

**United States Court of Appeals
for the Federal Circuit**

UNILOC 2017 LLC,
Appellant

v.

FACEBOOK INC., WHATSAPP, INC.,
Appellees

2019-1688

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in Nos. IPR2017-
01427, IPR2017-02087.

UNILOC 2017 LLC,
Appellant

v.

FACEBOOK INC., WHATSAPP, INC.,
Appellees

2019-1689

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2017-01428, IPR2017-02088.

Decided: March 9, 2021

JEFFREY A. STEPHENS, Etheridge Law Group, Southlake, TX, argued for appellant. Also represented by JAMES ETHERIDGE, RYAN S. LOVELESS, BRETT MANGRUM.

PHILLIP EDWARD MORTON, Cooley LLP, Washington, DC, argued for appellees. Also represented by HEIDI LYN KEEFE, ANDREW CARTER MACE, LOWELL D. MEAD, MARK R. WEINSTEIN, Palo Alto, CA.

Before LOURIE, WALLACH, and CHEN, *Circuit Judges*.

CHEN, *Circuit Judge*.

Uniloc 2017 LLC (Uniloc) appeals from two consolidated *inter partes* review (IPR) decisions of the Patent Trial and Appeal Board (Board) finding unpatentable claims 1–8 and claims 9–12, 14–17, 25 and 26 of U.S. Patent No. 8,995,433 (‘433 patent) as obvious.

Foremost at issue in this case is whether 35 U.S.C. § 314(d)’s “No Appeal” provision bars this court’s review of the Board’s conclusion that under § 315(e)(1) a petitioner is not estopped from maintaining the IPR proceeding before it. Under the circumstances of this case, we hold that § 314(d) does not preclude this court from reviewing the Board’s § 315(e)(1) estoppel decision. We further conclude that the Board did not err in finding that LG Electronics Inc. (LG) is not estopped from maintaining its IPR challenge to claims 1–8 and that Facebook and WhatsApp (collectively, Facebook) are not estopped from challenging

claim 7. As to the Board's obviousness conclusions, we see no error in the Board's unpatentability findings. Accordingly, we *affirm*.

BACKGROUND

A

Uniloc is the owner of the '433 patent, which is directed to "a system and method for enabling local and global instant [Voice over Internet Protocol (VoIP)] messaging over an IP network." '433 patent col. 1 ll. 21–23. The patent describes the implementation of two modes: "record mode" and "intercom mode." *Id.* at col. 7 ll. 61–65. In record mode, the user's speech is recorded into an audio file, and upon finalization, the user sends a signal to the server that the message is ready to be sent. *Id.* at col. 8 ll. 9–22. The message is then sent to the server and the server delivers the message to the selected recipient. *Id.* at col. 8 ll. 25–43. However, if the recipient is not currently available, i.e., disconnected, the server temporarily saves the instant voice message and delivers it to the recipient when the recipient connects to its local server, i.e., becomes available. *Id.* The intercom mode operates similarly, but it allows for the instant voice message to be transmitted in real-time to the selected recipient by storing the message on buffers until the buffers fill and the message is then sent to the server to be transmitted to the recipient. *Id.* at col. 11 ll. 37–60. The instant voice message can also contain various attachments. *Id.* at col. 13 ll. 5–6.

Claims 1 and 9 are the independent claims at issue here.¹ They state, in pertinent part, as follows:

1. A system comprising:

¹ Although independent claim 6 of the '433 patent is also on appeal, appellant makes no materially different arguments as to claim 6.

an instant voice messaging application including a client platform system for generating an instant voice message and a messaging system for transmitting the instant voice message over a packet-switched network via network interface;

. . .

wherein *the instant voice messaging application includes a message database storing the instant voice message*, wherein the instant voice message is represented by a database record including a unique identifier; and

wherein *the instant voice messaging application includes a file manager system performing at least one of storing, deleting and retrieving the instant voice messages from the message database in response to a user request.*

9. A system, comprising:

an instant voice messaging application comprising:

a client platform system . . . ;

a messaging system . . . , and

wherein *the instant voice message application attaches one or more files to the instant voice message.*

'433 patent at claims 1, 9 (emphases added).

B

Facebook filed two petitions for *inter partes* review of the '433 patent on May 11, 2017. In the first petition ('1427 IPR Pet.), Facebook challenged claims 1–8 as obvious under 35 U.S.C. § 103 with Zydney² and Clark³ as references

² PCT App. Pub. No. WO 01/11824 A2.

³ U.S. Patent No. 6,725,228.

for claims 1–6 and 8 and Zydney, Clark, and Appelman⁴ as references for claim 7. In the second petition ('1428 IPR Pet.), Facebook alleged that claims 9, 12, 14, 17, 25, and 26 would have been obvious under § 103 in view of Zydney, claims 11, 15, and 16 would have been obvious in view of Zydney and Greenlaw⁵, and claim 10 would have been obvious in view of Zydney and Newton⁶.

