

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

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**APPLE INC.,**  
*Appellant*

v.

**VOIP-PAL.COM, INC.,**  
*Appellee*

**ANDREI IANCU, UNDER SECRETARY OF  
COMMERCE FOR INTELLECTUAL PROPERTY  
AND DIRECTOR OF THE UNITED STATES  
PATENT AND TRADEMARK OFFICE,**  
*Intervenor*

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2018-1456, 2018-1457

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Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2016-01198, IPR2016-01201.

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Decided: September 25, 2020

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MARK ANDREW PERRY, Gibson, Dunn & Crutcher LLP, Washington, DC, argued for appellant. Also represented by BRIAN BUROKER, ANDREW WILHELM; RYAN IWAHASHI, Palo Alto, CA; PAUL R. HART, Erise IP, P.A., Greenwood Village, CO; ERIC ALLAN BURESH, ADAM PRESCOTT SEITZ, Overland Park, KS.

LEWIS EMERY HUDNELL, III, Hudnell Law Group PC, Mountain View, CA, argued for appellee.

DENNIS FAN, Appellate Staff, Civil Division, United States Department of Justice, Washington, DC, argued for intervenor. Also represented by MELISSA N. PATTERSON, ETHAN P. DAVIS; THOMAS W. KRAUSE, FARHEENA YASMEEN RASHEED, DANIEL KAZHDAN, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA.

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Before PROST, *Chief Judge*, REYNA and HUGHES, *Circuit Judges*.

REYNA, *Circuit Judge*.

In two consolidated appeals, Apple Inc. challenges the final written decisions of the Patent Trial and Appeal Board that certain claims of Voip-Pal.com, Inc.'s patents were not invalid for obviousness. Apple also challenges the Board's sanctions determinations. We find no error in the Board's non-obviousness determinations or in its sanctions rulings. We vacate and remand the Board's final written decisions as to nineteen claims on mootness grounds. We affirm as to the remaining claims.

## BACKGROUND

### I

Appellee Voip-Pal.com, Inc. ("Voip-Pal") owns U.S. Patent Nos. 8,542,815 ("the '815 patent") and 9,179,005 ("the '005 patent") (collectively, the "Asserted Patents"), both of which are titled "Producing Routing Messages for Voice Over IP Communications." The Asserted Patents describe the field of invention as "voice over IP communications and methods and apparatus for routing and billing" and relate to routing communications between two different types of

networks—public and private. *See* '815 patent at 1:12–13, 1:15–21.

In February 2016, Voip-Pal sued appellant Apple Inc. (“Apple”) for infringement of the Asserted Patents in the United States District Court for the District of Nevada. *Voip-Pal.com, Inc. v. Apple Inc.*, No. 2:16-cv-260 (D. Nev. Feb. 9, 2016). In June 2016, Apple petitioned for inter partes review (“IPR”) of several claims of the Asserted Patents in two separate proceedings before the Patent Trial and Appeal Board (“Board”)—IPR2016-01198 and IPR2016-01201. The Nevada district court stayed Voip-Pal’s infringement action pending the IPRs.

In its IPR petitions, Apple argued that the claims were obvious over the combination of U.S. Patent No. 7,486,684 B2 (“Chu ’684”) and U.S. Patent No. 8,036,366 (“Chu ’366”). Apple relied on Chu ’684 as a primary reference for its infrastructure, call classifying, and call routing disclosures. Apple relied on Chu ’366 as a secondary reference for its caller profile and dialed digit reformatting disclosures.

A panel of the Board (Benoit, Pettigrew, Margolies, JJ.) (“Original Panel”) instituted review in both proceedings. In June 2017, the Original Panel was replaced by a second panel (Cocks, Chagnon, Hudalla, JJ.) (“Interim Panel”) for reasons not memorialized in the record.

During both IPR proceedings, Voip-Pal’s former Chief Executive Officer, Dr. Thomas E. Sawyer, sent six letters to various parties, copying members of Congress, the President, federal judges, and administrative patent judges at the Board. Dr. Sawyer did not copy or send Apple the letters. The letters criticized the IPR system, complained about cancellation rates at the Board, and requested judgment in favor of Voip-Pal or dismissal of Apple’s petition in the ongoing Apple IPR proceedings. The letters did not discuss the underlying merits of Apple’s IPR petitions.

