United States Court of Appeals for the Federal Circuit

SATIUS HOLDING, LLC, FKA SATIUS HOLDING, INC.,
Plaintiff-Appellant

v.

SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC.,
Defendants-Appellees

2025-1446

Appeal from the United States District Court for the District of Delaware in No. 1:18-cv-00850-CJB, Magistrate Judge Christopher J. Burke.

Decided: October 1, 2026

DANIEL NOAH LERMAN, Herbert Smith Freehills Kramer (US) LLP, Washington, DC, argued for plaintiff-appellant. Also represented by PAUL J. ANDRE, LISA KOBIALKA, Brown Rudnick LLP, Redwood Shores, CA.

RICHARD L. RAINEY, Covington & Burling LLP, Washington, DC, argued for defendants-appellees. Also represented by LARISSA DAVIS, STEVEN ANTHONY FISHER, PAUL JOSEPH WILSON, ABBY WRIGHT; BRIAN GERARD BIELUCH, Los Angeles, CA; PATRICK NORTON FLYNN, Palo Alto, CA.

Before MOORE, *Chief Judge*, LOURIE and HUGHES, *Circuit Judges*.

MOORE, *Chief Judge*.

Satius Holding, LLC (Satius) appeals a final judgment of invalidity of claims 1, 11, and 18 of U.S. Patent No. 6,711,385 entered by the U.S. District Court for the District of Delaware. We affirm.

BACKGROUND

In 2018, Satius sued Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, Samsung) for allegedly infringing claims 1, 11, and 18 of the '385 patent. The '385 patent is owned by Satius and relates to a communications apparatus including a coupler for matching the characteristic impedance of the air with the impedance of a wireless transmitter and receiver. *See* '385 patent at Abstract, 1:6–10, 1:53–56. Claim 1, from which claims 11 and 18 depend, is representative:

> 1. A communications apparatus for *transmitting electric or electromagnetic signals over air*, the air having a characteristic impedance, the communications apparatus comprising:
>
> > a transmitter having an output impedance, said transmitter for transmitting the electric or electromagnetic signals at a preselected frequency; and
> >
> > a coupler connected to the transmitter, said coupler comprising a transformer having a non-magnetic core, said transformer *communicating the electric or electromagnetic signals to the air*, said coupler matching the output impedance of the transmitter to the characteristic impedance of the air.

'385 patent at 6:30–42 (emphases added).

The district court stayed the case pending reexamination proceedings before the U.S. Patent and Trademark Office, which rejected independent claim 1 and upheld the validity of dependent claims 11 and 18. S*atius Holding, Inc. v. Samsung Elecs. Co.*, No. CV 18-850-CJB, 2024 WL 5090284, at *1 (D. Del. Dec. 12, 2024) (*Decision*). The district court then lifted the stay and proceeded with claim construction. *Id.* The district court concluded claims 1, 11, and 18 are indefinite and entered final judgment of invalidity in favor of Samsung. *Id.* at *2–11 (claim construction order); J.A. 1–2 (final judgment). Satius appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

On appeal, Satius argues the district court erred in concluding claims 1, 11, and 18 are indefinite. Samsung disagrees and argues that, even if the claims are definite, they are invalid on enablement grounds. We agree with Satius that the district court's indefiniteness ruling was erroneous. *See infra* DISCUSSION § I. We affirm the district court's final judgment of invalidity, however, because we agree with Samsung that the claims do not satisfy the enablement requirement of 35 U.S.C. § 112(a). *See infra* DISCUSSION § II.

I. Indefiniteness

We review a district court's indefiniteness conclusions de novo. *Ironburg Inventions Ltd. v. Valve Corp.*, 64 F.4th 1274, 1284 (Fed. Cir. 2023) (citing *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1365 (Fed. Cir. 2017)). We review determinations about governing legal standards and intrinsic evidence de novo, and any relevant factual findings about extrinsic evidence for clear error. *Id.* "[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the

prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). "Indefiniteness must be proven by clear and convincing evidence." *Maxell, Ltd. v. Amperex Tech. Ltd.*, 94 F.4th 1369, 1372 (Fed. Cir. 2024) (quoting *Sonix Tech. Co. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017)).