Meanwhile, a different IPR proceeding challenging claims of the '433 patent, IPR2017-00225, was already pending at the Board, petitioned for by Apple Inc. (Apple). On June 16, 2017, after it had filed the '1427 IPR Pet. and '1428 IPR Pet., Facebook filed a new petition, identical in substance to Apple's IPR petition, challenging claims 1–6 and 8 of the '433 patent and a motion to join the Apple IPR. In response, the Board instituted this IPR and granted Facebook's motion to join Apple's IPR on October 3, 2017.

Aside from Apple and Facebook, yet another party was interested in invalidating certain claims of the '433 patent—LG. Before a decision issued on whether to institute Facebook's IPR petitions, on September 11, 2017, LG filed IPR petitions identical in substance to Facebook's '1427 and '1428 IPR petitions and motions to join both of Facebook's IPRs.

The Board then, on December 4, 2017, instituted *inter partes* review for Facebook's '1427 and '1428 IPR petitions.⁷ Given that Facebook was now a party to multiple different

⁴ U.S. Patent No. 6,750,881.

⁵ RAYMOND GREENLAW & ELLEN HEPP, INTRODUCTION TO THE INTERNET FOR ENGINEERS, 1–25 (1999).

⁶ HARRY NEWTON, NEWTON'S TELECOM DICTIONARY (18th ed. 2002).

⁷ The Board consolidated the '1427 IPR and '1428 IPR for the final written decision.

IPR proceedings challenging claims of the '433 patent, the Board foresaw the possibility of a statutory estoppel issue arising under 35 U.S.C. § 315(e)(1). At the end of its institution decision in the '1427 IPR, the Board ordered the parties to “brief the applicability, if any, of 35 U.S.C. § 315(e)(1)” against Facebook, in light of the anticipated, soon-to-be-issued final written decision for the Apple IPR, to which Facebook was a joined party. *Facebook, Inc. v. Uniloc USA, Inc.*, No. IPR2017-01427, 2017 WL 6034153, at *10 (P.T.A.B. Dec. 4, 2017) (Institution Decision). The Board did not issue a similar request for briefing in its institution decision for the '1428 IPR. Notably, at the time of this supplemental briefing, LG’s petition and motion to join remained pending.

In its § 315 supplemental brief, Facebook argued that it should not be estopped from challenging the patentability of any claim upon the issuance of a final written decision in the Apple IPR, but even if the Board found it estopped, Facebook should at least continue as a petitioner here against claim 7, which was never challenged in the Apple IPR. *See* J.A. 606–07. Further, Facebook contended that, if LG’s IPR petition was granted and LG was joined as a party to the '1427 IPR, then the '1427 IPR should proceed as to all challenged claims regardless of whether Facebook was found estopped because LG was not a party in the Apple IPR. *Id.* at 610. In response, Uniloc contended that, once the Board issued a final written decision in the Apple IPR, Facebook would be estopped as to all claims challenged in the '1427 IPR, requiring the Board to then terminate that proceeding. J.A. 617. In addition, Uniloc averred that “[a]llowing LG Electronics to join this IPR will create inefficiency and confusion. This IPR should be terminated and LG Electronics can, if it chooses to, file its own IPR.” *Id.*

The Board subsequently instituted IPRs based on LG’s petitions and then granted LG’s motion to join the '1427 IPR and '1428 IPR on March 6, 2018. J.A. 655. Uniloc then

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filed its Patent Owner Responses to the original Facebook IPR petitions on March 23, 2018. In its '1427 IPR response, *inter alia*, Uniloc contended that LG should be barred from maintaining the '1427 IPR once the Board issues a final written decision in the Apple IPR because LG is estopped as a real party in interest (RPI) or privy to Facebook. *See, e.g.*, J.A. 685.

Two months later, on May 23, 2018, the Board issued a final written decision in the Apple IPR upholding the patentability of all challenged claims. Six days later, on May 29, 2018, the Board issued a decision in the '1427 IPR dismissing-in-part Facebook from the IPR, finding that Facebook was “estopped from maintaining the instant proceeding under § 315(e)(1)” as to the claims challenged in the Apple IPR, i.e., claims 1–6 and 8 of the '433 patent. J.A. 756. As to claim 7, the Board reasoned that Facebook was not estopped from maintaining the proceeding for that claim because § 315(e)(1)'s estoppel provisions apply only to grounds that the petitioner raised or reasonably could have raised “*with respect to that claim.*” *Id.* at 756–57. Lastly, the Board concluded that “[t]he dismissal of Facebook . . . does not limit LG’s participation in any way,” *id.* at 758, and therefore, LG was “to assume the role of challenger as to all claims, with Facebook[’s] . . . participation limited as to issues concerning solely claim 7,” *id.* at 759 (emphasis omitted).