On November 20, 2017, the Interim Panel issued final written decisions in both actions, determining all claims to be not invalid as obvious over Chu '684 and Chu '366. In its final written decisions, the Interim Panel found that Apple did not provide evidentiary support for Apple's argument on motivation to combine. Additionally, the Interim Panel credited Voip-Pal's expert's testimony that Chu '684 did not have, as Apple argued, a dialing deficiency.

## II

Apple then moved for sanctions against Voip-Pal based on Sawyer's ex parte communications with the Board and with the United States Patent and Trademark Office. Apple argued that Voip-Pal's ex parte communications violated its due process rights and the Administrative Procedures Act. Apple requested that the Board sanction Voip-Pal by entering adverse judgment against Voip-Pal or, alternatively, by vacating the final written decisions and assigning a new panel to preside over "constitutionally correct" new proceedings going forward.

After moving for sanctions, Apple appealed the Board's final written decision to this court, giving rise to the instant consolidated appeals. Upon Apple's motion, we stayed the appeals and remanded the cases for the limited purpose of allowing the Board to consider Apple's sanctions motions. *Apple Inc. v. Voip-Pal.com, Inc.*, Nos. 18-1456, -1457 (Fed. Cir. Feb. 21, 2018). For the sanctions proceedings, a new panel (Boalick, Bonilla, Tierney, JJ.) ("Final Panel") replaced the Interim Panel.

The Final Panel determined that Voip-Pal engaged in sanctionable ex parte communications. The Final Panel rejected Apple's request for a directed judgment and Apple's alternative request for new proceedings before a new panel. The Final Panel fashioned its own sanction, which provided that the Final Panel would preside over Apple's petition for rehearing, which, according to the Final Panel,

“achieves the most appropriate balance when considering both parties’ conduct as a whole.” J.A. 71.

The parties proceeded to panel rehearing briefing. The Final Panel denied Apple’s petition for rehearing because Apple had “not met its burden to show that in the Final Written Decision, the [Interim] panel misapprehended or overlooked any matter,” J.A. 86, and “[e]ven if [the Panel] were to accept [Apple’s] view of Chu ’684 . . . [the Panel] would not reach a different conclusion.” J.A. 82. Apple then moved our court to lift the limited stay. We lifted the stay and proceeded to briefing and oral argument. *Apple Inc. v. Voip-Pal.com, Inc.*, Nos. 18-1456, -1457 (Fed. Cir. July 3, 2019). We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

## DISCUSSION

### I

Before turning to the merits of these appeals, we address a threshold jurisdictional issue Apple raised post-briefing. On June 8, 2020, prior to oral argument, Apple filed a post-briefing document in both appeals entitled “Suggestion of Mootness.” *Apple Inc. v. Voip-Pal.com, Inc.*, Nos. 18-1456 (Fed. Cir. June 8, 2020), ECF No. 79. In that submission, Apple contends that our recent ineligibility determination in *Voip-Pal.com, Inc. v. Twitter, Inc.*, 798 F. App’x 644 (Fed. Cir. 2020) (“*Twitter*”), renders the instant appeals moot and that we must vacate the Board’s underlying final written decisions and sanctions orders. For the reasons discussed below, we agree in part with Apple.

#### A. *Twitter*

Shortly after the Interim Panel issued its final written decisions in December 2017, the parties agreed to lift the stay in the underlying district court litigation. See *Voip-Pal.com, Inc. v. Apple Inc.*, No. 2:16-cv-260, ECF No. 37

(D. Nev. Jan. 26, 2018). In October 2018, the Nevada district court litigation was transferred to the Northern District of California, along with three other related cases in which Voip-Pal had filed similar complaints alleging infringement of the same patents. *See Voip-Pal.com, Inc. v. Apple Inc.*, 375 F. Supp. 3d 1110, 1117 (N.D. Cal. 2019).

The California district court required Voip-Pal to narrow the number of asserted claims against all parties in all cases to the same maximum twenty claims. In March 2019, the district court identified two representative claims (claim 1 of the '815 patent and claim 74 of the '005 patent).<sup>1</sup> Apple and other defendants filed a consolidated motion to dismiss, arguing that the twenty asserted claims were ineligible under 35 U.S.C. § 101. The district court granted the motion to dismiss, determining that the representative claims were patent ineligible. In March 2020, we affirmed the district court's judgment that the asserted claims were patent ineligible. *Twitter*, 798 F. App'x at 645. We denied Voip-Pal's rehearing request in *Twitter*.

