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Paper 30
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
Petitioner,

v.

IBEX PT HOLDINGS CO., LTD.,
Patent Owner.

Case IPR2018-00095
Patent 8,774,279 B2

Before LYNNE E. PETTIGREW, BARBARA A. PARVIS, and KIMBERLY McGRAW, *Administrative Patent Judges*.

McGRAW, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, Samsung Electronics Co., Ltd. ("Petitioner") challenges claims 1–5 of U.S. Patent No. 8,774,279 B2 (Ex. 1001, "the '279 patent"), owned by Ibex PT Holdings Co., Ltd. ("Patent Owner"). This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, Petitioner has not shown by a preponderance of the evidence that claims 1–5 of the '279 patent are unpatentable.

A. Procedural History

Petitioner filed a Petition for *inter partes* review of claims 1–5 of the '279 patent. Paper 1 ("Pet."). Patent Owner filed a Preliminary Response. Paper 5. Applying the standard set forth in 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, we instituted an *inter partes* review to determine whether claims 1–4 are unpatentable under 35 U.S.C. § 103(a)[1] as obvious over WD4-v2,[2] Lin,[3] and Zhou II[4] and whether

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[1] The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) ("AIA"), amended 35 U.S.C. §§ 102 and 103. Because the '279 patent has an effective filing date before September 16, 2012, the effective date of the applicable AIA amendments, we refer to the pre-AIA versions of §§ 102 and 103.

[2] Benjamin Bross et al., *WD4: Working Draft 4 of High-Efficiency Video Coding*, JCTVC-F803 (version 2) (uploaded Aug. 9, 2011) (Ex. 1067, "WD4-v2")

[3] U.S. Patent Publ'n No. 2012/0236942 A1, published Sept. 20, 2012 (Ex. 1014, "Lin").

[4] Minhua Zhou, *CE1: Evaluation Results on A.09, A.13-16 and an Alternative Solution*, JCTVC-F081 (version 2) (uploaded July 11, 2011) (Ex. 1031, "Zhou II").

claim 5 is unpatentable under § 103(a) as obvious over WD4-v2, Lin, Zhou II, and Sze.[5] Paper 6 ("Inst. Dec.").

Following institution, Patent Owner filed a Patent Owner Response (Paper 17, "PO Resp."), to which Petitioner filed a Reply (Paper 20, "Reply"). An oral hearing was held on January 15, 2019, and a copy of the hearing transcript has been entered into the record. Paper 29 ("Tr.").[6]

B. The '279 Patent

According to Petitioner and its declarant, Mr. Benjamin Bross, the '279 patent and the cited prior art generally relate to video coding technologies, and more particularly to a merge mode during video coding. Pet. 5 (citing Ex. 1002 ¶ 28). Petitioner asserts that the merge mode allows a current block in a picture to inherit motion information from spatially or temporally neighboring blocks, thereby reducing the amount of motion information to be coded for the current block. *Id*. Mr. Bross explains that it "is referred to as a merge mode because the current block and spatially or temporally neighboring block(s) form a merged region sharing the same motion information." Ex. 1002 ¶ 30.

The '279 patent states that the invention "relates to an apparatus for decoding motion information and, more particularly, to an apparatus for decoding motion information in merge mode for reconstructing motion information coded in merge mode." Ex. 1001, 1:14–17. According to the

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[5] Vivienne Sze and Madhukar Budagavi, *CE11: Parallelization of HHI_TRANSFORM_CODING (Fixed Diagonal Scan from C227),* JCTVCF129 (version 3) (uploaded July 22, 2011) (Ex. 1112, "Sze").
[6] A consolidated hearing was held for this proceeding and IPR2018-00093, also involving the '279 patent, as well as IPR2018-00092 and IPR2018-00094, involving U.S. Patent No. 9,025,668 B2.

'279 patent, the motion information includes a reference picture index (indicating any one of previously coded and reconstructed pictures) and a motion vector. *Id*. at 2:64–67. In a method known as inter-prediction coding, in which a current block is generated based on a block from a previous picture that is similar to the current block, motion information corresponding to the current block is transmitted. *Id*. at 1:23–31. The '279 patent alleges that "the amount of motion information to be transmitted (e.g., a motion vector and a reference picture index) is gradually increas[ing] . . . [and thus] there is a need for an apparatus capable of reducing the amount of motion information to be transmitted more effectively." *Id*. at 1:35–41.

