

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

MAXELL, LTD.,
Patent Owner.

IPR2020-00204
Patent 6,928,306 B2

Before MICHAEL R. ZECHER, KEVIN C. TROCK, and
JOHN A. HUDALLA, *Administrative Patent Judges*.

HUDALLA, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

Apple Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review (“IPR”) of claims 2, 5, 6, and 12–15 (“the challenged claims”) of U.S. Patent No. 6,928,306 B2 (Ex. 1001, “the ’306 patent”). Petitioner filed a Declaration of Michael Kotzin, Ph.D. (Ex. 1006) with its Petition. Patent Owner, Maxell, Ltd. (“Patent Owner”), filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

With our authorization (Paper 7), Petitioner also filed a Reply (Paper 8, “Pet. Reply”) and Patent Owner filed a Sur-Reply (Paper 10, “PO Sur-reply”) addressing whether we should exercise our discretion to deny institution under 35 U.S.C. § 314(a).

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a). Under 35 U.S.C. § 314(a), we may not authorize an *inter partes* review unless the information in the petition and the preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons that follow, we institute an *inter partes* review as to claims 2, 5, 6, and 12–15 of the ’306 patent on all grounds of unpatentability presented.

I. BACKGROUND

A. *Real Parties-in-Interest*

Petitioner identifies Apple Inc. as the real party-in-interest. Pet. 48. Patent Owner identifies Maxell, Ltd. as the real party-in-interest. Paper 4, 1.

B. *Related Proceedings*

The parties identify the following proceedings related to the ’306 patent (Pet. 43, 48; Paper 4, 1):

Maxell, Ltd. v. Apple Inc., No. 5:19-cv-00036 (E.D. Tex. Mar. 15, 2019) (“the underlying litigation”); and

Huawei Techs. Co. v. Maxell, Ltd., IPR2019-00640 (settled prior to institution decision) (“the ’640 IPR”).

In the '640 IPR, Patent Owner identified two other proceedings related to the '306 patent (IPR2019-00640, Paper 4, 1):

Maxell, Ltd. v. Huawei Device USA, Inc., No. 5:18-cv-00033 (E.D. Tex. Mar. 2, 2018); and

Maxell, Ltd. v. ZTE Corp., No. 5:18-cv-00034 (E.D. Tex. Mar. 2, 2018).

C. *The '306 patent*

The '306 patent is directed to a portable mobile unit that alerts a user of an incoming call using a ringing sound. Ex. 1001, 1:6–10. Figure 1 of the '306 patent is reproduced below.

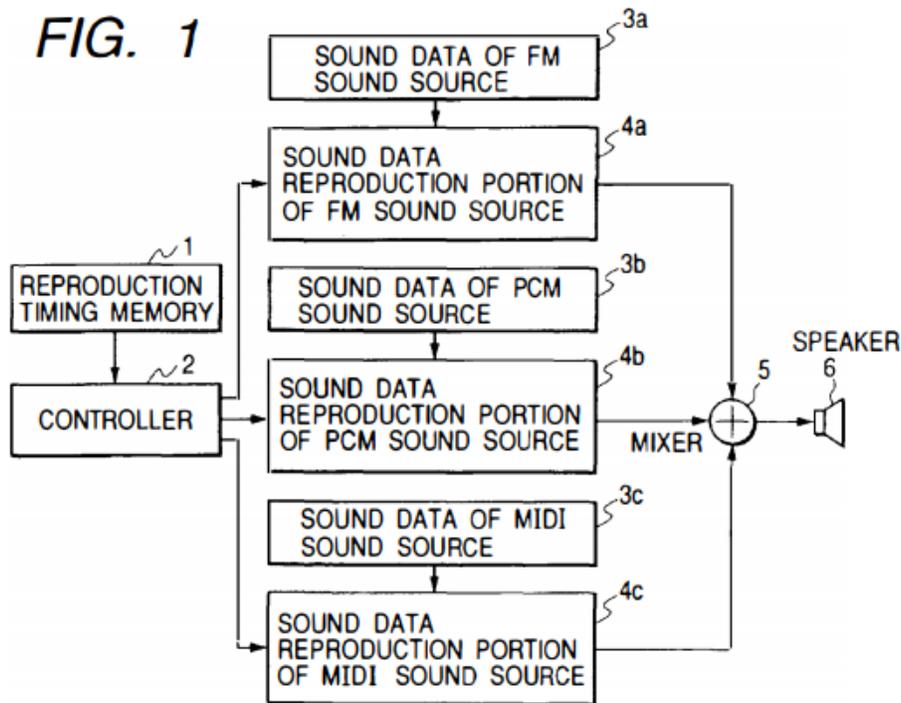


Figure 1 depicts a communication controller and ringing sound generator of a cellular phone. *Id.* at 2:59–61, 4:34–36. The ringing sound generator includes frequency modulation (FM) sound data memory 3a, pulse-code modulation (PCM) sound data memory 3b of a sound source, and Musical

Instrument Digital Interface (MIDI) method sound data memory 3c. *Id.* at 4:41–44. Each of these memories has corresponding sound data reproduction portions 4a, 4b, and 4c, respectively, connected to controller 2. *Id.* at 4:44–53. Controller 2 determines the timing for reproducing selected sound data based on data in reproduction timing memory 1. *Id.* at 4:53–59. Outputs of the respective sound reproduction portions 4a, 4b, and 4c are connected to a mixer 5, which outputs ringing sounds to speaker 6. *Id.* at 4:59–65.

The pattern of a ringing sound may be changed based on a range of time¹ (e.g., from “midnight to the early morning,” a day of the week, or holidays) during which a call is received. *Id.* at 9:62–10:64, Figs. 5, 6.

The ’306 patent issued from an application that was filed January 4, 2001, which claims priority to a Japanese patent application filed on January 7, 2000. *Id.*, codes (22), (30). As discussed below, Petitioner attempts to establish that, at a minimum, its asserted references qualify as prior art relative to either the January 7, 2000, filing date of the Japanese application (i.e., the earliest possible effective filing date) or the January 4, 2001, filing date of the U.S. application.