C

The Board issued its final written decision in the consolidated IPRs on November 20, 2018. The Board concluded that all of the challenged claims are unpatentable. *Facebook, Inc. v. Uniloc 2017 LLC*, Nos. IPR2017-01427, IPR2017-01428, 2018 WL 6271687, at *33 (P.T.A.B. Nov. 30, 2018). The Board found that claims 1–6 and 8 of the '433 patent would have been obvious over Zydney in view of Clark, with Zydney teaching all but the “message database” and Clark supplying this missing limitation. *Id.* at

*14, *22, *24. Likewise, the Board concluded that claim 7 is unpatentable as obvious under a similar combination of Zydney, Clark, and Appelman. *Id.* at *24. The Board also concluded that claims 9–12, 14–17, 25, and 26 are unpatentable as obvious, with Zydney again as the primary reference. *Id.* at *27, *29, *31–33. Relevant to this appeal, the Board explained that Zydney teaches the “attaches one or more files to the instant voice message” limitation of the challenged claims. *Id.* at *25. In reaching this conclusion, the Board reasoned that “attach” as used in the claims referred to creating an association between the files and the instant voice message, *id.* at *7, the instant voice message in this phrase construed as “data content including a representation of an audio message,” *id.*

Uniloc sought rehearing before the Board following this final written decision. Uniloc’s principal contention in seeking rehearing in the ’1427 IPR was that the proceeding as a whole should have been terminated once the original petitioner, Facebook, was deemed estopped, because “[j]oined parties are privy to a petitioner.” J.A. 907. Uniloc argued that rehearing was warranted in the ’1428 IPR because it was denied proper notice in violation of due process. This was because, Uniloc contended, “[t]he Board *sua sponte* provided a definition of the term ‘attaches’ that was not advanced by” the parties or supported by the record. J.A. 2313. The Board denied both rehearing requests. J.A. 105, 210.

Uniloc appeals both final decisions to our court.⁸ We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

⁸ Though LG participated in this appeal through the briefing stage, LG is no longer a party to the case. *See* Appellant’s Unopposed Mot. to Withdraw LG Electronics, Inc. as a Party, ECF No. 56; ECF No. 57 (granting motion).

DISCUSSION

Uniloc raises four main disputes on appeal: (1) the Board erred in finding that LG is not estopped from challenging claims 1–8 in view of its purported relationship with Facebook as an RPI or privy; (2) the Board erred in finding that Facebook is not estopped from challenging claim 7; (3) the Board erred in its unpatentability determination of claims 1–8 because the cited references do not teach the “instant voice message application” of the claims; and (4) the Board erred in its unpatentability determination of claims 9–12, 14–17, 25, and 26 because the cited references do not teach the claimed “attaches . . . to” limitation. We address each argument in turn.

A

Before we address the merits of Uniloc’s estoppel argument against LG, we consider as an initial matter whether we may review this particular challenge. As we have seen since the onset of IPRs, questions can arise as to whether we have the authority to review certain matters addressed in an IPR that are not directly related to the ultimate patentability decisions the Board renders in a final written decision. *See, e.g., Thryv, Inc. v. Click-To-Call Techs., LP*, —U.S.—, 140 S. Ct. 1367 (2020); *SAS Institute Inc. v. Iancu*, —U.S.—, 138 S. Ct. 1348 (2018); *Cuozzo Speed Techs., LLC v. Lee*, —U.S.—, 136 S. Ct. 2131 (2016).

Uniloc’s challenge attacks the Board’s finding that LG is not an RPI or privy of Facebook and thus not estopped from challenging claims 1–6 and 8⁹ of the ’433 patent under

⁹ Because the Board found that Facebook is not estopped from challenging claim 7 of the ’433 patent, the potential scope of estoppel for LG extends only to those claims for which Facebook was found estopped, i.e., claims 1–6 and 8. Uniloc argues on appeal that the Board’s conclusion that Facebook is not estopped for claim 7 is incorrect and

§ 315(e)(1).¹⁰ In other words, Uniloc contends that because Facebook is estopped by the Apple IPR final written decision from maintaining a challenge to those claims in this proceeding (a ruling Facebook does not contest), LG, as an alleged “real party in interest or privy of the petitioner” likewise is estopped from maintaining this same challenge per § 315(e)(1). As to the issue of reviewability, we consider the question before us to be whether 35 U.S.C. § 314(d) statutorily precludes judicial review, following a final written decision in an *inter partes* review proceeding, of a challenge to the Board’s conclusion that under § 315(e)(1) a petitioner is not estopped from maintaining the proceeding before it. We conclude, under the circumstances here, we are not statutorily precluded from reviewing such a challenge.

Subsection 314(d) dictates that “[t]he determination by the Director [of the Patent Office] whether to institute an

that LG should too be found estopped for claim 7. But as we conclude *infra*, the Board did not err in finding that Facebook is not estopped as to claim 7. Accordingly, no potential estoppel for claim 7 can extend to LG as an alleged RPI or privy of Facebook.

¹⁰ The text of 35 U.S.C. § 315(e)(1) is as follows:

(e) Estoppel.—

(1) Proceedings before the Office.—

The petitioner in an *inter partes* review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that *inter partes* review.

inter partes review under this section shall be final and nonappealable.” The Supreme Court in *Cuozzo* interpreted this provision as overcoming the strong presumption in favor of judicial review “where the grounds for attacking the decision to institute inter partes review consist of questions that are closely tied to the application and interpretation of statutes related to the Patent Office’s decision to initiate inter partes review.” *Cuozzo*, 136 S. Ct. at 2141. In *Cuozzo*, the Court held that judicial review was precluded by § 314(d) for a challenge to the Board’s determinations under § 312(a)(3), which mandates that a petitioner identify the grounds of the challenge with particularity, because this is “little more than a challenge to the Patent Office’s conclusion, under § 314(a), that the information presented in the petition warranted review.” *Cuozzo*, 136 S. Ct. at 2142 (internal quotation marks omitted).

