 (citation omitted).

Neither party’s arguments require us to deviate from the plain and ordinary meaning of “determining the area.” We find that the plain and ordinary meaning of “determining the area” requires identifying one of two frames, the recited “said one image” of limitation 1.e. Once an image is identified, the Specification describes how to determine “***the region*** occupied by one of the two stereoscopic images” and that metadata is used to “determine such areas.” Ex. 1001, 4:17–30; *see also* PO Resp. 52–53 (citing Ex. 2001 ¶¶ 129–130 (citing the Specification)).

Petitioner argues that under the plain and ordinary meaning of determining the area, “[i]f the composite frame contains two images and the decoder has the capability to *decode only one of the images* (as paragraph 25 teaches), then the decoder must have the ability to discern the specific bits of the composite frame to decode.” Reply 21 (emphasis added) (citing Ex. 1016 ¶ 6). Paragraph 6 of the cited Second Storer Declaration is reproduced below:

If the composite frame contains two images and the decoder has the capability to decode only one of the images (as paragraph [0025] teaches), then the decoder must have the ability to discern the specific bits of the composite frame to decode. This would have been clearly obvious to a POSITA, and Dr. Zeger’s declaration has no explanation of how it is possible for Lei’s decoder to decode only one field from the interlaced field without being capable of determining where the selected field is in the interlaced field.

Ex. 1016 ¶ 6. Thus, Petitioner argues that by decoding one of two images, a person of ordinary skill would have understood from Lei “where” the selected image is, i.e., its “region” or “area.”¹⁴ See Ex. 1001, 4:17–30.

However, beyond concluding that the “decoder must have the ability,” the preceding argument of Petitioner and testimony from Dr. Storer do not show that Lei teaches determining the area. In response to the Board’s question on this issue at the oral hearing, Petitioner responded that the “[P]etition shows the determining step at the exact same level of detail that is disclosed in the ’298 patent and we can see that because there’s no discussion or description of the decoder.” Tr. 11:25–12:4, 12:14–18. Petitioner argues that “when the patent doesn’t go into that detail . . . that alone can be evidence supporting a finding that that necessary skill or technique is within the level of skill of the POSITA.” *Id.* at 13:4–18 (citing *In re Epstein*, 32 F.3d 1559, 1568 (Fed. Cir. 1994), *see also id.* at 14:24–15:12 (summarizing Petitioner’s argument)).

Petitioner’s argument does not show that determining the area is shown by paragraph 25 of Lei. Petitioner’s argument and supporting expert testimony make the leap from decoding one image to the decoding “must have” determined the area where the image was located. The Second Storer Declaration relies on nothing more than Lei’s paragraph 25. Ex. 1016 ¶¶ 5–6. Lei lacks a specific teaching of determining the area. We find Lei’s teaching of SEI as metadata alone is insufficient. See 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). We credit the

¹⁴ We find that the Specification “uses the phrase ‘determining the region’ and ‘determining [the] area’ interchangeably,” both being consistent with the plain and ordinary meaning of determining the area. See PO Resp. 53.

Zeger Declaration testimony that the only information Lei describes as “being obtained as a result of the analysis of display capabilities is whether or not there is 3D capability.” Ex. 2001 ¶¶ 135–136 (citing Lei disclosures of “display capabilities”).

That the ’298 patent may be enabled by what would have been understood by a person of ordinary skill is not the same as allowing the teachings of a prior art reference to be supplemented by such knowledge to show a claim is unpatentable. *Epstein* holds that “one skilled in the art would have known how to implement the features of the references and would have concluded that the reference disclosures would have been enabling.” *Epstein*, 32 F.3d at 1568. It is true that a reference must be enabling to a person of ordinary skill to qualify as prior art. Enablement, however, is not the same as what is taught in a reference.

Patent Owner argues that the Reply represents a new theory that Lei “must have” the capability to determine the area. Sur-Reply 11. As already discussed above, the Petition relies on Lei as disclosing limitation 1.e. See Pet. 47 (quoting Ex. 1005 ¶ 25). The Storer Declaration states that Lei “discloses this limitation,” relying exclusively on paragraph 25 of Lei. Ex. 1003 ¶ 170.

We agree with Patent Owner that Petitioner’s inherency argument, along with the supporting declaration evidence, is first asserted in the Reply. See Sur-Reply 12–13. “A reply may only respond to arguments raised in the . . . patent owner response.” 37 C.F.R. § 42.23(b). The new argument also relies on new expert testimony. Despite being on notice that Patent Owner alleged the “must have” argument was new, Petitioner did not explain why the argument was not new at the oral hearing nor did it seek authorization to reply to the Sur-Reply with additional briefing on this issue. The issue is a

claim limitation that Petitioner should have shown in the Petition. See Patent Trial and Appeal Board Consolidated Trial Practice Guide 74 (Nov. 2019), <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf> (“[A] reply or sur-reply that raises a new issue or belatedly presents evidence may not be considered. . . . Examples of indications that a new issue has been raised in a reply include new evidence necessary to make out a *prima facie* case for the . . . unpatentability of a[] . . . claim It is also improper for a reply to present new evidence (including new expert testimony) that could have been presented in a prior filing”).