¹ The ’306 patent refers to ranges of time as “time zones.” *See, e.g.*, Ex. 1001, 10:24–28. Petitioner asks us to make a “clarifying construction” that “‘time zone’ . . . indicate[s] a duration of time or range of hours, rather than one of 24 zones on the earth.” Pet. 7 (citing Ex. 1001, 10:35–40). Although we agree with Petitioner’s interpretation, we need not affirmatively construe “time zone” given that the asserted prior art (Miura) uses the same term in the same manner. *See, e.g.*, Ex. 1005, 7:37–46.

D. Illustrative Claim

Of the challenged claims, claims 2, 12, and 13 are independent. Claims 5 and 6 depend from claim 2, and claims 14 and 15 depend from claim 13. Claim 2 is illustrative of the challenged claims and recites:

2. A portable mobile unit capable of alerting on incoming of a signal by a ringing sound, comprising:

a ringing sound generator having a plurality of sound sources therewith; and

a controller for controlling operations of said portable mobile unit, wherein

said controller controls said ringing sound generator so as to generate the ringing sound using at least two of said sound sources when the signal comes in.

Ex. 1001, 17:38–46.

E. Prior Art

Petitioner relies on the following prior art:

Patent Cooperation Treaty (PCT) Patent Application Publication No. WO 96/27974, published Sept. 12, 1996 (Ex. 1003, “Van der Salm”);

Chinese Patent Publication No. CN 1190303A, published Aug. 12, 1998 (Ex. 1004, “Huang”);² and

U.S. Patent No. 6,763,105 B1, filed Nov. 13, 1998, issued July 13, 2004 (Ex. 1005, “Miura”).

² Huang is a Chinese-language publication (Ex. 1004, 13–22) that was filed with an English-language translation (*id.* at 1–11) and a declaration attesting to the accuracy of the translation (*id.* at 12). Our citations to Huang herein refer to the translation. We follow Petitioner’s convention of referencing the page numbers added to the footer of Huang.

F. The Asserted Grounds

Petitioner challenges claims 2, 5, 6, and 12–15 of the '306 patent based on the following grounds (Pet. 5):

Claims Challenged	35 U.S.C. §	References
2, 13	103(a) ³	Van der Salm, Huang
5, 6, 12, 14, 15	103(a)	Van der Salm, Huang, Miura
2, 5, 6, 13–15	103(a)	Van der Salm, Huang, Miura ⁴

II. ANALYSIS

We now consider Petitioner's asserted grounds and Patent Owner's arguments in the Preliminary Response to determine whether Petitioner has met the "reasonable likelihood" standard for institution under 35 U.S.C. § 314(a).

A. Legal Standards

A claim is unpatentable 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. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

³ The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. §§ 102, 103, and 112. Because the '306 patent was filed before March 16, 2013 (the effective date of the relevant amendments), the pre-AIA versions of §§ 102, 103, and 112 apply.

⁴ Petitioner asserts this ground under an alternative construction for the term "ringing sound generator." Pet. 5, 39; *see infra* note 5.

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) where in evidence, so-called secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We also recognize that prior art references must be “considered together with the knowledge of one of ordinary skill in the pertinent art.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (citing *In re Samour*, 571 F.2d 559, 562 (CCPA 1978)).

B. Level of Ordinary Skill in the Art

Citing testimony from Dr. Kotzin, Petitioner contends a person having ordinary skill in the art would have had “a Bachelor’s degree in Electrical Engineering, Computer Engineering, or Computer Science, or an equivalent degree with at least 2 years of experience in consumer telephony products, human-computer interaction, or related technologies.” Pet. 4 (citing Ex. 1006 ¶¶ 31–33). Patent Owner contends an ordinarily skilled artisan would have had “a Bachelor of Science Degree in Electrical/Computer Engineering or Computer Science or an equivalent degree, and at least two years of experience working in the field of audio signal processing.” Prelim. Resp. 21. Patent Owner does not cite any evidence in support of its contention. *See id.*

Both parties agree on the type of formal schooling and the number of years’ experience an ordinarily skilled artisan would have had, but they differ on how they characterize the field of the experience. We adopt Petitioner’s characterization that an ordinarily skilled artisan would have had

experience in “consumer telephony products, human-computer interaction, or related technologies” because it is backed by Dr. Kotzin’s testimony (*see* Ex. 1006 ¶ 32), whereas Patent Owner’s contention is not backed by any evidence. Accordingly, for purposes of this Decision, we adopt Petitioner’s definition of the level of ordinary skill in the art. On the present record, we are satisfied that this definition comports with the level of skill necessary to understand and implement the teachings of the ’306 patent and the asserted prior art. Notwithstanding, our findings and conclusions would be the same under either party’s definition of the level of ordinary skill in the art.

C. Claim Interpretation

In an *inter partes* review, we construe each claim “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b) (2019). Accordingly, our claim construction standard is the same as that of a district court. *See id.* Under the standard applied by district courts, claim terms are generally given their plain and ordinary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). “There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Construing a claim term under 35 U.S.C. § 112 ¶ 6 involves two steps: identifying the claimed function and then determining what structure, if any, disclosed in the specification corresponds to the claimed function.

Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1351 (Fed. Cir. 2015). To determine whether § 112 ¶ 6 applies to a claim limitation, the essential inquiry is “whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.* at 1348. If the limitation uses the word “means,” “there is a rebuttable presumption that § 112, para. 6 applies; if not, there is a rebuttable presumption that the provision does not apply.” *Diebold Nixdorf, Inc. v. Int’l Trade Comm’n*, 899 F.3d 1291, 1298 (Fed. Cir. 2018).

1. “*Ringing Sound Generator*” (Claims 2, 5, 6, and 12–15)

Petitioner contends the term “ringing sound generator” recited in claims 2, 5, 6, and 12–15 should be construed under § 112 ¶ 6. Pet. 6–11. Petitioner contends the claimed function differs based on differences in the language of these claims. *See id.* at 7. For example, Petitioner contends the claimed function for claim 2 is “generat[ing] the ringing sound ‘using at least two of said sound sources.’” *Id.* Petitioner further contends the corresponding structure is ringing sound generator 1519 comprising “sound data of sound sources 3a-3c, sound data reproduction portion of sound sources 4a-4c, and reproduction timing memory 1.” *Id.* at 9.