### B. Overlapping Claims

At oral argument, Apple argued, and Voip-Pal did not dispute, that these appeals are moot as to Claims 1, 7, 27, 28, 72, 73, 92, and 111 of the '815 patent and Claims 49, 73, 74, 75, 77, 78, 83, 84, 94, 96, and 99 of the '005 patent (collectively, the "overlapping claims").<sup>2</sup> These nineteen overlapping claims were at issue in the underlying IPR proceedings and were also deemed patent ineligible in *Twitter*.

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<sup>1</sup> In the Apple IPR proceedings, the representative claims were claim 1 of the '815 and claim 1 of the '005 patent.

<sup>2</sup> *See* Oral Arg. at 18:06–10, 18:28–35, 19:23–47, No. 2018-1456, <http://www.cafc.uscourts.gov/oral-argument-recordings>.

We agree that these overlapping claims are rendered moot in these appeals in light of *Twitter*.

Because we have determined that the overlapping claims failed the Section 101 threshold in *Twitter*, Apple “no longer has the potential for injury, thereby mooting the [obviousness] inquiry” at issue in the instant appeals. *Momenta Pharm., Inc. v. Bristol-Myers Squibb Co.*, 915 F.3d 764, 770 (Fed. Cir. 2019) (“[W]hen the potential for injury has been mooted by events, the federal courts are deprived of jurisdiction.”). Thus, we vacate-in-part the Board’s final written decisions only as to these overlapping claims and direct the Board to dismiss Apple’s petitions as to these claims. See, e.g., *United States v. Munsingwear, Inc.*, 340 U.S. 36, 39–41 (1950) (noting that the “*established practice . . . in dealing with a civil case from a court in the federal system which has become moot while [on appeal] is to reverse or vacate the judgment below and remand with a direction to dismiss*” (emphasis added)).<sup>3</sup>

### C. Nonoverlapping Claims

We now turn to whether these appeals are moot as to the “nonoverlapping claims.” The nonoverlapping claims are the fifteen remaining claims at issue in the underlying IPR proceedings and were not part of the ineligibility

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<sup>3</sup> We recognize that these appeals did not arise from a civil case in a federal court but rather from proceedings before an administrative agency. This difference in procedural history does not merit a different remedy. See, e.g., *PNC Bank Nat’l Ass’n v. Secure Access, LLC*, 138 S. Ct. 1982 (2018) (mem.) (ordering remand for Board to vacate order for mootness).

determination in *Twitter*.<sup>4</sup> Apple argues that the question of obviousness as to the nonoverlapping claims “*appears to be moot*” in light of *Twitter* because Apple faces no liability for infringing these claims. Suggestion of Mootness at 11 (emphasis added). Apple argues that “[b]asic principles of claim preclusion (*res judicata*) preclude Voip-Pal from accusing Apple” of infringing the nonoverlapping claims in future litigation, and thus, Apple can never face infringement liability as to these claims. *Id.* According to Apple, Voip-Pal is precluded from asserting these fifteen nonoverlapping claims against Apple because they are “essentially the same” as the claims held patent ineligible in the *Twitter* appeal. *Id.* Apple also argues that Voip-Pal effectively conceded in the underlying district court litigation that the overlapping claims are essentially the same as the nonoverlapping claims when Voip-Pal dropped the latter claims from the litigation (at the request of the district court). We disagree with Apple’s assertion of claim preclusion.

Under the doctrine of claim preclusion, “a judgment on the merits in a prior suit involving the same parties or their privies bars a second suit based on the same cause of action.” *Lawlor v. Nat’l Screen Serv. Corp.*, 349 U.S. 322, 326 (1955) (internal quotation marks omitted). The determination of the “precise effect of the judgment[] in th[e] [first] case will necessarily have to be decided in any such *later actions* that may be brought.” *In re Katz Interactive Call Processing Pat. Litig.*, 639 F.3d 1303, 1310 n.5 (Fed. Cir. 2011) (emphasis added). Apple acknowledges that any *res judicata* effect of a first proceeding is “an issue that only a future court can resolve.” Appellant’s Br. at 35 (citing

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<sup>4</sup> The fifteen nonoverlapping claims are claims 34, 54, 74, and 93 of the ’815 patent and claims 1, 24–26, 50, 76, 79, 88, 89, 95, and 98 of the ’005 patent.