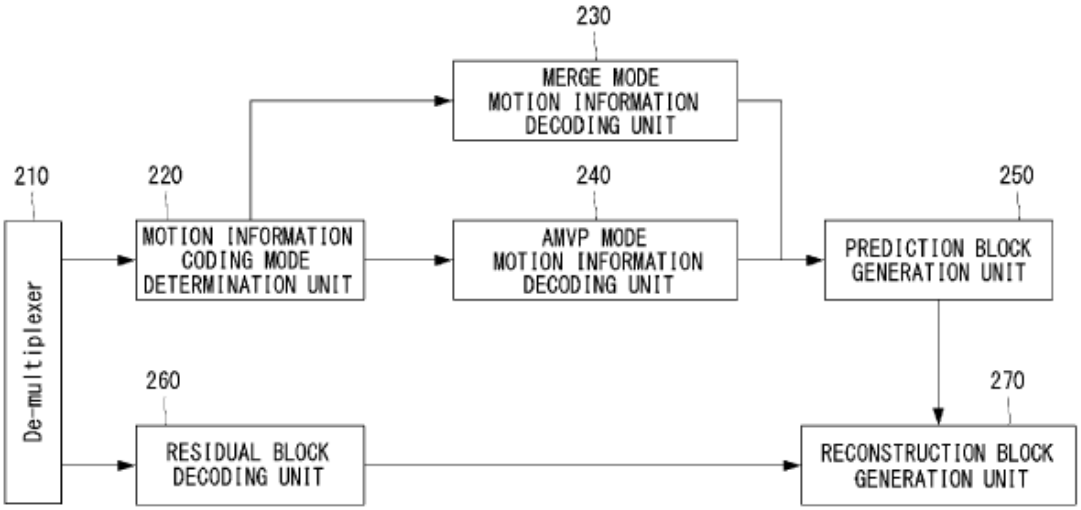
The '279 patent discloses encoding of motion information in merge mode:

> Merge mode is applied when a merge candidate having the same motion information as a current block is present. Merge mode is applied when a current block has a different size from a coding unit or when a residual signal is present if a current block has the same size as a coding unit.

Id. at 3:27–31. The alleged invention described in the '279 patent "provides an apparatus for decoding motion information in merge mode for effectively reconstructing motion information coded in merge mode." *Id*. at 1:47–49.

Figure 4, reproduced below, is a block diagram of an inter-prediction decoding apparatus disclosed in the '279 patent:

FIG. 4



Id. at 2:35–36, 8:33–34. As shown in Figure 4 above, inter-prediction decoding apparatus 200 includes, among other things, merge mode motion information decoding unit 230, prediction block generation unit 250, and residual block decoding unit 260. *Id*. at 8:35–41.

The ’279 patent describes in detail three embodiments of merge mode motion information decoding unit 230. *Id*. at 2:37–45, 10:11–14:62, Figs. 5–7. Figure 5, illustrating the first embodiment, is reproduced below:

FIG. 5

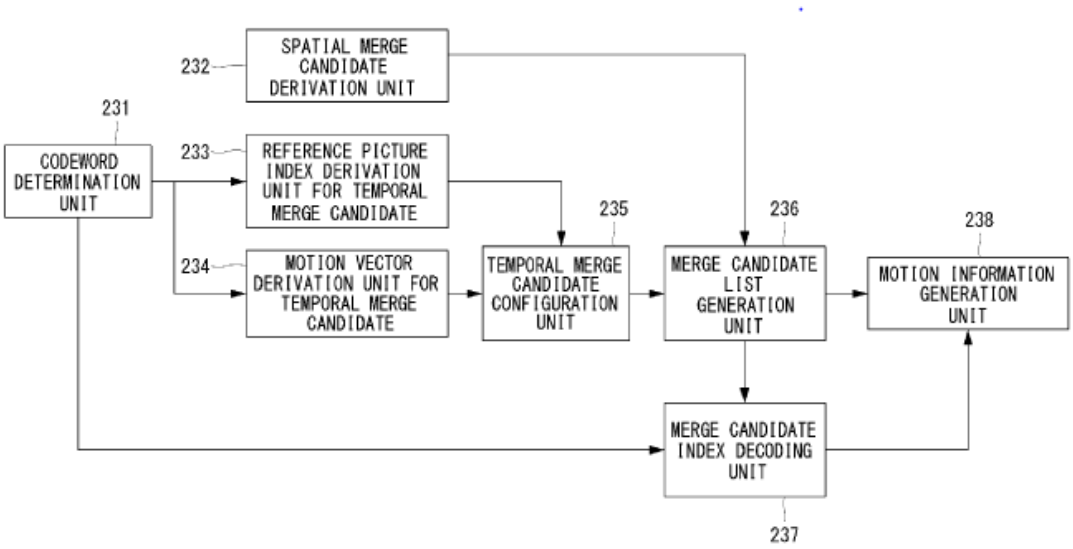
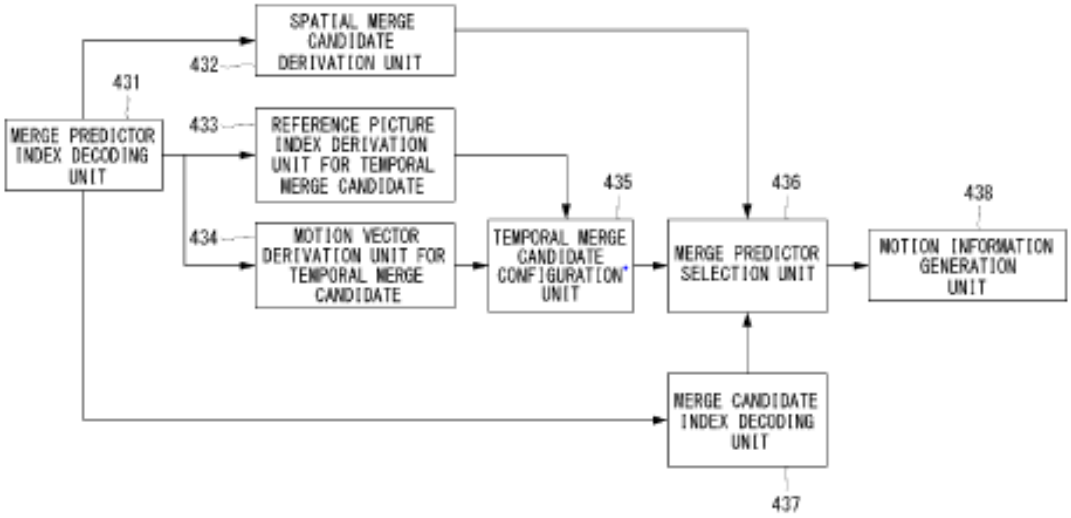