Patent Owner argues, *inter alia*, that “the term ‘ringing sound generator’ does not use ‘means for’ or ‘step for’ language, and therefore it is presumed that §112 ¶ 6 does not apply.” Prelim. Resp. 24 (citing *Williamson*, 792 F.3d at 1348; *Masco Corp. v. United States*, 303 F.3d 1316,

1326 (Fed. Cir. 2002)). Patent Owner also notes that Petitioner does not argue that “‘generator’ or any other term in the phrase ‘ringing sound generator’ is a ‘nonce’ word requiring §112 ¶ 6 treatment.” *Id.* Patent Owner additionally notes that the court in the underlying litigation did not treat “ringing sound generator” under § 112 ¶ 6. *Id.* at 24 (citing Ex. 2008, 25–28).

We agree with Patent Owner that Petitioner does not explain why the term “ringing sound generator” should be governed by § 112 ¶ 6. As noted by Patent Owner, the lack of the word “means” creates a rebuttable presumption that § 112 ¶ 6 does not apply. *See Diebold*, 899 F.3d at 1298. Petitioner presents no arguments or evidence to rebut that presumption. We further note that the court in the underlying litigation construed the term “ringing sound generator” to have its plain and ordinary meaning. Ex. 2008, 28. The court reasoned that a “ringing sound generator” connotes structure in the specification of the ’306 patent. *Id.* at 26. In particular, the court found that “Figure 15 depicts the ringing sound generator as a component in the ‘circuit constructions of the cellular phone’ where it is connected to a communication controller and a speaker.” *Id.* (citing Ex. 1001, 15:50–51, Fig. 15). We agree with the court’s analysis, and, for purposes of this Decision, we apply the plain and ordinary meaning.⁵

⁵ Petitioner puts forth an alternate construction for “ringing sound generator” under § 112 ¶ 6 that forms the basis of its alternative obviousness ground based on Van der Salm, Huang, and Miura. *See* Pet. 11, 39–41. We are not persuaded by Petitioner’s alternative construction for the same reasons discussed above.

2. *Other Terms*

Based on the current record, we determine that no other terms require explicit construction. *See, e.g., Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. *Patent Owner’s Arguments Regarding Discretionary Denial*

Patent Owner contends we should exercise our discretion to deny institution under 35 U.S.C. § 314(a) based on the duplicative nature and advanced stage of the underlying litigation. Prelim. Resp. 2–20; PO Sur-reply 1–10. Petitioner contends it filed its Petition timely and that there is little overlap with the underlying litigation. Pet. 43–47; Pet. Reply 1–10.

Institution of *inter partes* review is discretionary. *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he [Office] is permitted, but never compelled, to institute an [*inter partes* review] proceeding.”); 35 U.S.C. § 314(a) (“The Director *may not* authorize an *inter partes* review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” (emphasis added)). In *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”), the Board discussed potential applications of *NHK Spring Co., Ltd. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018)

(precedential) (“*NHK*”), as well as a number of other cases dealing with discretionary denial under § 314(a). *Fintiv* identifies a non-exclusive list of factors parties may consider addressing, particularly where there is a related, parallel district court action and whether such action provides any basis for discretionary denial. *Fintiv* at 5–16. Those factors include:

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.

Id. at 5–6. We authorized the parties to address these factors in the Reply and Sur-reply. Paper 7.

We now consider these factors to determine whether we should exercise discretion to deny institution under 35 U.S.C. § 314(a). In evaluating the factors, we take a holistic view of whether efficiency and integrity of the patent system are best served by denying or instituting review. *Fintiv* at 6.

1. *Stay in the Underlying Litigation*

Although Petitioner moved for a stay in the underlying litigation (*see* Pet. Reply 6; Ex. 1045), the court recently denied Petitioner’s motion. PO Sur-reply 2–3. We have entered the court’s order denying Petitioner’s

motion into the record as Exhibit 3001. Notably, the court denied the motion without prejudice and stated that it could not say, in the event that we instituted this IPR, whether “the late stage [of proceedings] would necessarily outweigh the potential simplification of issues following institution decisions” in this and other *inter partes* review cases. Ex. 3001, 6 (citing a prior case by the court in which a stay was granted three weeks before trial upon the institution of IPRs). In other words, the court signaled its willingness to entertain a renewed motion for stay from Petitioner if we were to issue decisions granting institution. Notwithstanding, the court stated that, were a renewed motion for stay requested, the late stage of proceedings “will certainly weigh against granting a stay.” *Id.* Given the court’s inclination to reconsider a motion for stay for the potential simplification of issues, but also considering the court’s comment about how the late stage of proceedings would affect its consideration of any such renewed motion, we view this factor as neutral.

2. *The Trial Date in the Underlying Litigation*

Trial in the underlying litigation is currently set for October 26, 2020. Pet. Reply 7; PO Sur-reply 1; Ex. 3001, 4. Nevertheless, Petitioner contends “[l]itigation will continue” after any Final Written Decision here. Pet. Reply 7. Petitioner notes that it filed a petition for writ of mandamus related to the court’s denial of Petitioner’s motion to transfer the underlying litigation. *Id.* Petitioner also notes the COVID-19 pandemic may affect the trial schedule. *Id.*

Patent Owner argues that trial “will be complete nine months before a Final Written Decision issues” here and that a delay in the trial date is

unlikely. PO Sur-reply 3. Patent Owner cites a standing order in the court of the underlying litigation “to keep cases moving” despite the COVID-19 pandemic. *Id.* at 4 (quoting Ex. 2018). And, according to Patent Owner, even if the trial date were delayed by three months, the trial would still precede the Final Written Decision by five months. *Id.* at 4. Patent Owner additionally notes the U.S. Court of Appeals for the Federal Circuit recently denied Petitioner’s petition for writ of mandamus. *Id.* at 3–4 (citing *In re Apple Inc.*, No. 2020-115, 2020 WL 2125340 (Fed. Cir. Apr. 22, 2020)).