The burden is on Petitioner to show limitation 1.e and Patent Owner’s argument that it did not do so is fundamental to determining unpatentability. What is necessary to show limitation 1.e could not have been new, surprising, or unanticipated. In a factually similar case citing 37 C.F.R. § 42.23(b), the Board found a new theory was presented based on expert testimony about what a person of ordinary skill in the art would have known. *Greene’s Energy Grp. LLC v. Oil States Energy Servs. LLC*, IPR2014-00364, Paper 37 at 30 (PTAB May 1, 2015). Although not a precedential decision, we agree with the reasoning in *Greene’s* and will not consider a new argument for unpatentability or new evidence supporting that theory raised for the first time in a Reply.

4. Summary of Obviousness of Claims 1–13 and 15–19 over Lei and 2010 H.264 Amendment

Claim 1 has not been shown to be unpatentable as obvious over Lei and 2010 H.264 Amendment. Claim 11, is the other independent claim that Petitioner argues would have been obvious over Lei and 2010 H.264 Amendment. Pet. 51–52. Claim 11 includes virtually identical limitations

to those discussed in our claim 1 analysis. Petitioner relies on the arguments advanced in connection with claim 1. *See, e.g.*, Pet. 51 (citing Pet. 24–27 showing regarding claim 1.d). Claims 2–10 depend from claim 1 and claims 12–13 and 15–19 depend from claim 11. For the reasons discussed in connection with claim 1, Petitioner has not shown by a preponderance of the evidence that claims 1–13 and 15–19 would have been anticipated by Tian.

G. Obviousness of Claim 14 Over Tian and Shimada (Ground 4)

Petitioner alleges claim 14 would have been obvious over Tian and Shimada. Pet. 57–59.

1. Tian (Ex. 1004)

Tian is described in Section III.B.1 above.

2. Shimada (Ex. 1007)

Shimada describes a “remote-controlling commander . . . for manual operation of the user.” Ex. 1007, Abstract. The commander sends a signal to “the apparatus [that] is to be controlled” to “trigger the function represented by the received signal.” *Id.* Shimada also teaches that “remote-controlling commanders for remote controlling [electronic apparatuses] have become a popular convenience for the users.” *Id.* at 1:25–28.

3. Analysis of Claim 14

We find above that Petitioner has not shown, by a preponderance of the evidence, that Tian discloses or teaches claims 1–13 and 15–19. *See* Sections III.C and E above. Tian does not “suggest” limitations 1.f and 11.e, which corresponds to limitation 1.f. *See* Sections III.F.3 and 4 above; *see also In re Mouttet*, 686 F.3d 1322, 1333 (Fed. Cir. 2012) (“[T]he test for obviousness is what the combined teachings of the references would have

suggested to those having ordinary skill in the art.”). Shimada is not alleged to teach limitation 11.f

For these reasons, Petitioner has not shown by a preponderance of the evidence that claim 14 is unpatentable as obvious over Tian and Shimada.

H. Obviousness of Claim 14 Over Lei, 2010 H.264 Amendment, and Shimada (Ground 5)

Petitioner alleges claim 14 would have been obvious over Lei, 2010 H.264 Amendment, and Shimada. Pet. 59–62. Lei, 2010 H.264 Amendment, and Shimada are discussed, respectively, in Sections III.F.1, II.F.2, and III.G.2 above.

1. Analysis of Claim 14

We find above that Petitioner has not shown, by a preponderance of the evidence that Lei discloses or teaches the determining the area limitation recited in limitations 1.e and 11.d, which corresponds to limitation 1.e. See Section III.F.3 and 4 above. Shimada is not alleged to teach limitations 1.e or 11.d, which we found was not disclosed or taught by Lei.

For these reasons, Petitioner has not shown by a preponderance of the evidence that claim 14 is unpatentable as obvious over Lei, 2010 H.264 Amendment, and Shimada.

IV. CONCLUSION¹⁵

Petitioner fails to show, by a preponderance of the evidence, that Tian anticipates or renders obvious claims 1–13 and 15–19 because Petitioner

¹⁵ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application

improperly relies on multiple embodiments for both its anticipation and obviousness challenges. Petitioner also fails to show how or why the embodiments would have been combined by a person of ordinary skill. Petitioner has failed to show why limitation 1.f is disclosed or taught by Tian.

Petitioner has not shown that Lei teaches the determining the area limitation of claims 1 and 11. Petitioner's arguments based on Lei and what a person of ordinary skill would have understood based on Lei are new arguments raised improperly for the first time in its Reply.

or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–13, 15–19	102	Tian		1–13, 15–19
1–13, 15–19	103	Tian		1–13, 15–19
1–13, 15–19	103	Lei, 2010 H.264 Amendment		1–13, 15–19
14	103	Tian, Shimada		14
14	103	Lei, 2010 H.264 Amendment, Shimada		14
Overall Outcome				1–19

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–19 of U.S. Patent No. 9,578,298 B2 are not determined to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2018-01227
Patent 9,578,298 B2

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