Figure 5 above is a block diagram of a first embodiment of merge mode motion information decoding unit 230. *Id*. at 2:37–39. This first embodiment includes, among other elements, spatial merge candidate derivation unit 232, which "sets valid motion information of a block that is adjacent to a current block as a spatial merge candidate." *Id*. at 10:38–11:15. It also includes reference picture index derivation unit 233 for obtaining the reference picture index of the temporal merge candidates of a current block. *Id*. at 11:16–54. In addition, it includes motion vector derivation unit 234, which determines a picture to which a temporal merge candidate belongs, obtains a temporal merge candidate block within the temporal merge candidate picture, and sets the motion vector of the temporal merge candidate as the motion vector of the selected temporal merge candidate prediction block. *Id*. at 11:55–12:36. Temporal merge candidate configuration unit 235 then determines a reference picture index obtained by reference picture index derivation unit 233 and a motion vector obtained by

motion vector derivation unit 234 as the reference picture index and motion vector, respectively, of a temporal merge candidate. *Id*. at 12:41–46.

The second embodiment of merge mode motion information decoding unit 230 includes several elements that operate in the same way as those in the first embodiment. *Id*. at 13:24–34, 14:1–6, Fig. 6 (blocks 332–335, 337). Figure 7, illustrating the third embodiment of merge mode motion information decoding unit 230, is reproduced below:

FIG. 7



The third embodiment, shown in Figure 7 above, includes several elements that operate in the same way as those in the first or second embodiments. *Id*. at 14:15–23, Fig. 7 (blocks 431–436, 438).

C. Illustrative Claim

Petitioner challenges all claims (i.e., claims 1–5) of the ’279 patent. Independent claim 1 is illustrative of the claimed subject matter:

1. An apparatus for decoding motion information in merge mode, comprising:

a merge predictor index decoding unit configured to reconstruct a merge predictor index of a current block using a received merge codeword;

a spatial merge candidate derivation unit configured to derive spatial merge candidates of the current block;

a temporal merge candidate configuration unit configured to generate a temporal merge candidate of the current block;

a merge candidate generation unit configured to generate one or more merge candidates when the number of valid merge candidates of the current block is smaller than a predetermined number;

a merge predictor selection unit configured to generate a merge candidate list using the merge candidates and select a merge predictor based on the merge predictor index;

a prediction block generating unit configured to generate a prediction block of the current block using motion information of the merge predictor; and

a residual block generating unit configured to perform an entropy-decoding process and an inverse-scanning process on residual signals to generate a quantized block, and to perform an inverse-quantizing process and an inverse-transforming process on the quantized block to generate a residual block,

wherein the temporal merge candidate configuration unit is configured to set a reference picture index of the temporal merge candidate as 0,

wherein a motion vector of the temporal merge candidate is selected among motion vectors of a first merge candidate block and a second merge candidate block based on a position of the current block within a slice or a largest coding unit, and the motion vector of the second merge candidate block is selected as the motion vector of the temporal merge candidate if

> the current block is adjacent to a lower boundary of the largest coding unit.

Ex. 1001, 16:63–18.8.