The Supreme Court has since addressed the judicial review bar under § 314(d) for other challenges stemming from decisions of the Patent Office in *inter partes* review proceedings. For example, the Court concluded in *SAS Institute* that § 314(d) does not preclude judicial review of a claim that the agency “exceeded its statutory authority” in limiting an *inter partes* review to fewer than all the claims challenged in the petition. 138 S. Ct. at 1359. The Court reached the opposite conclusion for reviewability with respect to § 315(b) in *Thryv*, however, explaining that the petition time bar of § 315(b) “expressly governs institution and nothing more,” such that “a contention that a petition fails under § 315(b) is a contention that the agency should have refused ‘to institute an inter partes review.’” 140 S. Ct. at 1373 (quoting § 314(d)). The Court explained that review was therefore precluded despite the presumption of judicial review. *Id.* at 1374.

This court has considered additional types of Board decisions in which the statutory bar of § 314(d) (and similar provisions) against judicial review may (or may not) apply. In *Medtronic*, we reasoned that the Board’s decision to

terminate proceedings in view of a party's failure to name all RPIs under § 312(a)(2) is not reviewable because “[t]he Board’s reconsideration . . . is fairly characterized as a decision whether to institute proceedings, the review of which is barred by § 314(d).” *Medtronic, Inc. v. Robert Bosch Healthcare Sys., Inc.*, 839 F.3d 1382, 1385 (Fed. Cir. 2016).

On the other hand, in *Credit Acceptance Corp. v. Westlake Services*, we held that judicial review of a challenge to the Board’s application of the estoppel provision of § 325(e)(1) is not precluded by § 324(e)¹¹ because this provision “is not limited to the institution stage” and “could operate to terminate a proceeding even where there existed no cause for termination at the time a petition was instituted” 859 F.3d 1044, 1050 (Fed. Cir. 2017). In that case, the alleged estoppel-triggering event did not occur until after the institution of the covered business method (CBM) patent review proceeding, and thus could not have affected the decision to initiate the administrative proceeding. We thus explained that “the estoppel dispute in this case is neither a challenge to the Board’s institution decision, nor is it ‘closely tied’ to any ‘statute[] related to the Patent Office’s decision to initiate [CBM] review.’” *Id.* at 1051 (quoting *Cuozzo*, 136 S. Ct. at 2141).

More recently, we held the inverse scenario of that in *Medtronic* is likewise not reviewable. That is, a challenge “that the Board failed to comply with [the RPI requirement of] § 312(a)(2)” and should have terminated the proceeding is merely “a contention that the agency should have refused to institute an inter partes review,” and therefore not reviewable by this court in view of § 314(d). *ESIP Series 2*,

¹¹ Subsection 324(e) is nearly identical in language to § 314(d) but applies to other post-grant proceedings. It states: “The determination by the Director whether to institute a post-grant review under this section shall be final and nonappealable.” § 324(e).

LLC v. Puzhen Life USA, LLC, 958 F.3d 1378, 1386 (Fed. Cir. 2020) (quoting *Thryv*, 140 S. Ct. at 1373–74). Additionally, we determined, in *Facebook, Inc. v. Windy City Innovations, LLC*, that judicial review is not precluded by § 314(d) for challenges to “whether the Board’s joinder decisions exceeded the statutory authority provided by § 315(c),” because this challenge was not related to the institution decision but rather concerned “whether the PTO had exceeded its statutory authority as to the manner in which the already-instituted IPR proceeded.” 973 F.3d 1321, 1332 (Fed. Cir. 2020).

With that background, we turn now to the question in this case of whether we may review the Board’s decision that LG is not estopped from maintaining its challenge against claims 1–6 and 8. Considering the strong presumption of reviewability of agency action, we see no indication that § 314(d) precludes judicial review of the Board’s application of § 315(e)(1)’s estoppel provision in this case, in which the alleged estoppel-triggering event occurred after institution. Such a holding is a natural consequence of our reasoning in *Credit Acceptance*. We concluded there that we could review the patent owner’s challenge to the Board’s decision that the petitioner was not estopped from maintaining a patentability challenge under a nearly identical statutory estoppel provision, albeit as applied to the CBM scheme. *See Credit Acceptance*, 859 F.3d at 1050–51.