Claim 1 recites "[a] communications apparatus for transmitting electric or electromagnetic signals over air." '385 patent at 6:30–31. Based on this language, the district court concluded claim 1 and its dependent claims are indefinite because it is an undisputed scientific impossibility to transmit electric signals over air. *Decision*, 2024 WL 5090284, at *5–10. We agree with the district court that claim 1 covers communications apparatuses for transmitting two kinds of signals over air: (1) signals in electric form or (2) signals in electromagnetic form. We also agree there is no dispute between the parties that transmitting the first kind of signal over air is scientifically impossible. While this impossibility raises serious concerns about claim 1's validity, *see infra* DISCUSSION § II, we do not agree that it renders the claims *indefinite*. Rather, because the claims here inform, with reasonable certainty, those skilled in the art about the scope of the invention, *see Nautilus*, 572 U.S. at 910, we conclude the claims are definite.

A.

First, we construe "transmitting electric . . . signals over air" in claim 1 to mean transmitting signals over air in electric form—something neither party disputes is scientifically impossible. *See Decision*, 2024 WL 5090284, at *5. On appeal, Satius argues that "transmitting electric . . . signals over air" is not scientifically impossible because, properly construed, this language refers "to the fact that the electric signal [transmitted within the device] will be transformed into an electromagnetic signal, and then

that electromagnetic signal is what will go out over the air and to its destination." Appellant's Br. 36. According to Satius, this is consistent with claim 1's subsequent recitation of "communicating the electric or electromagnetic signals *to* the air," which neither party disputes is scientifically possible. *Id.* at 37 (emphasis added). We do not agree.

Transmitting signals *over* the air is not the same as transmitting signals *to* the air. *See Symantec Corp. v. Computer Assocs. Int'l, Inc.*, 522 F.3d 1279, 1289 (Fed. Cir. 2008) ("[W]hen construing terms in the body of a claim, the general assumption is that different terms have different meanings . . . ."). Nor do we agree that claim 1's preamble refers to transforming an electric signal to an electromagnetic signal that is *then* transmitted over air because this would require rewriting claim 1 to provide for an electric-to-electromagnetic transformation step that (1) does not exist in the claim language and (2) would not apply equally to claim 1's "electric . . . signals" and "electromagnetic signals." While we generally avoid construing claims in a manner that would create a nonsensical result, we "may not redraft claims . . . to make them operable or to sustain their validity." *Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1374 (Fed. Cir. 2004). Where the claims, as here, are "susceptible to only one reasonable construction," "we must construe the claims based on the patentee's version of the claim as he himself drafted it." *See id.*

B.

We next consider whether the scientific impossibility of "transmitting electric . . . signals over air" in claim 1 renders the claims indefinite. We conclude the claims are not indefinite because, although they encompass inoperable embodiments, the claims are clear about what they cover. *See Nautilus*, 572 U.S. at 910.

Indefiniteness is not the same as impossibility. While there may be cases where a claim is so nonsensical that a

skilled artisan would struggle to understand the bounds of the claim, there is no per se rule that a claim covering inoperable embodiments is necessarily indefinite. On the contrary, we have held an "invention's operability may say *nothing* about a skilled artisan's understanding of the bounds of the claim." *Miles Lab'ys, Inc. v. Shandon Inc.*, 997 F.2d 870, 875 (Fed. Cir. 1993) (emphasis added); *see also Exxon Rsch. & Eng'g Co. v. United States*, 265 F.3d 1371, 1382 (Fed. Cir. 2001) (explaining the alleged inoperability of claimed embodiments "is an issue of enablement, and not indefiniteness"), *abrogated on other grounds by Nautilus*, 572 U.S. 898.

To be sure, we have previously held *some* impossible claims indefinite. For example, in *Synchronoss Techs., Inc. v. Dropbox, Inc.*, 987 F.3d 1358 (Fed. Cir. 2021), we noted that the claims at issue "require[d] an impossibility" and held they were indefinite. 987 F.3d at 1366–67. In *Synchronoss*, however, we also noted that the claims were "nonsensical" and that a skilled artisan would "understand based on the specification that the claims do not set forth what the inventor regards as his invention." *Id.* (citing *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1349 (Fed. Cir. 2002)).