D. Evidence

In support of its unpatentability contentions, Petitioner relies on declarations by Mr. Benjamin Bross (Exhibits 1002 and 1117) and Dr. Anthony Vetro (Exhibit 1035). Patent Owner cross-examined Mr. Bross via deposition. *See* Ex. 2008. On July 24, 2018, we granted Petitioner's motion to submit Exhibits 1117–1120 and 1122–1128 as supplemental information under 37 C.F.R. § 42.123(a) relating to the public availability of WD4-v2 and Sze.[7] Paper 14; Paper 10, 3 (stating the "supplemental information (Exs. 1117–1120 and 1122–1128) submitted with this motion relates to the public availability of *WD4-v2* . . . and *Sze*").

E. Related Matters

Concurrently with this proceeding, we instituted a second *inter partes* review of claims 1–5 of the '279 patent based on another petition filed by Petitioner. *Samsung Elecs. Co. v. Ibex PT Holdings Co.*, Case IPR2018-00093 (PTAB May 3, 2018) (Paper 6). We issue our final written decision in that case concurrently with this decision.

We also instituted *inter partes* reviews of a continuation of the '279 patent—U.S. Patent No. 9,025,668 B2—based on petitions filed by Petitioner. *Samsung Elecs. Co. v. Ibex PT Holdings Co.*, Case IPR2018-00092 (PTAB May 9, 2018) (Paper 6); *Samsung Elecs. Co. v. Ibex*

[7] Patent Owner filed objections to some of the evidence Petitioner submitted as supplemental information but did not preserve the objections by filing a motion to exclude pursuant to 37 C.F.R. § 42.64(c). *See* Paper 16.

PT Holdings Co., Case IPR2018-00094 (PTAB May 9, 2018) (Paper 6). Those reviews remain pending.

In addition, Petitioner filed several petitions challenging claims of related U.S. Patent No. 8,654,855 B2 ("the '885 patent"). Pet. 2; *see also Samsung Elecs. Co. v. Ibex PT Holdings Co.*, Case IPR2018-00011 (PTAB April 10, 2019) (Paper 31) (Final Written Decision determining challenged claims of the '855 patent unpatentable); *Samsung Elecs. Co. v. Ibex PT Holdings Co.*, Case IPR2018-00012 (PTAB April 10, 2019) (Paper 30) (Final Written Decision determining challenged claims of the '855 patent not shown to be unpatentable); *Samsung Elecs. Co. v. Ibex PT Holdings Co.*, Case IPR2017-00101 (PTAB Apr. 20, 2017) (Paper 6) (denying institution); *Samsung Elecs. Co. v. Ibex PT Holdings Co.*, Case IPR2017-00102 (PTAB Apr. 20, 2017) (Paper 6) (denying institution).

Petitioner also identifies IPR2017-00099 and IPR2017-00100 as "two IPR petitions challenging claims of U.S. Patent No. 8,917,772 [('the '772 patent')] directed to similar technology." Pet. 1; *see also* 2017-00099 (PTAB April 23, 2018) (Paper 32) (Final Written Decision determining challenged claims of the '772 patent not shown to be unpatentable); IPR2017-00100 (PTAB April 23, 2018) (Paper 30) (Final Written Decision determining challenged claims of the '772 patent not shown to be unpatentable).

II. DISCUSSION

A. Legal Principles

To prevail on its challenge to Patent Owner's claims, Petitioner must demonstrate by a preponderance of the evidence that the claims are

unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). A claim is unpatentable for obviousness under 35 U.S.C. § 103(a) 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." *KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective indicia of non-obviousness (i.e., secondary considerations).[8] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art at the time of the alleged invention of the '279 patent

> would have had at least a B.S. degree in electrical engineering, or equivalent thereof, and at least three to four years of experience in the relevant field, which includes video coding technology, or an M.S. degree in electrical engineering and at least two to three years of experience with video coding technology. More education can supplement practical experience and vice versa.

Pet. 4 (citing Ex. 1002 ¶¶ 21–22). Patent Owner contends that a person of ordinary skill in the art would have had credentials that "reflect a practical understanding of the design considerations and challenges associated with

[8] The parties do not address secondary considerations, which therefore do not constitute part of our analysis.

the video coding technology at issue in the '279 patent," such as "an engineering degree and three or more years of actual industry experience." PO Resp. 21. The parties' proposals do not differ in any significant way. We adopt Petitioner's articulation of the level of ordinary skill in the art, which is supported explicitly by the testimony of Mr. Bross and is commensurate with the level of ordinary skill as reflected in the prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

C. Prior Art Status of Zhou II

Petitioner asserts that Zhou II, in combination with WD4-v2 and Lin, discloses, *inter alia*, selecting a "motion vector of the temporal merge candidate" as recited in claim 1. *See* Pet. 52–57; *see also id.* at 55 (stating Zhou II discloses "selecting a motion vector of a temporal merge candidate among motion vectors of a first merge candidate block . . . and a second merge candidate block . . . based on a position of the current block . . . within a largest coding unit"). Petitioner contends that a person of ordinary skill in the art ("POSITA") would have modified the processes and systems of WD4-v2 to include processes where the motion vector of the second merge candidate block is selected as the motion vector of the temporal merge candidate if the current block is adjacent to a lower boundary of the largest coding unit, like that disclosed by Zhou II. *Id*. at 55.