As the Supreme Court elucidated in *Northcross v. Board of Education of Memphis City Schools*, when one statute “tracks the wording of” another, this is a “strong indication that the two statutes should be interpreted *pari passu*,” particularly if the two provisions share a common purpose. 412 U.S. 427, 428 (1973) (*per curiam*) (interpreting the language of the Emergency School Aid Act of 1972 to allow for the ordinary award of attorneys’ fees because the relevant provision of the Act “tracks the wording” of the similarly focused Civil Rights Act of 1964, which the Court had previously interpreted as providing for such ordinary

award). Thus, just as we concluded for the CBM estoppel provision of § 325(e)(1) in *Credit Acceptance*, we likewise interpret the similarly worded and focused IPR estoppel provision of § 315(e)(1) as not so closely tied to institution to render judicial review precluded when the estoppel-triggering event arises after institution. See 859 F.3d at 1049–52 (considering the Supreme Court’s caselaw on reviewability under § 314(d) and concluding that the appellant’s challenge under § 325(e)(1) “is neither a challenge to the Board’s institution decision, nor is it ‘closely tied’ to any ‘statute[] related to the Patent Office’s decision to initiate [CBM] review.’” (quoting *Cuozzo*, 136 S. Ct. at 2141) (modifications in original)). Section 315(e)(1)’s use of “maintain” contemplates that the estoppel provision “governs at any stage of a subsequent proceeding before the PTO—its application is not limited to the institution stage.” *Credit Acceptance*, 859 F.3d at 1050.

Critically, the particular circumstances in *Credit Acceptance*, i.e., one in which no cause for termination at the time of petition existed and the basis for termination developed while the proceeding was ongoing, is exactly that which happened here. When the Board instituted review in the ’1427 IPR, no estoppel could apply because no final written decision had been reached in the Apple IPR. Though the Board’s institution decision ordered supplemental briefing regarding the potential, future applicability of § 315(e)(1)’s estoppel provision, due to its awareness of the advanced state of the Apple IPR, the Apple IPR final written decision did not issue until months after institution in this proceeding. The Board’s “no estoppel” decision thus was later than and separate from its earlier institution decision, and, consistent with the facts and reasoning of *Credit Acceptance*, is a decision we may review. See *Credit Acceptance*, 859 F.3d at 1049–52; see also *Windy City*, 973 F.3d at 1332 (explaining that § 315(c) joinder challenges are reviewable by this court despite § 314(d) because “the joinder decision is made *after* a determination that a

petition warrants institution, thereby affecting the manner in which an IPR will proceed”) (citation omitted)).

Finding Uniloc’s estoppel challenge as to LG reviewable, we now consider the merits of that challenge. “Determining whether a []party is a[n] [RPI] demands a flexible approach that takes into account both equitable and practical considerations,” with the heart of the inquiry focused on “whether a petition has been filed at a []party’s behest.” *Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336, 1351 (Fed. Cir. 2018) (citation and internal quotation marks omitted). This determination has no bright-line test—relevant considerations, however, may include, “whether a []party exercises [or could exercise] control over a petitioner’s participation in a proceeding, or whether a []party is funding the proceeding or directing the proceeding.” *Id.* at 1342–43 (citing Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,759 (Aug. 14, 2012)). Privity is also a highly fact-based inquiry, similarly “focus[ing] on the relationship between the named IPR petitioner and the party in the *prior* lawsuit.” *WesternGeco LLC v. Ion Geophysical Corp.*, 889 F.3d 1308, 1319 (Fed. Cir. 2018) (emphasis added). That is, whether a party is in privity with another depends on the nature of the relationship between the two; “it is important to determine whether the petitioner and the prior litigant’s relationship—as it relates to the lawsuit—is sufficiently close that it can be fairly said that the petitioner [already] had a full and fair opportunity to litigate” the issues it now seeks to assert. *See id.* This inquiry is grounded in due process concerns for both the petitioner (here, LG) and the opposing party (here, Uniloc). *See id.* (citing *Taylor v. Sturgell*, 553 U.S. 880 (2008)). In other words, the inquiry has a dual-focus on preventing the petitioner from now lodging a successive attack for which it already had a first bite, thus, protecting the defending party from an unwarranted second attack, while also ensuring that the petitioner is not unfairly limited in its ability to lodge its challenges if it has not had a full and fair

opportunity to do so already. Whether a party is an RPI or privy is a question of fact we review for substantial evidence. *See Applications in Internet Time*, 897 F.3d at 1356.

Uniloc asserts that LG is an RPI or privy of Facebook because it “agreed to be bound by the determination of issues in the [’1427 IPR] proceeding below” and “exerted control over substantive filings and oral argument in the [’1427 IPR] proceeding below.” Appellant’s Br. at 20. The Board agreed with LG that the evidence was simply insufficient to establish a key consideration of the RPI analysis—control. The Board further considered the nature of the relationship between the parties for privity based on the prior *inter partes* proceeding, i.e., the Apple IPR, and found that nothing in the record supported the conclusion that the two parties are “sufficiently close such that both should be bound by the trial outcome and related estoppels.” J.A. 104 (quoting *WesternGeco*, 889 F.3d at 1317–22).