The trial in the underlying litigation is currently set to occur months before any Final Written Decision in this case will issue. Although we consider delays due to the COVID-19 pandemic to be a real possibility despite the court’s standing order, we agree with Patent Owner that even a delayed trial might precede a Final Written Decision. This factor favors the exercise of discretionary denial.

3. *Investment by the Court and the Parties in the Underlying Litigation*

Petitioner contends that, aside from claim construction proceedings, “the district court has not invested other substantive efforts and the litigation is not ‘advanced.’” Pet. Reply 8. Petitioner notes that summary judgment is still months away and fact discovery and depositions are ongoing. *Id.* According to Petitioner, the court is not likely to analyze invalidity until trial. *Id.*

As evidence of the court’s investment in the underlying litigation, Patent Owner highlights the court’s claim construction hearing and order and its rulings on Petitioner’s motion to dismiss and motion to transfer. PO Sur-reply 5 (citing Exs. 1048, 2012–2014). Patent Owner also notes that

fact discovery has closed and that expert discovery is underway and closes June 25, 2020. *Id.* at 6 (citing, *inter alia*, Ex. 2015).

At least some of the work underway or already completed in the underlying litigation likely has relevance to issues in the Petition, including claim construction and expert discovery. Nevertheless, the present record does not show how the court's rulings on the motion to dismiss or the motion to transfer bear on the patentability issues presented here. Considering that some of the investment by the court and the parties in the underlying litigation may be relevant to issues in this case, we find this factor favors the exercise of discretionary denial.

4. *Overlap of the Issues*

Petitioner contends there is little overlap between the issues in this case and those in the underlying litigation. Pet. Reply 9–10. Although Petitioner acknowledges that the primary reference in this case, Van der Salm, is also asserted as a primary reference in the underlying litigation, Petitioner emphasizes that it has stipulated to withdraw Van der Salm from the underlying litigation if we were to institute *inter partes* review in this case. Pet. Reply 9 (citing Ex. 1047, 3 n.4). Petitioner contends that its approach “ensures that overlapping resources are not expended in the district court and in the IPR.” *Id.* Petitioner further notes that “Borland '347,” a primary reference in the underlying litigation, is not asserted here. *Id.* at 10. Finally, Petitioner notes that only claims 12 and 15 are challenged in the underlying litigation, which is a subset of the seven claims challenged here. *Id.* at 10.

Patent Owner argues “[t]he issues in this proceeding are substantially the same as in the District Court Action.” PO Sur-reply 7. Patent Owner disputes that Petitioner’s contingent offer to withdraw Van der Salm from the underlying litigation is a tenable solution to the problem of overlap between the two cases. *Id.* Patent Owner argues that both parties “are expending resources in the District Court Action on expert reports addressing invalidity issues and will have to continue to do so even if the Board institutes.” *Id.* Patent Owner also notes the common application of Miura in both cases. *Id.* at 8. Patent Owner additionally notes it was required to narrow the set of asserted claims in the underlying litigation, so Patent Owner argues Petitioner cannot “avoid denial simply by challenging extraneous unasserted claims that raise the same invalidity issues as the asserted ones.” *Id.*

Although Van der Salm is currently a primary reference both here and in the underlying litigation, Petitioner has proposed to withdraw Van der Salm in the underlying litigation if we were to institute *inter partes* review. *See* Ex. 1047, 3 n.4. Petitioner’s proposal to withdraw Van der Salm alleviates, to some degree, concerns of duplicative efforts between the district court and the Board, and further minimizes the potential for conflicting decisions. *See Sand Revolution II, LLC v. Cont’l Intermodel Grp.–Trucking LLC*, IPR2019-01393, Paper 24 at 11–12 (PTAB June 16, 2020); *see also Fintiv* at 12 (analyzing *NHK* to determine there were “concerns of inefficiency and the possibility of conflicting decisions.”). This withdrawal would also streamline the court’s consideration of invalidity issues in the underlying litigation and create a significant distinction between this case and the underlying litigation. Nevertheless, the lack of

overlap is diminished somewhat by the fact that Van der Salm has been a subject of expert discovery in the underlying litigation. *See* PO Sur-reply 7; *see also supra* § II.D.3 (noting the court and parties’ investment in the underlying litigation). We also have considered Miura’s overlapping role as a secondary reference in both cases, but determine that Petitioner’s challenges here based on Van der Salm and Huang are necessarily different than those based on Borland ’347 in the underlying litigation. Finally, claims 2, 5, 7, 13, and 14 are being challenged here, but not in the underlying litigation, which favors institution. On balance, we view this factor as weighing against exercising discretion to deny.

5. *Whether Petitioner is Unrelated to the Defendant in the Underlying Litigation*

“If a petitioner is unrelated to a defendant in an earlier court proceeding, the Board has weighed this fact against exercising discretion.” *Fintiv* at 13–14. Both parties acknowledge that Petitioner here is the defendant in the underlying litigation. Pet. Reply 10; PO Sur-reply 10. Thus, this factor does not weigh against exercising discretionary denial.

6. *Other Considerations*

The final *Fintiv* factor is a catch-all that takes into account any other relevant circumstances. The decision whether to exercise discretion to deny institution under § 314(a) is based on “a balanced assessment of all relevant circumstances in the case, including the merits.” Patent Trial and Appeal Board Consolidated Trial Practice Guide at 58 (Nov. 2019) (“Consolidated Trial Practice Guide”), *available at* <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf>. Considering the merits of the unpatentability

arguments in the Petition and Patent Owner’s arguments in the Preliminary Response, as discussed below, we determine Petitioner has established a reasonable likelihood that Petitioner would prevail with respect to the challenged claims. As discussed below, Petitioner cites the primary reference, Van der Salm, for teaching a telecommunications terminal with ring generator means that can form a ring signal with a calling party identity sound, a sound associated with a group identity representation, and/or a call representation sound. *See infra* § II.E.3. Based on the present record, Van der Salm alone appears to teach most, if not all, limitations of the challenged independent claims. Accordingly, the particularly strong merits of the challenges presented in the Petition favor institution.