A threshold issue in this proceeding is whether Zhou II is a prior art printed publication under 35 U.S.C. § 102(a). *See* 35 U.S.C. § 311(b) ("A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications."). Petitioner has the burden to establish by a

preponderance of the evidence that Zhou II is a printed publication. *See* 35 U.S.C. § 316(e); *Medtronic, Inc. v. Barry*, 891 F.3d 1368, 1380 (Fed. Cir. 2018).

The determination of whether a document is a printed publication involves a case-by-case inquiry into the facts and circumstances surrounding the reference's disclosure to members of the public. *See Medtronic*, 891 F.3d at 1380; *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004). A document is considered a printed publication if it has been "disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence [could] locate it." *Acceleration Bay, LLC v. Activation Blizzard Inc*., 908 F.3d 765, 774 (Fed. Cir. 2018); *SRI Int'l, Inc. v. Internet Sec. Sys*., 511 F.3d 1186, 1194 (Fed. Cir. 2008). Indexing a reference is not "a necessary condition for a reference to be publicly accessible," but it is one among various factors that may bear on public accessibility. *In re Lister*, 583 F.3d 1307, 1312 (Fed. Cir. 2009); *see also Acceleration Bay*, 908 F.3d at 774 (stating "where indexing is concerned, . . . the ultimate question is whether the reference was available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it").

Zhou II is a document developed by the Joint Collaborative Team on Video Coding ("JCT-VC") and submitted as a proposal on July 11, 2011, for consideration in the sixth JCT-VC meeting, which was held in Torino, Italy in July 2011. *See* Ex. 1057, 1, 97; Pet 24 (citing Ex. 1002 ¶ 220); Ex. 1002 ¶ 67 (stating JCTVC-F081 (version 2) ("Zhou II") was submitted as a proposal to the JCT-VC on July 11, 2001); Ex. 1095, 1 (showing version 2 of JCTVC-F081 was uploaded to the JCTVC website on July 11, 2001). In

its Petition, Petitioner argues Zhou II is a printed publication because (1) "[it was] uploaded to the JCT-VC document management site available to the public at large including at least hundreds of JCT-VC members" and (2) "[it was mirrored, i.e.,] uploaded[,] to the MPEG site available to hundreds of people" on at least its upload date of July 11, 2011, prior to the January 20, 2012, effective filing date of the claims of the '279 patent.[9] Pet. 23 (citing Ex. 1002 ¶¶ 219, 233–237; Ex. 1035 ¶¶ 15, 27–29); *see also* Pet. 29 (stating Zhou II was "published" because it was uploaded to the JCT-VC site and mirrored to the MPEG site and citing Ex. 1002 ¶ 234; Ex. 1035 ¶ 28; Ex. 1105).

Petitioner asserts the JCT-VC is a group of video coding personnel from two parent organizations, VCEG[10] and MPEG[11], and was created in 2010 to develop a new generation high-efficiency video coding ("HEVC") standard (H.265) to replace the then-current H.264 standard. Pet. 24 (citing

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[9] Petitioner asserts the earliest effective filing date of the claims of the '279 patent is January 20, 2012, which is the filing date of PCT/KR2012/000523, to which the '279 patent claims priority. Pet. 21–22; *see* Ex. 1001, [63]. Patent Owner does not argue that the claims are entitled to the earlier August 29, 2011, filing date of Korean Patent Application No. 10-2011- 0086524, to which the '279 patent also claims priority. *See* Ex. 1001, [30], 1:4–7.

[10] VCEG is Study Group 16 of ITU-T, the Telecommunication Standardization Sector of the International Telecommunication Union. *See* Ex. 1002 ¶ 220 & n.33 (citing Exs. 1040–1044).

[11] MPEG is Working Group 11 (WG 11) of SC 29, a subcommittee under Joint Technical Committee (JTC) 1 of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). Ex. 1002 ¶ 220 & n.34 (citing Exs. 1045–1046, 1050). JCT 1 provides a standards development environment, and SC 29 develops standards for coding of audio, picture, multimedia, and hypermedia information. Ex. 1002 ¶ 220 n.34 (citing Exs. 1047–1050).