The Board’s determination that LG is not an RPI or privy of Facebook is supported by substantial evidence. Uniloc’s somewhat conclusory arguments never attempt to differentiate its position as to RPI and privy, instead simply asserting that LG must be one or the other. But just because LG expressed an interest in challenging the ’433 patent’s patentability, through its filing of its own IPR petition and joinder motion, does not by itself make LG an RPI to Facebook’s IPR. The record lacks any evidence that LG exercised any control over Facebook’s decision to file for *inter partes* review (either in the Apple IPR and in this IPR) or Facebook’s arguments made during the proceedings, and vice versa. Moreover, nothing in the record suggests that Facebook recruited LG to join as a party to the Facebook IPR, thereby making LG an agent advancing Facebook’s interests. That is, we see no evidence in the record to suggest that LG is acting “as a proxy [in the ’1427 IPR] for [Facebook] to relitigate the same issues” Facebook already presented in the Apple IPR. *WesternGeco*, 889 F.3d at 1319

(citing *Taylor*, 553 U.S. at 894–95). Instead, the record shows that LG, through its own counsel, filed its own IPR petitions in an effort to be recognized as an additional party to the proceeding here, seeking to assert its own interests.¹²

The record likewise does not present evidence that LG and Facebook, beyond their relationship as joined parties in this proceeding, have any sort of “preexisting, established relationship” that indicates coordination amongst the two regarding the Apple IPR. *See Applications in Internet Time*, 897 F.3d at 1351. Without such evidence of control, in addition to no evidence of joint funding, or even any evidence of substantial coordination between the parties as to their respective decisions to bring these proceedings, a finding that LG is an RPI of or in privity with Facebook here would be improper. *See WesternGeco*, 889 F.3d at 1320–21 (explaining, in finding no privity, that the evidence demonstrated the parties were represented by different counsel, had no control over each other, had no collective funding, and lacked substantive involvement with

¹² Uniloc’s estoppel theory for LG relies in part on its assertion that LG “unequivocally represent[ed] that it would be bound by the Board’s decisions as to the original petitioners and that it would not advance any separate arguments from those advanced by [Facebook].” Appellant’s Br. at 24. But that argument misunderstands LG’s position, as LG’s joinder motion in the ’1427 IPR makes clear that LG had its own interests in challenging the ’433 patent and that it would continue to pursue the IPR even if Facebook, for any reason, was no longer a petitioner. *See* J.A. 3345; *see also* J.A. 3340 (“[LG’s] interests may not be adequately protected in the Facebook IPR proceedings, particularly[, for example,] if the Facebook Petitioner settles with the Patent Owner. [LG] should be allowed to join in a proceeding affecting a patent asserted against it.”).

each other). The mere fact that the Board procedurally required LG and Facebook to consolidate their arguments and evidence in combined filings in this proceeding does not, without more, make them privies of each other such that one petitioner automatically loses its rights to assert its challenge once the other petitioner loses its rights through estoppel.

We decline, as the Board too did, to conclude that LG is estopped as result of Facebook's participation in the Apple IPR, merely by way of its joinder as a party in this later proceeding. Uniloc suggests that the Board, in reaching this conclusion, failed to address its arguments regarding *Kofax, Inc. v. Uniloc USA, Inc.*, No. IPR2015-01207, 2016 WL 8944779 (P.T.A.B. July 20, 2016).¹³ Appellant's Br. at 21–23. Uniloc asserts that *Kofax* held that “co-petitioners” are automatically RPIs or privies of one another, but this misunderstands that decision. *Kofax*, which is non-binding on this court, determined that co-petitioners Ubisoft and Zebra in an IPR proceeding were RPIs of one another because Ubisoft had named Zebra as an RPI in its filings to the Board, due to a preexisting relationship between them. 2016 WL 8944779, at *1–2. Thus, once Ubisoft was estopped from maintaining the IPR by its role as a petitioner in an earlier, different IPR, Zebra, as an undisputed RPI, was also estopped. *Id.* This situation is not the same as that here because Facebook did not list LG as an RPI in the '1427 IPR making LG unlike Zebra.

In view of the foregoing, substantial evidence supports the finding that LG acted of its own accord in the '1427 IPR

¹³ Uniloc suggests, without pointing to any specific instance, that the Board also erred in “misplac[ing] the burden of proof” in its RPI and privity analysis. This accusation is not supported by record.

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for claims 1–6 and 8 and is not estopped from maintaining its patentability challenge in this proceeding.

B

Uniloc, second, challenges the Board’s estoppel determination for Facebook. Specifically, Uniloc asserts that Facebook is estopped from challenging claim 7 of the ’433 patent because the Board found Facebook estopped from challenging the same claims the Board adjudicated in the Apple IPR, claims 1–6 and 8. Appellant’s Br. at 25–26. This estoppel should also apply to claim 7 because, Uniloc argues, claim 7 depends from claim 1 and the Board, by allowing such a challenge on claim 7, essentially allowed Facebook to continue to attack claim 1, which is broader in scope than claim 7. *Id.* at 26–27. Uniloc notes, moreover, that “[t]he Board’s partial dismissal [of Facebook for estoppel on claims 1–6 and 8] essentially resulted in an impermissible partial institution” in violation of *SAS Institute*. *Id.* at 25.