*Matsushita Elec. Indus. Co. v. Epstein*, 516 U.S. 367, 396 (1996) (Ginsburg, J., concurring in part and dissenting in part) (“A court conducting an action cannot predetermine the res judicata effect of the judgment; that effect can be tested *only in a subsequent action.*”) (emphasis added). Thus, any preclusive effects that *Twitter* could have against the same or other parties must be decided in any subsequent action brought by Voip-Pal. Until then, any determination we make as to whether Voip-Pal is claim precluded from filing an infringement action concerning the nonoverlapping claims—claims that no court has determined are patent ineligible—is advisory in nature and falls outside of our Article III jurisdiction. *See Flast v. Cohen*, 392 U.S. 83, 96 (1968) (“[I]t is quite clear that the oldest and most consistent thread in the federal law of justiciability is that the federal courts will not give advisory opinions.”) (internal quotation marks omitted). The question of obviousness as to the nonoverlapping claims is thus not moot. On these grounds, we deny Apple’s request that we vacate the Board’s sanctions order as moot. We maintain jurisdiction over both appeals as to the nonoverlapping claims and now turn to the merits of the appeals.

## II

Apple challenges the Board’s sanctions order and denial of rehearing on two grounds. First, Apple argues that the Board violated the Administrative Procedures Act (“APA”) and its due process rights when the Board imposed non-enumerated sanctions for Voip-Pal’s *ex parte* communications. Second, Apple argues that the Board wrongly concluded that the challenged claims are not invalid for obviousness.

We review the Board’s sanction decisions for an abuse of discretion. *See Bennett Regulator Guards, Inc. v. Atlanta Gas Light Co.*, No. 2017-1555, 2020 WL 4743511, at \*8 (Fed. Cir. 2020). The Board abuses its discretion if the

sanction “(1) is clearly unreasonable, arbitrary, or fanciful; (2) is based on an erroneous conclusion of law; (3) rests on clearly erroneous fact findings; or (4) involves a record that contains no evidence on which the Board could rationally base its decision.” *Abrutyn v. Giovanniello*, 15 F.3d 1048, 1050–51 (Fed. Cir. 1994). This court “review[s] contentions that rights of due process have been violated *de novo*.” *Adams v. Dep’t of Just.*, 251 F.3d 170 (Fed. Cir. 2000).

We review the Board’s ultimate determination of non-obviousness *de novo* and its underlying factual findings for substantial evidence. *WesternGeco LLC v. ION Geophysical Corp.*, 889 F.3d 1308, 1326 (Fed. Cir. 2018).

#### A. APA

Apple argues that the Board violated the APA when the Board exceeded its authority under its own sanction regulations. According to Apple, upon determining that Voip-Pal’s *ex parte* communications were sanctionable, the Board was required to issue one of eight authorized sanctions under 37 C.F.R. § 42.12(b). Apple noted that the Board issued a sanction not explicitly provided by Section 42.12(b). Thus, Apple argues, the Board exceeded its authority. We reject this argument.

The provision at issue provides that:

- (a) The Board **may** impose a sanction against a party for misconduct, . . . .
- (b) Sanctions **include** entry of one or more of the following:
  - (1) An order holding facts to have been established in the proceeding;
  - (2) An order expunging or precluding a party from filing a paper;
  - (3) An order precluding a party from presenting or contesting a particular issue;

- (4) An order precluding a party from requesting, obtaining, or opposing discovery;
- (5) An order excluding evidence;
- (6) An order providing for compensatory expenses, including attorney fees;
- (7) An order requiring terminal disclaimer of patent term; or
- (8) Judgment in the trial or dismissal of the petition.