Ex. 1002 ¶ 220). According to Mr. Bross, the JCT-VC met quarterly for development of the new HEVC standard starting in April 2010. Ex. 1002 ¶ 221 (citing Ex. 1051, 1); Pet. 20. Mr. Bross provides a printout from the JTC-VC website, dated May 23, 2018, that identifies over thirty JCT-VC meetings. Ex. 1117 ¶ 4 **(**citing Ex. 1118, 1).

During these quarterly meetings, the JCT-VC considered proposals ("input" documents) submitted prior to the meeting and generated "output" documents based on the proposals. Pet. 24 (citing Ex. 1002 ¶ 221). These documents were "uploaded onto the JCT-VC document management site (http://phenix.it-sudparis.eu/jct) ('JCT-VC site') [and] made available for download." Pet. 24–25. The number of documents associated with each meeting, including the number of input documents, varies. For example, the Meeting Report for the sixth JCT-VC meeting held in July 2011, in Torino, Italy lists over 900 "documents of the JCT-VC meeting" in its Annex A and states that "approximately 700 input documents were discussed." Ex. 1057, 1, 3, Annex A.

Petitioner and Mr. Bross contend that since at least 2011, the JCT-VC site was "organized in a hierarchical manner categorized by the JCT-VC meeting numbers." Pet. 25; Ex. 1002 ¶ 227. Mr. Bross states that the "All Meetings" link from the JCT-VC website (http://phenix.int-evry.fr/jct/) (Ex. 1118) identifies all of the meetings for the JCT-VC and "persons skilled and interested in the video coding technologies" could "navigat[e] to any meeting on the JCT-VC website" and "view the documents related to a particular meeting." Ex. 1117 ¶¶ 3–4. "Depending when a person accessed this webpage, the number of meetings listed on the webpage would have been different." *Id*. ¶ 4. For example, Dr. Bross asserts, in early January

2012, the All Meetings webpage would have listed, at most, only the first eight JCT-VC meetings. *See id*.

Petitioner explains that by navigating to any of the quarterly meetings (e.g., the sixth meeting held in July 2011), "a user could view the documents related to [that] meeting and download a document based on the information regarding the document such as the title and the source." Pet. 25 (citing Ex. 1059 (page 1 of "Torino Meeting – Document Register"); Ex. 1002 ¶¶ 226–227). Petitioner further states that to "view the different versions available for a document" from a particular meeting and to download one or more versions of the document, a "person interested in high-efficiency video coding technologies (the subject matter of the '279 patent) would have been able to and could click on the JCT-VC document number hyperlink provided on the JCT-VC website." Pet. at 26. "This would have led the person to the 'Document information' webpage for that document at that time." *Id*. (citing Exs. 1066, 1095, 1113; Ex. 1095 ("Document information" webpage of JCTVC-F801 showing version 1 of the document was uploaded on July 1, 2011 and version 2 was uploaded on July 11, 2011)).

Petitioner also asserts that documents for each meeting are searchable by title and source (e.g., author). Pet. 25 (citing Ex. 1002 ¶¶ 228–229) (stating each "meeting page on the JCT-VC site included search functionality with search fields including title and author"); Reply 20 (citing Ex. 1002 ¶¶ 225–235; Ex. 1117 ¶¶ 3–8; Ex. 2008, 66:8–67:12). Mr. Bross explains that when a document is uploaded to the JCT-VC website, a document record is created that includes the "Title (e.g., suggesting the underlying subject matter) and a Source (e.g., authors) of the document." Ex. 1002 ¶ 226.

Mr. Bross also asserts that in at least 2011–2012, any document uploaded onto the JCT-VC website was also "immediately available for download from the MPEG site." Ex. 1002 ¶ 232; *id*. ¶ 231 (stating that when "any JCT-VC document was uploaded onto the JCT-VC site, the JCT-VC document was also mirrored, i.e., uploaded on the MPEG document management site"); Ex. 1041, 2 (stating the JCT will maintain a single document registry and an electronic archive, which will be linked to both the parent body websites).

Petitioner asserts that there were "no restrictions (e.g., username/ password) for downloading documents uploaded on the JCT-VC site" and that this "process for accessing documents on the JCT-VC website has been the same since at least 2011." Pet. 25–26 (citing Ex. 1035 ¶ 17; Ex. 1002 ¶¶ 225, 230); *see also* Ex. 1041, 2 (stating the general policy of the JCT-VC was that "all input . . . documents of the JCT will be public"). Petitioner also asserts that although the MPEG site required a user to have a username and password to access the site, "these credentials were regularly distributed to hundreds of MPEG members." Pet. 27 (citing Ex. 1035 ¶¶ 21–26).

Patent Owner responds, *inter alia*, that Petitioner's evidence of public accessibility is not sufficient to show Zhou II is a printed publication. *See* PO Resp. 22–48.