Patent Owner argues that Petitioner unreasonably delayed in filing the Petition. PO Sur-reply 1–2, 8–10. The district court in the underlying litigation also stated that Petitioner “has not sufficiently explained its delay in filing the petitions . . . nine months after [Patent Owner] filed suit and six months after [Patent Owner] served its initial infringement contentions.” Ex. 3001, 4–5.

Petitioner notes that the underlying litigation initially involved 10 different patents and “132 possibly-asserted claims”; Petitioner argues that it needed time to locate relevant prior art and prepare petitions for *inter partes* review. Pet. Reply 7–8. Petitioner’s explanation is consistent with the AIA’s legislative history as to the one-year statutory bar under § 315(b). *See* 157 Cong. Rec. S5429 (daily ed. Sept. 8, 2011) (statement of Senator Kyl) (“High-technology companies, in particular, have noted that they are often sued by defendants asserting multiple patents with large numbers of vague claims, making it difficult to determine in the first few months of the

litigation which claims will be relevant and how those claims are alleged to read on the defendant's products. . . . [I]t is important that the section 315(b) deadline afford defendants a reasonable opportunity to identify and understand the patent claims that are relevant to the litigation.”). We also note that Patent Owner made its Preliminary Election of Asserted Claims in the underlying litigation on November 18, 2019. *See* Ex. 2002. The instant Petition was filed one month later, i.e., on December 20, 2019. *See* Paper 5, 1. Having considered the particular factual circumstances of this case, we do not consider Petitioner's filing untimely.

Petitioner includes extensive policy arguments against the Board's application of *Fintiv* and *NHK* in determining whether to exercise discretion under § 314(a). Pet. 10–11; Pet. Reply 1–6. We need not address these arguments, as the Under Secretary of Commerce for Intellectual Property and Director of the U.S. Patent and Trademark Office has made *Fintiv* and *NHK* precedential decisions of the Board.

The only “other consideration” that bears on our decision whether to exercise discretionary denial is the strength of Petitioner's patentability challenges on the preliminary record, which favors institution. Thus, this factor weighs against exercising discretionary denial.

7. *Conclusion*

A few of the *Fintiv* factors weigh in favor of exercising our discretion to deny institution, including the court's impending trial date and the investment in the underlying litigation (e.g., the court's completion of claim construction). Against this showing, Petitioner's representation in the underlying litigation that it will withdraw its invalidity contentions based on

Van der Salm counteracts concerns about overlapping issues in the two proceedings. Thus, the lack of overlap in the issues and the Petitioner's relatively strong preliminary showing of unpatentability outweigh these other factors. We also note that the court in the underlying litigation has left open the possibility of entertaining a stay if we were to institute this and other related proceedings. In our view, these considerations outweigh concerns about inefficiency based on the posture of the underlying litigation. For these reasons, we decline to exercise our discretion under 35 U.S.C. § 314(a) to deny *inter partes* review.

E. Obviousness Ground Based on Van der Salm and Huang

Petitioner contends the subject matter of claims 2 and 13 would have been obvious over the combination of Van der Salm and Huang. Pet. 11–27. Patent Owner disputes Petitioner's contentions. Prelim. Resp. 27–31.

1. Van der Salm

Van der Salm is a PCT patent application publication directed to telephone sets with ringing devices capable of providing a variety of distinctive ringing or alerting sounds for information purposes. Ex. 1003, 1:10–12. Figure 2 of Van der Salm is reproduced below.

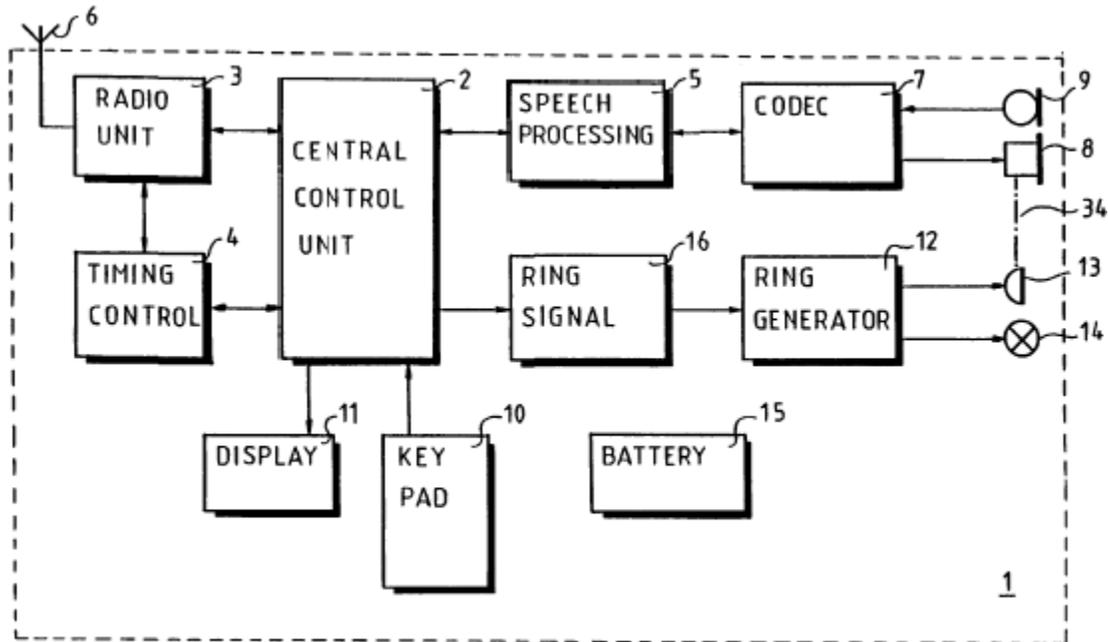


FIG. 2

Figure 2 depicts a simplified block diagram of radio telephone set 1 having four essential building blocks: central control and application logic unit 2, radio unit 3, timing and synchronisation control unit 4, and speech processing unit 5. *Id.* at 12:16–20. When an arriving call is detected, ring generator means 12 is actuated from central control and application logic unit 2 for producing a ringing or alerting sound by buzzer 13 or alerting signal from light emitting diode 14. *Id.* at 13:23–28. The ringing sound produced may also be any audible signal, such as music or voice. *Id.* at 15:21–23. In such cases, buzzer 13 and loudspeaker 8 may be combined in an integral unit. *Id.* at 18:22–25.