As a threshold matter, for the reasons set forth above, the Board’s determination that Facebook was not estopped here from maintaining its challenge to claim 7 is subject to judicial review because it was a separate and later determination not closely tied to institution and therefore not barred by § 314(d). Facebook argues, nonetheless, that we should decline to entertain this challenge because LG was also a petitioner for claim 7 and the petition could stand on that basis alone. Appellees’ Br. at 43. We decline, however, to speculate as to what this proceeding would have looked like absent Facebook’s participation for claim 7—we take the facts as they are, i.e., Facebook was a named petitioner for claim 7, remains a party to this appeal solely because its now-lone challenge to claim 7, and Uniloc may challenge whether this role was appropriate in view of § 315(e)(1).

Despite Uniloc’s contentions, we see no error in the Board’s determination that the Apple IPR final written decision, which did not address claim 7, does not estop

Facebook from maintaining its challenge in this proceeding to claim 7. Section 315 explicitly limits the estoppel to the claims previously challenged and for those proceedings that resulted in a final written decision:

The petitioner in an inter partes review *of a claim* in a patent under this chapter that *results in a final written decision* under section 318(a) . . . may not request or maintain a proceeding before the Office *with respect to that claim* on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

§ 315(e)(1) (emphases added). Because claim 7 was not at issue in the Apple IPR, the plain language of the statute supports the conclusion that Facebook is not estopped from challenging this claim in this proceeding, regardless of its dependency on claim 1. Moreover, as a joined party in the Apple IPR, Facebook could not have raised any grounds for the patentability of claim 7 because claim 7 was not already challenged in the proceeding. *See Windy City*, 973 F.3d at 1338 (“We conclude that the clear and unambiguous language of § 315(c) . . . does not authorize joinder of new issues . . .”); *see also Network-1 Techs., Inc. v. Hewlett-Packard Co.*, 981 F.3d 1015, 1027 (Fed. Cir. 2020) (“Thus, according to the statute, [§ 315(e),] a party is only estopped from challenging claims in the final written decision based on grounds that it ‘raised or reasonably could have raised’ during the IPR. Because a joining party cannot bring with it grounds other than those already instituted, that party is not statutorily estopped from raising other invalidity grounds.”). Accordingly, that claim 7 was not at issue in the Apple IPR is enough to conclude that Facebook may challenge it here.

Uniloc relies on *SAS Institute* as suggesting that the Board’s partial dismissal of Facebook results in an improper partial institution. Appellant’s Br. at 25. We disagree. *SAS Institute* rejected the Board’s decision there to

grant only “partial institution” of a petition for *inter partes* review because such a practice was inconsistent with 35 U.S.C. § 318(a)’s mandate that “the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of *any patent claim challenged by the petitioner.*” See 138 S. Ct. at 1354 (internal quotation marks omitted) (quoting § 318(a)). Unlike *SAS Institute*, the Board here reached a final written decision on all the petitioned claims, due to LG’s status as a petitioner. That fact alone is enough to dismiss Uniloc’s argument and render irrelevant Facebook’s partial dismissal from the ’1427 IPR.

C

Uniloc’s third and fourth challenges on appeal both relate to the Board’s obviousness determinations. “Whether a claimed invention is unpatentable as obvious under § 103 is a question of law based on underlying findings of fact.” *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). “The Board’s legal conclusion of obviousness is reviewed de novo.” *Id.* This court reviews the Board’s factual determinations in an obviousness analysis for substantial evidence. *Id.*

As to claims 1–8, Uniloc argues that the combination of Zydney and Clark does not teach the claimed “instant voice messaging application” because the claims require that the “message database” be embedded into the software agent itself, i.e., Clark’s message database must be embedded into Zydney’s software agent, not just Zydney’s system. Appellant’s Br. at 32.

The Board’s finding in this respect is supported by substantial evidence. Uniloc suggests that the Board impermissibly strayed from the petition in reaching its finding, but the petition noted that Clark explicitly teaches incorporating its message database into messaging client software, which corresponds to Zydney’s software agent, see J.A. 478–81. Specifically, Clark explains that its

“invention can advantageously be integrated with messaging client *software* and/or messaging server *software*, such as e-mail *software*, to facilitate the organization of electronic messages.” Clark col. 4 ll. 36–39 (emphases added). Clark also teaches elsewhere that its message database would be incorporated into the client computer in its software. *See id.* at col. 10 ll. 27–33, 47–52 and figs. 4A, 4B, and 4C. Furthermore, the Board credited the testimony of petitioner’s expert, Dr. Lavian, who testified that Clark’s stated goal of organization of electronic messages would have provided motivation for a skilled artisan to combine the message database of Clark into Zydney’s software. *See Facebook*, 2018 WL 6271687, at *15 (citing Dr. Lavian’s declaration). We conclude therefore that Uniloc’s argument is without merit and that substantial evidence supports the Board’s finding that the references teach the “instant voice messaging application” limitation of the challenged claims.