We agree with Patent Owner and find Petitioner has not provided sufficient evidence or argument to show Zhou II was disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter exercising reasonable diligence could have located the document. *See Acceleration Bay*, 908 F.3d at 773 (affirming the Board's finding that a website that allowed a user to view a list of technical

reports indexed only by author or year was not meaningfully indexed to allow a skilled artisan to locate the asserted prior art).

We disagree with Petitioner that Zhou II is a printed publication because it was uploaded to the JCT-VC document management site. Even if we agree with Petitioner's contention that in 2011, "it would have been reasonable for someone interested in the latest Working Draft to have consulted the folder for the sixth JCT-VC meeting in Torino" (Reply 20 (citing Ex. 1002 ¶¶ 227–235; Ex. 1117 ¶¶ 4–5)), from among the numerous meetings listed on the JCT-VC website, Petitioner has not shown that such a person, exercising reasonable diligence, could have located Zhou II from among the over 900 documents that are associated with the sixth JCT-VC meeting. *See also* Pet. 25 (citing Ex. 1002 ¶ 225) (contending "persons interested in tracking the developments of the latest video coding standard would regularly visit the JCT-VC site to ensure that products and services they were developing were consistent with the HEVC Standard under development"). Petitioner has not demonstrated that a POSITA exercising reasonable diligence would have found Zhou II either from using the search functionality of the JCT-VC website or through scrolling through the meeting report. *See* Reply 21 (citing Ex. 1002 ¶¶ 225–235; Ex. 1117 ¶¶ 3–8).

Regarding the search functionality of the JCT-VC website, Petitioner provides evidence that the documents for each JCT-VC meeting are searchable by author and title. *See* Pet. 25 (citing Ex. 1002 ¶¶ 226–229; Ex. 1059); Reply 20–21 (citing Ex. 1002 ¶¶ 225–235; Ex. 1117 ¶¶ 3–8; Ex. 2008, 66:8–67:12). Petitioner's evidence, however, relates to searches that a person interested and skilled in the art would have used to locate

WD4-v2, not Zhou II; Petitioner has not provided sufficient evidence or argument that either the author or search terms from the title of *Zhou II* are meaningful search terms that a person skilled and interested in the art would use to locate Zhou II. *See* Pet. 25–26 (discussing how a POSITA could have used various search terms to locate WD4-v2); Ex. 1002 ¶¶ 228–229 (discussing searches to locate WD4-v2); Ex. 1108–1111, 1118 (providing results from keyword searches for the terms "working draft," "high-efficiency video coding," and "draft" that Mr. Bross conducted on the JCT-VC "Torino Meeting – Document Register" to show how to locate WD4-v2); Reply 20. Zhou II's title is "*CE1: Evaluation results on A.09, A.13–16 and an alternative solution*." Ex. 1031. Petitioner has not provided any argument or evidence that this title contains any terms that a POSITA would use to search in the Torino document register to locate Zhou II. Thus, we find Petitioner has not shown that the terms in Zhou II's title or its author are meaningful search terms that a person interested and skilled in the art would have used to locate Zhou II from searching the documents of the sixth JCT-VC meeting on the JCT-VC website. Moreover, Petitioner does not provide evidence to demonstrate that Zhou II would have in fact been retrieved following a search using either the title or author. *See, e.g.*, Reply 20 (providing evidence that WD4-v2 was located as a result of various searches, but not providing any evidence that Zhou II was retrieved as a result of any search).

We also disagree with Petitioner that a POSITA exercising reasonable diligence would have found Zhou "by scrolling through the various Torino documents." *See* Reply 21. Petitioner asserts that an "artisan interested in video coding" can be expected to spend the minimal time to visit the JCTVC

website and perform "simple title searches in the Torino meeting document register to locate the then most current working draft available (WD4) or the technical topic covered by *Zhou II* . . . , and even to scroll through the various Torino documents to locate these documents." *Id*. (citing Ex. 1002 ¶¶ 225–235; Ex. 1117 ¶¶ 3–8). The Meeting Report of the sixth JCT-VC meeting is over 250 pages long and contains descriptions of at least 700 input documents as well as other documents. *See generally* Ex. 1057; *see also id.* at 2 (identifying "700 input documents"). Page 97 of this meeting report recites the following information about Zhou II:

> **JCTVC-F081 CE1: Evaluation results on A.09, A.13–16 and an alternative solution [M. Zhou (TI)]**
>
> This contribution is relevant to CE1, and is discussed above in that context, but also contains a new proposal. The new proposal is the same as (or strongly similar to) item 1 of JCTVC-F465, and was asserted to be suitable as a cross-check of that proposal. Placed under consideration in [break-out group] BoG coordinated by B. Bross.