Ring generator means 12 produces a ringing sound from the calling party identity data provided in received signalling information. *Id.* at 5:14–17. The ring signal may be formed (1) directly from the signalling data (e.g., using a particular processing algorithm); (2) from corresponding data

stored in memory means 19; or (3) based on default ringing (e.g., a common customized ringing sound for each calling party). *Id.* at 16:25–36.

Petitioner contends Van der Salm qualifies as prior art under 35 U.S.C. § 102(b) based on its publication date. Pet. 11. Patent Owner does not contest the prior art status of Van der Salm. For purposes of this Decision, we determine that Van der Salm qualifies as prior art under 35 U.S.C. § 102(b) because Van der Salm’s publication date of September 12, 1996, is more than one year before the U.S. filing date of the challenged claims, which is January 4, 2001. Ex. 1001, code (22); Ex. 1003, code (43).

2. *Huang*

Huang is a Chinese patent application publication directed to a telephone set that is capable of indicating an identification number and is suitable for use where there are several extension sets. Ex. 1004, 5.

Figure 2 of Huang is reproduced below.

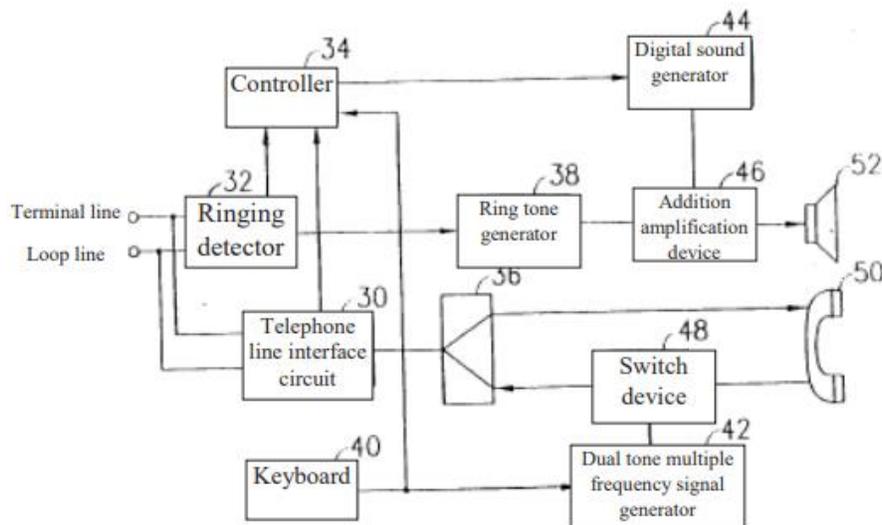


Figure 2

Figure 2 depicts a circuit structural block diagram of a telephone set capable of indicating an identification number. *Id.* at 2. When ring detector 32 detects a ring signal input, ring detector 32 transmits a control signal to controller 34. *Id.* at 7. Controller 34 then outputs address data pre-stored in an internal memory to digital sound generator 44. *Id.* Digital sound generator 44 receives the address data output from controller 34, obtains compressed sound data from the internal memory according to the address data, and then decompresses the compressed sound data to a sound signal for output on speaker 52. *Id.*

Huang describes an example where the telephone set is capable of indicating an identification number, such as an extension number, associated with a call. *Id.* at 8. Specifically, a ring tone may be alternated with a spoken announcement of an extension number, with the announcement being composed of pre-stored sounds of characters and words. *Id.*

Petitioner contends Huang qualifies as prior art under 35 U.S.C. § 102(b) based on its publication date. Pet. 11. Patent Owner does not contest the prior art status of Huang. For purposes of this Decision, we determine that Huang qualifies as prior art under 35 U.S.C. § 102(b) because Huang's publication date of August 12, 1998, is more than one year before the U.S. filing date of the challenged claims, which is January 4, 2001. Ex. 1001, code (22); Ex. 1003, code (43).

3. *Claim 2*

a. Preamble and Claim Limitations

The preamble of claim 2 recites “[a] portable mobile unit capable of alerting on incoming of a signal by a ringing sound.” Ex. 1001, 17:38–39.

Petitioner cites Van der Salm’s telecommunications terminal device (e.g., a portable mobile unit) that produces a ringing sound in accordance with received signaling information relating to the identity of a calling party. Pet. 14–15 (citing Ex. 1003, code (57), 1:8–12, 4:24–5:32, 9:17–28, 11:9–15, Figs. 2, 3). Patent Owner does not dispute Petitioner’s analysis of the preamble of claim 2. Neither party addresses whether the preamble is limiting. Because Petitioner has shown that the combination of Van der Salm and Huang teaches the preamble, we need not determine whether the preamble is limiting. *See Nidec*, 868 F.3d at 1017.

Claim 2 further recites “a ringing sound generator having a plurality of sound sources therewith . . . to generate the ringing sound using at least two of said sound sources when the signal comes in.” Ex. 1001, 17:40–41, 17:44–46. As set forth above, we construe the term “ringing sound generator” to have its plain and ordinary meaning. *See supra* § II.C.1. Petitioner maps the recited “ringing sound generator” to Van der Salm’s ring generator means 12, which can provide “a wide variety of range of ringing or alerting sounds.” Pet. 15 (citing Ex. 1003, 4:32–5:17, 13:20–29, Figs. 2, 4). Petitioner further cites Van der Salm’s teaching that

[t]he ringing sound produced may be any audible signal, such as but not limited to music or voice. The different signalling data may be combined to form a ring signal, e.g. modulation of the calling party identity sound with a group identity representation, the addition of a preamble to the party identity sound by an internal or external call representation sound etc.

Id. at 15–16 (quoting Ex. 1003, 15:19–29 and citing *id.* at 8:19–25, 9:12–15), 18 (citing same). Citing testimony from Dr. Kotzin, Petitioner contends that “modulati[ng] the calling party identity sound with a group identity representation” and adding “a preamble to the party identity sound by an

internal or external call representation sound” necessarily involves creating a ringing sound from two different sources. *Id.* at 18 (citing Ex. 1006 ¶ 44). Petitioner additionally cites Van der Salm’s teachings on using sounds from synthesized or recorded speech/sounds. *Id.* at 19 (citing Ex. 1003, 18:16–31).