37 C.F.R. § 42.12 (emphasis added).

Key here, Section 42.12(b) uses the term “include,” which signifies a non-exhaustive list of sanctions. *See, e.g., Marrama v. Citizens Bank of Mass.*, 549 U.S. 365, 373 & n.8 (2007) (determining statutory list of ten items preceded by term “including” to be “a nonexclusive list”); *Talk Am., Inc. v. Mich. Bell Tel. Co.*, 564 U.S. 50, 63 n.5 (2011) (determining regulation using phrase “include, but are not limited to,” to be “nonexhaustive”); *see also Include*, *Black’s Law Dictionary* (11th ed. 2019) (“The participle *including* typically indicates a partial list.”). Additionally, reading this regulatory provision as non-exhaustive is consistent with the context of the Board’s sanctioning regime, which affords the Board discretion to impose sanctions in the first place. *See* 37 C.F.R. § 42.12(a)(1) (providing that the Board “**may** impose a sanction” (emphasis added)); Rules of Practice for Trials Before the Patent Trial and Appeal Board and Judicial Review of Patent Trial and Appeal Board Decisions, 77 Fed. Reg. 48,612, 48,616 (Aug. 14, 2012) (providing that “an *ex parte* communication *may* result in sanctions”) (second emphasis added). The use of “may” emphasized above renders permissible and non-exhaustive use of the listed sanctions. Thus, contrary to Apple’s position, Section 42.12(b) does not limit the Board to the eight listed sanctions. Rather, the plain reading of Section 42.12(b) allows the Board to issue sanctions not explicitly

provided in the regulation. We therefore hold that the plain reading of Section 42.12(b) provides the Board with discretion to issue sanctions and that the Board did not commit an APA violation when it issued a sanction not explicitly listed under Section 42.12.

To the extent Apple argues that the Board abused its discretion by not ordering a sanction of judgment in Apple's favor, *see* Appellant's Br. at 31, we reject this argument. "[A] sanction which may sound the death knell for important [patent] rights and interests . . . should be used as a weapon of last, rather than first, resort." *Abrutyn*, 15 F.3d at 1053 (internal quotation marks and citation omitted). Additionally, "discretion implies a range of permissible choices. As long as the tribunal's choice falls within a reasonable range, it cannot constitute an abuse of discretion." *Id.* Here, the Board's decision to (a) allow Apple to petition for rehearing before a new panel, and (b) provide Apple with a meaningful opportunity to respond to Voip-Pal's letters was a reasonable course of action and one we will not disturb.

### B. Due Process

Apple also argues that the Board violated Apple's right to due process by refusing to order a *de novo* proceeding before a new panel. We are not persuaded.

First, Apple did not identify any property interests in the course of its due process arguments below. We conclude that its arguments identifying property interests for the first time on appeal are waived. *See Stone v. FDIC*, 179 F.3d 1368, 1374, 1377 (Fed. Cir. 1999) (noting that there can be no due process violation without the deprivation of a property interest); *see also Patlex Corp. v. Mossinghoff*, 771 F.2d 480, 484 (Fed. Cir. 1985) (outlining factors to be analyzed when determining a due process violation, the first of which is "the private interest that will be affected by the official action") (quoting *Mathews v. Eldridge*, 424

U.S. 319, 335 (1976)); *Cleveland Bd. of Educ. v. Loudermill*, 470 U.S. 532, 542–46 (1985) (“The essential requirements of due process . . . are notice and opportunity to respond.”). In particular, Apple argues for the first time on appeal that the preclusive application of collateral estoppel of a final written decision necessarily constitutes a deprivation of Apple’s property interests and therefore entitles Apple to reversal here. Despite Voip-Pal’s statement in its response to Apple’s sanctions motion that “there is no property right at stake,” J.A. 1674, Apple did not avail itself of the opportunity to address the issue in its reply. Apple also argues for the first time on appeal that the money it spent in requesting IPR was a property interest. Apple failed to raise these arguments below, and thus it has waived these arguments on appeal. *See, e.g., Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1426 (Fed. Cir. 1997) (declining to consider new arguments raised for the first time on appeal).

We also recognize that the Board introduced Voip-Pal’s six ex parte letters into the record and gave Apple an opportunity to respond to these letters during the panel rehearing stage before a new panel. Apple *chose*, however, not to address the substance of Voip-Pal’s letters—the very same letters that Apple claims “tainted” its IPR proceedings. *See* Appellant’s Br. at 36. Thus, we fail to see how the Board’s sanctions orders deprived Apple of due process.