Ex. 1057, 97 (emphasis in original). Petitioner does not provide sufficient evidence or argument to explain why it is reasonable for an interested artisan to scroll through this particular 250-page document, read the above information about "JCTVC-F081," and then locate version 2 of that document (i.e., Zhou II) from among the numerous other documents listed in the meeting report. Nor does Petitioner provide sufficient evidence or argument to support its contention that a skilled artisan would be able to locate Zhou II in a "minimal" amount of time. Reply 21. Attorney arguments and conclusory statements that are unsupported by factual evidence are entitled to little probative value. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997).

For the foregoing reasons, we conclude that Petitioner has not persuasively shown that a person interested and ordinarily skilled in the subject matter, exercising reasonable diligence, could have located Zhou II on the JCT-VC website, and thus, has not shown that Zhou II was publicly accessible by virtue of its uploading onto the JCT-VC website.

Regarding the uploading of Zhou II onto the MPEG website, Petitioner asserts the layout and the hierarchical structure of the MPEG website is generally the same as the JCT-VC site and that "a user could navigate to the document register for the relevant meeting (e.g., the sixth meeting in Torino) and then click on the MPEG document number, which would take the user to the corresponding 'Document information' webpage." Reply 22 (citing Pet. 24–29; Ex. 1035 ¶¶ 17–29). We determine Petitioner has not shown that Zhou II was accessible to a person of ordinary skill and interested in the art exercising reasonable diligence on the MPEG website for the same reasons we determine Petitioner has not demonstrated that Zhou II was publicly accessible to a person of ordinary skill and interested in the art on the JCT-VC website.

Petitioner, in its Reply, argues for the first time that Zhou II was disseminated at the sixth JCT-VC meeting in Torino in July 2011, because "*Zhou II* (JCTVC-F081)" was "*presented and discussed*" during the meeting. Reply 17–18 (emphasis altered) (citing Ex. 1057, 23, 97). This shift in argument, from Zhou II is a printed publication because it was available on the JCT-VC and MPEG websites, to Zhou II is a printed publication because it was presented and discussed at the sixth JCT-VC meeting, is a new theory of public accessibility that exceeds the proper scope of a reply and is not entitled to consideration. *See* 37 C.F.R. § 42.23(b)

("All arguments for the relief requested in a motion must be made in the motion. A reply may only respond to arguments raised in the corresponding opposition or patent owner's response."); *see also* 35 U.S.C. § 312(a)(3) (requiring petitions to identify "with particularity . . . the grounds on which the challenge to each claim is based"); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,767 (Aug. 14, 2012) (stating "a reply that raises a new issue or belatedly presents evidence will not be considered and may be returned"). "It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify 'with particularity' the 'evidence that supports the grounds for the challenge to each claim.'" *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (quoting 35 U.S.C. § 312(a)(3).)

Moreover, even considering Petitioner's improper arguments in the Reply, Petitioner's showing is insufficient. The Reply cites evidence that relates to "JCTVC-F081" in general without specifying which specific version of JCTVC-F081 was allegedly presented and discussed. *See* Reply 17–18 (citing Ex. 1057, 23, 97). Significantly, there are two versions of JCTVC-F081. *See* Ex. 1095, 1 (showing "JCTVC-F081 (version 1 – date 2011-07-01") and "JCTVC-F081 (version 2 – date 2011-07-11")). Petitioner relies on JCTVC-F081 (version 2) ("Zhou II"), *not* JCTVC-F081 (version 1), to support its unpatentability arguments. Accordingly, we find the argument and evidence cited in the Reply relating to "JCTVC-F081" is insufficient to establish that JCTVC-F081 (version 2) was discussed and presented at the sixth JCT-VC meeting.

For the foregoing reasons, we find Petitioner has not shown by a preponderance that Zhou II is a printed publication. Accordingly, Petitioner has not demonstrated by a preponderance of the evidence that claims 1–4 would have been obvious over WD4-v2, Lin, and Zhou II or that claim 5 would have been obvious over WD4-v2, Lin, Zhou II, and Sze.

C. Prior Art Status of WD4-v2 and Sze

The parties dispute whether WD4-v2 and Sze are printed publications under 35 U.S.C. § 102(a). Because we have already determined Petitioner has not shown by a preponderance of the evidence that claims 1–4 would have been obvious over WD4-v2, Lin, and Zhou II or that claim 5 would have been obvious over WD4-v2, Lin, Zhou II, and Sze based on Petitioner's failure to demonstrate that Zhou II is a printed publication, we need not, and do not, opine on whether Petitioner has shown that WD4-v2 and Sze are printed publications.

III. CONCLUSION

For the foregoing reasons, Petitioner has not demonstrated by a preponderance of the evidence that claims 1–4 of the '279 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of WD4-v2, Lin, and Zhou II or that claim 5 is unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of WD4-v2, Lin, Zhou II, and Sze.

IV. ORDER

Accordingly, it is:

ORDERED that claims 1–5 of U.S. Patent No. 8,774,279 B2 have not been shown to be unpatentable; and

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

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