Petitioner further cites Huang for teaching the generation of “a ring tone and a voice announcement . . . to indicate the existence of an incoming call and a user identity.” Pet. 19–20 (citing Ex. 1004, 6–8, Figs. 2, 3).

Patent Owner argues that, “[r]ather than have a ‘ringing sound generator having a plurality of sound sources therewith,’ Van der Salm teaches that ‘the ringing sound is directly produced from the respective received signaling information data.’” Prelim. Resp. 30 (citing Ex. 1003, 6:27–29). Patent Owner contends the use of received data to produce sounds is meant to save memory on the device. *Id.* (citing Ex. 1003, 5:24–27). According to Patent Owner, “*Van der Salm* teaches away from having ‘ringing sound generator having a plurality of sound sources therewith,’ *i.e.* ‘ringing signal parameters’ on the device for generating the ringing sound.” *Id.* at 30–31 (citing Ex. 1003, 6:37–7:3, 7:30–31).

We do not agree with Patent Owner’s arguments. Petitioner identifies at least three “sound sources” associated with Van der Salm’s ring generator means: a calling party identity sound, a sound associated with a group identity representation, and a call representation sound. Pet. 18 (citing Ex. 1003, 15:8–29; Ex. 1006 ¶ 44). And, even if such sources were required to be stored on the portable mobile unit (which they are not), Van der Salm teaches as much. *See, e.g.*, Ex. 1003, 10:5–10 (“[D]ata transferred to the ring generator means . . . may be retrieved from a memory”), 16:25–36

("[T]he user of the telephone may select either one of the ringing options described, i.e. . . . forming the ring signal from corresponding data stored in the memory means"). Thus, Van der Salm does not teach away from "a ringing sound generator having a plurality of sound sources therewith" in the manner suggested by Patent Owner.

We further note Huang's teaching that when a ring signal is received, the controller outputs a data address to digital sound generator 44, which "receive[s] the address data output from the controller, and obtain[s] a corresponding compressed sound data from the internal memory according to the address data, and then decompress[es] the compressed sound data to a sound signal." Ex. 1004, 7; *see also id.* at 8 ("[D]igital sound generator 44 extracts the compressed sound data corresponding to the address signal from the memory, [and] the sound is decompressed and played by the speaker 52."). This further undermines Patent Owner's teaching away argument.

The remainder of Patent Owner's arguments (*see* Prelim. Resp. 31) against Petitioner's analysis of the "ringing sound generator" are tied to Petitioner's proposed application of § 112 ¶ 6 to this limitation, which, as we explained above, is not persuasive. *See supra* § II.C.1. Such arguments, which focus on Petitioner's analysis of corresponding structure, do not negate or undermine Petitioner's showing. We are preliminarily persuaded that Van der Salm's ring generator means, which combine various sources into a ringing sound (*see* Ex. 1003, 15:8–29), teaches the limitation "a ringing sound generator having a plurality of sound sources therewith . . . to generate the ringing sound using at least two of said sound sources when the signal comes in." Huang also teaches combining a ring tone and a voice

announcement of user identity in response to an incoming call. Ex. 1004, 8. Thus, based on Petitioner’s analysis, we are persuaded that the combination of Van der Salm and Huang teaches the “ringing sound generator” limitation.

Claim 2 further recites “a controller for controlling operations of said portable mobile unit, wherein said controller controls said ringing sound generator.” Ex. 1001, 17:42–44. Petitioner cites Van der Salm’s central control and application logic unit 2, which controls the operation of a radio telephone 1, including, *inter alia*, actuating ring generator means 12. Pet. 16–17 (citing Ex. 1003, 12:31–14:38, 15:31–16:38, Figs. 2–4). Patent Owner does not dispute Petitioner’s analysis of the “controller” limitation. Based on Petitioner’s analysis, we are persuaded that the combination of Van der Salm and Huang teaches this limitation.

Based on the present record, Petitioner has established that the combination of Van der Salm and Huang teaches all limitations of claim 2.

b. Reasons for the Combination

Petitioner acknowledges Van der Salm “does not expressly describe combining musical sound sources and synthesized speech sound sources to generate a ringing sound that both plays a musical ringing sound and speaks the identity of a user or user’s number.” Pet. 19. As such, Petitioner cites Huang’s teaching that “when a call is received, the ring detector transmits a control signal to a controller, which in turn ‘outputs an address data pre-stored in an internal memory to a digital sound generator 44.’” *Id.* (citing Ex. 1004, 7). According to Petitioner, “*Huang* teaches that a ring tone and a voice announcement is then generated to indicate the existence of an

incoming call and a user identity.” *Id.* at 19–20 (citing Ex. 1004, 6, 8, Figs. 2, 3). Petitioner contends an ordinarily skilled artisan “would have been motivated to modify the telephone unit of *Van der Salm* to enhance its ringing features by combining musical ringing sounds and speech identifying a user when a call is received pursuant to the teachings of *Huang*.” *Id.* at 20–21 (citing Ex. 1006 ¶¶ 47–49). Petitioner contends the combination would have been improved *Van der Salm* by providing an “intuitive way of audibly identifying the user.” *Id.* at 21 (citing Ex. 1006 ¶ 47).

Patent Owner does not dispute Petitioner’s reasons for combining *Huang* with *Van der Salm*. We are persuaded by Petitioner’s reasons as set forth above, which demonstrate that “combining musical ringing sounds with user-identifying speech” would have been a desirable improvement achieved by the combination. Ex. 1006 ¶ 47. Thus, based on the present record, Petitioner has established preliminarily that an ordinarily skilled artisan would have had reasons to combine *Van der Salm* and *Huang*.

c. Conclusion Regarding Claim 2

Petitioner has persuasively shown that the combination of *Van der Salm* and *Huang* teaches all limitations of claim 2. Petitioner has also put forth persuasive reasons for combining these references. Based on the present record, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that the subject matter of claim 2 would have been obvious over the combination of *Van der Salm* and *Huang*.