D

Uniloc’s final argument is that the Board erred in concluding that claims 9–12, 14–17, 25, and 26 are unpatentable because Zydney does not disclose the “attaches one or more files to the instant voice message” (“attaches to”) limitation recited in claim 9. Claims 10–12, 14–17, 25, and 26 all depend from claim 9. Uniloc lodges several challenges. First, Uniloc argues that the Board’s adoption of its proposed construction of the “instant voice message” term is dispositive. Appellant’s Br. at 32. Second, Uniloc contends that the Board improperly shifted the burden of proof. *Id.* at 39. Third, Uniloc claims that the Board violated its due process in *sua sponte* construing the “attaches to” limitation in its final written decision. *Id.* at 40–41. Fourth, Uniloc attacks the Board’s determination that Zydney discloses the “attaches to” limitation as not supported by substantial evidence. *Id.* at 43–51. We are unpersuaded.

Uniloc's broader argument appears largely to hinge on the construction of the "attaches one or more files to the instant voice message" and "instant voice message" terms. Claim construction is a legal issue reviewed de novo, based on underlying factual findings that are reviewed for substantial evidence. *Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 990 (Fed. Cir. 2017). The Board adopted Uniloc's proposed construction, construing "instant voice message" to mean "data content including representation of an audio message." *Facebook*, 2018 WL 6271687, at *5. Neither party disputes this construction on appeal.

Uniloc does, however, take issue with the Board's construction of "attaches one or more files to the [data content including representation of an audio message]" limitation, suggesting that the Board's interpretation of the "attaches to" limitation is inconsistent with its interpretation of "instant voice message." The Board construed this "attaches to" limitation to mean "indicating that another file (or files) is associated with the 'instant voice message.'" *Id.* at *8.¹⁴ Uniloc contends that the "attaches to" term requires more than a mere association with the audio file; it requires that the attachments be directly appended to the audio file itself, not just to the container for this file. Appellant's Br. at 42. This is because, it argues, the instant voice message, as construed by the Board, is equivalent to the audio file,

¹⁴ Per recent regulation, the Board applies the *Phillips* claim construction standard to IPR petitions filed on or after November 13, 2018. See *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) (codified at 37 C.F.R. § 42.100(b)). Because Facebook filed the petitions before November 13, 2018, the broadest reasonable interpretation standard applies to the IPR decisions on appeal.

not a container including the audio file. We agree with the Board.

The claims and written description support the Board's construction of the "attaches to" limitation as requiring association with the instant voice message container. The written description explains that the attachment of a file can be completed through a "drag-and-drop" method creating "linkages" between the files and the instant voice message. *See* '433 patent col. 13 ll. 35–40. Further, claim 14, which depends from claim 9, similarly recites that the attaching function is accomplished through a "link" between the instant voice message and the files. Considering the intrinsic evidence and the broadest reasonable interpretation standard, the Board's broader construction of "attaching to" is the best reading of the limitation as used in the '433 patent. Uniloc fails to point to specific teachings in the '433 patent that demonstrate that a narrower construction is warranted. Moreover, we disagree with Uniloc that the Board improperly shifted the burden onto Uniloc in construing the claims. Based on our review of the entirety of the Board's reasoning, the Board fairly weighed the arguments of each side and properly reached its conclusion.

As to Uniloc's argument that it was denied proper notice of the construction of this term, we, again, respectfully disagree. Filings from as early as the '1428 IPR Pet. included assertions that Zydney disclosed the "attaches to" limitation by attaching the files to the "voice container," *see, e.g.,* J.A. 1902–06. During the IPR, Uniloc itself made assertions that the "attaches to" claim language required the attaching to be directly to the audio file. *See* J.A. 883. This term was also discussed in detail at the hearing before the Board. *See, e.g.,* J.A. 2231–32 (Hearing Transcript). We determine, consequently, that Uniloc was afforded sufficient opportunity and notice to address the construction of this term.

Given the construction of the “attaches to” term, the Board’s finding that Zydney discloses this limitation is supported by substantial evidence. Just as the Board noted, “Zydney . . . accomplishes ‘attachments’ in the same manner as the ’433 patent, by making an association between the instant voice message and the file attachment.” *Facebook*, 2018 WL 6271687, at *25. The Board pointed to Figure 6 of Zydney as disclosing this associating between the attachment and the voice container. *Id.* The Board also credited the testimony of the petitioner’s expert “that a person of ordinary skill in the art would have found it obvious that attaching files to a voice container would have been part of the process [in Zydney] of packing the message into a voice container.” *Id.* Facebook explains, and Uniloc agrees, *see* Appellant’s Br. at 50 (citing its expert’s testimony about Zydney), that the attaching method disclosed by Zydney is a standard technique—Multipurpose Internet Mail Extension (MIME) format, Appellees’ Br. at 49–50. The Board relied on Zydney’s teachings of the MIME format, which allows attachment of files to be specified in a message header, to demonstrate that Zydney discloses attaching the files to the voice container. In view of this evidence, we find the Board’s conclusion to be substantially supported.

CONCLUSION

We have considered Uniloc’s remaining arguments and are unpersuaded. We affirm the Board’s findings of unpatentability for claims 1–12, 14–17, 25, and 26 of the ’433 patent.

AFFIRMED