### C. Non-Obviousness

Apple also challenges the Board’s non-obviousness determination. Specifically, Apple argues that the Board legally and factually erred when it determined that Apple failed to establish a motivation to combine Chu ’684 with Chu ’366. We are not persuaded by Apple’s arguments.

Apple’s underlying premise to combine the teachings of Chu ’684 with those of Chu ’336 was that a skilled artisan would have viewed Chu ’684’s interface as less “intuitive”

and less “user-friendly” than that of Chu ’366, and thus a skilled artisan would have a desire to improve Chu ’684’s system. In particular, Apple argued that Chu ’684’s system had a dialing deficiency that did not permit short-form phone number dialing but rather long-form, fully formatted “E.164 numbers,” e.g., “+1-202-555-1234.” See Appellant’s Br. at 46. The Board rejected Apple’s argument, noting that Apple’s expert provided no “adequate support” and no “underlying evidentiary support” for the proposition that a skilled artisan would have regarded Chu ’684’s teachings as deficient.

Apple argues on appeal that the Board legally erred in rejecting its motivation-to-combine argument by improperly applying the now-rejected teaching, suggestion, motivation test rather than the flexible obviousness analysis required under *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007). In particular, Apple faults the Board for rejecting its expert testimony that Chu ’684’s teachings were deficient for failure to provide “underlying evidentiary support for the proposition that [a POSITA] would have regarded Chu ’684’s teachings as deficient.” J.A. 19. We disagree with Apple.

The Board did not fault Apple for not citing explicit “teachings, suggestions, or motivations to combine the prior art.” Appellant’s Br. at 50. Rather, the Board noted that Apple’s expert provided only “conclusory and insufficient” reasons for combining Chu ’684 with Chu ’366 and failed to “articulate[] reasoning with some rational underpinning.” J.A. 21. Thus, contrary to Apple’s position, the Board did not legally err but rather held Apple to the proper evidentiary standard. See *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”).

Apple also argues that the Board factually erred by failing to consider that Chu '366 provides explicit evidence of motivation to combine, “explaining that there is a desire to enter abbreviated numbers for local and national telephone calls.” Appellant’s Br. at 50. However, the Board considered Chu '366’s teachings and cited material parts but rejected the premise that Chu '684’s interface was any less intuitive or user-friendly than Chu '366’s. The Board credited the unrefuted testimony of Voip-Pal’s expert, Dr. Mangione-Smith, who explained that Chu '684’s operation as a public branch exchange (“PBX”) system was not “inadequate or unintuitive.” J.A. 968–71 (Ex. 2016 ¶¶ 65–67). In particular, Dr. Mangione-Smith explained, “PBX’s provided all the features of ordinary phones connected to the [public switched telephone network], and *in addition*, supported the dialing of private extension numbers. The use of a prefix digit such as ‘9’ was not a deficiency but rather a simple way of supporting both [public switched telephone network] dialing and extension dialing.” J.A. 969–70 (Ex. 2016 ¶ 66) (emphasis in original).<sup>5</sup> We find no error in the Board’s decision to credit the opinion of Voip-Pal’s expert over Apple’s, and we do not reweigh evidence on appeal. *Impax Labs. Inc. v. Lannett Holdings Inc.*, 893 F.3d 1372, 1382 (Fed. Cir. 2018). Substantial evidence supports the Board’s finding that Chu '684 did not disclose a dialing deficiency.

#### CONCLUSION

We have considered the parties’ remaining arguments and find them unpersuasive. We vacate the Board’s determinations that claims 1, 7, 27, 28, 72, 73, 92, and 111 of the

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<sup>5</sup> The Board alternatively determined that even if there was a motivation to combine, the combination of Chu '684 and Chu '366 still failed to render the challenged claims obvious. We do not address this alternative determination.

'815 patent and claims 49, 73, 74, 75, 77, 78, 83, 84, 94, 96, and 99 of the '005 patent are not invalid as obvious and remand to the Board to dismiss these claims as moot. We affirm the Board's non-obviousness determinations as to the remaining claims. We also affirm the Board's sanctions orders.

**AFFIRMED IN PART, VACATED AND REMANDED  
IN PART**

COSTS

No costs.