4. *Claim 13*

We have reviewed Petitioner's analysis for claim 13. Pet. 26–27. Patent Owner relies on the same arguments discussed above with respect to claim 2 to rebut Petitioner's analysis of claim 13. See Prelim. Resp. 28–31. For the same reasons identified above, those argument are not persuasive. Based on the present record, Petitioner has established a reasonable likelihood that it would prevail in showing that the subject matter of claim 13 would have been obvious over the combination of Van der Salm and Huang.

F. *Obviousness Ground Based on Van der Salm, Huang, and Miura*

Petitioner contends the subject matter of claims 5, 6, 12, 14, and 15 would have been obvious over the combination of Van der Salm, Huang, and Miura. Pet. 27–39. Patent Owner disputes Petitioner's contentions. Prelim. Resp. 32–34.

1. *Miura*

Miura is a U.S. patent directed to a telephone that is able to automatically effect a changeover call-incoming operation corresponding to a time zone. Ex. 1005, 1:8–13. The telephone includes a control unit that changes the call-incoming pattern of the ringer during different time periods (i.e., "time zones"). *Id.* at 7:42–46.

Petitioner contends Miura qualifies as prior art under 35 U.S.C. § 102(e) based on its U.S. filing date of November 13, 1998, and the filing date of a Japanese application to which it claims priority, which is November 19, 1997. Pet. 27. Patent Owner does not contest the prior art

status of Miura. On the present record, we have no evidence of an invention date other than the earliest possible effective filing date of the challenged claims. For purposes of this Decision, we determine that Miura qualifies as prior art under 35 U.S.C. § 102(e) because Miura's U.S. filing date of November 13, 1998, is before the earliest possible effective filing date of the challenged claims, which is January 7, 2000. Ex. 1001, code (30); Ex. 1005, code (22).

2. *Claim 12*

Independent claim 12 is similar in scope to claims 2 and 13, though it recites “a ringing sound generator for generating the ringing sound *in accordance with a plurality of patterns* made of combination of at least two sound sources.” Ex. 1001, 18:58–60 (emphasis added). Regarding the recited patterns, Petitioner cites Miura's call-incoming-pattern controlling means and Miura's teachings on changing ring patterns and intervals in certain environments/situations. Pet. 36–37 (citing, *inter alia*, Ex. 1005, 1:22–32, 2:7–14, 8:21–23). Petitioner contends an ordinarily skilled artisan “would have been motivated to incorporate *Miura's* teachings regarding setting a specific ringtone pattern with set ringing intervals, such as a quick, bustling pattern or a slower pattern, into the system of *Van der Salm*, as modified by *Huang*.” *Id.* at 37–38. Petitioner contends that the combination would have provided users the desirable improvements of “more appropriate ringing sounds for a given environment and greater customization of their telephone device.” *Id.* at 38 (citing Ex. 1003, 7:5–8, 7:24–8:6; Ex. 1006 ¶ 59).

Patent Owner relies on the same arguments discussed above with respect to the Van der Salm–Huang ground to rebut Petitioner’s analysis of claim 12. *See* Prelim. Resp. 32–34. For the same reasons identified above, those argument are not persuasive. On the present record, we are persuaded that Miura teaches the “plurality of patterns” of claim 12. *See, e.g.*, Ex. 1005, 1:22–32 (discussing quick and slow call-incoming patterns), 8:21–83 (“[I]t is possible to set various call-incoming patterns by changing the tone, the tone interval, the melody, and the like.”). We also are persuaded preliminarily that customizing ring patterns would have been a desirable improvement for the combined system of Van der Salm and Huang. *See* Ex. 1006 ¶ 59. On this record, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that the subject matter of claim 12 would have been obvious over the combination of Van der Salm, Huang, and Miura.

3. *Claims 5, 6, 14, and 15*

We have reviewed Petitioner’s analysis for claims 5, 6, 14, and 15, which depend from claim 2 or claim 13. Pet. 27–34. Building upon its obviousness analysis for the Van der Salm–Huang ground, Petitioner adds citations to Miura “for its teachings related to the user customization of a ringing sound, including the tone interval and melody, based on a unit of time set by the user in advance.” *Id.* at 28. Patent Owner relies on the same arguments discussed above with respect to the Van der Salm–Huang ground to rebut Petitioner’s analysis of claims 5, 6, 14, and 15. *See* Prelim. Resp. 28–31. For the same reasons identified above, those argument are not persuasive. Based on the present record, Petitioner has established a

reasonable likelihood that it would prevail in showing that the subject matter of claims 5, 6, 14, and 15 would have been obvious over the combination of Van der Salm, Huang, and Miura.

G. Obviousness Ground Based on Van der Salm, Huang, and Miura for an Alternative Construction of “Ringing Sound Generator”

Applying an alternative construction of the term “ringing sound generator” under § 112 ¶ 6, Petitioner contends the subject matter of claims 2, 5, 6, and 13–15 would have been obvious over the combination of Van der Salm, Huang, and Miura. Pet. 11, 39–41. Patent Owner relies on the same arguments discussed above with respect to the Van der Salm–Huang ground. See Prelim. Resp. 34. Because we do not treat “ringing sound generator” under 112 ¶ 6 (*see supra* § II.C.1), we need not consider Petitioner’s obviousness analysis based on an alternative construction of corresponding structure for this term. Nevertheless, we have already determined that Petitioner has established a reasonable likelihood of success with respect to the Van der Salm–Huang ground and primary Van der Salm–Huang–Miura ground, so we also will be instituting review based on the instant ground. See *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348 (2018).

III. CONCLUSION

After considering the evidence and arguments presented in the current record, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition. Accordingly, we institute an *inter partes* review on all of the challenged claims and all grounds presented in the Petition. At this stage of the proceeding, we have not made a final determination as to

the patentability of these challenged claims or the construction of any claim term.

IV. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314, *inter partes* review is instituted as to claims 2, 5, 6, and 12–15 of the '306 patent with respect to all grounds of unpatentability presented in the Petition; and

FURTHER ORDERED that *inter partes* review is commenced on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial.

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