Here, unlike in *Synchronoss*, it would not be evident to a skilled artisan based on the specification that the claims do not set forth what the inventor regards as his invention because, in this case, both the claims *and* written description include the scientifically impossible language. *See* '385 patent at Abstract, 1:59–62, 6:31–33. Moreover, neither Samsung nor the district court seem to disagree that the scope of "transmitting electric . . . signals over air" is clear, even if the limitation is scientifically impossible. *See* J.A. 4098 (Samsung arguing claim 1 "unmistakably claims" the physical impossibility of transmitting electric signals over air); *see also Decision*, 2024 WL 5090284, at *7 (the court understanding the disputed term "facially requires that one permutation of the claimed apparatus be

able to [transmit an electric signal over air]").[1] The definiteness requirement demands no more. *See* 35 U.S.C. § 112(b) ("The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention."); *see also Nautilus*, 572 U.S. at 910 ("The definiteness requirement . . . mandates clarity, while recognizing that absolute precision is unattainable.").

Because the claims comply with 35 U.S.C. § 112(b), we conclude the claims are definite notwithstanding their recitation of a scientific impossibility.

II. Enablement

The enablement requirement appears in 35 U.S.C. § 112(a), which requires a patent specification to include "a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art . . . to make and use the same." *Amgen Inc. v. Sanofi*, 598 U.S. 594, 605 (2023) (quoting 35 U.S.C. § 112(a)).

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[1] To the extent the district court credited the testimony of Samsung's expert, Dr. Wells, stating that "the meaning of [the disputed term] would not be evident to a [skilled artisan] because "'transmitting . . . over air" signals that are not electromagnetic signals does not have any meaning to a [skilled artisan],'" *Decision*, 2024 WL 5090284, at *10 (quoting J.A. 4646–47), this is conclusory extrinsic evidence and contradicts Samsung's argument that the term *does* have meaning—namely, it "unmistakably" covers a physical impossibility, J.A. 4098. The court also quoted Dr. Wells' testimony only to support the incorrect statement that "the claim term here is indefinite *because* one of its permutations is a scientific impossibility." *Decision*, 2024 WL 5090284, at *10 (emphasis added). There is no such per se rule.

Whether a claim satisfies the enablement requirement is a question of law we review without deference, although the determination may be based on underlying factual findings. *Alcon Rsch. Ltd. v. Barr Lab'ys, Inc.*, 745 F.3d 1180, 1188 (Fed. Cir. 2014).

Here, the district court expressed skepticism that the claims are enabled but declined to rule on the enablement issue in its claim construction order. *Decision*, 2024 WL 5090284, at *8 n.9. Specifically, the court stated it "struggle[d] to see how the full scope of claim 1 could be enabled if it states that the apparatus is able to do something that is a scientific impossibility." *Id.* Nevertheless, the court determined the enablement issue was waived and noted that "the claim construction stage is not typically the right time to be addressing ineligibility or lack of enablement issues anyway." *Id.*

Despite the district court's reluctance to reach the enablement issue, we see no bar to our consideration of the issue on appeal. "The matter of what questions may be taken up and resolved for the first time on appeal is one left primarily to the discretion of the courts of appeals," and "a federal appellate court is justified in resolving an issue not passed on below . . . where the proper resolution is beyond any doubt." *Singleton v. Wulff*, 428 U.S. 106, 121 (1976). We have said that "relevant considerations [for exercising this discretion] include whether (1) 'the issue involves a pure question of law and refusal to consider it would result in a miscarriage of justice'; (2) 'the proper resolution is beyond any doubt'; (3) 'the appellant had no opportunity to raise the objection' below; (4) 'the issue presents significant questions of general impact or of great public concern'; [and] (5) 'the interest of substantial justice is at stake.'" *Icon Health & Fitness, Inc. v. Strava, Inc.*, 849 F.3d 1034, 1040 (Fed. Cir. 2017) (quoting *Automated Merch. Sys., Inc. v. Lee*, 782 F.3d 1376, 1379 (Fed. Cir. 2015)). "We also may consider . . . whether the issue has

been fully briefed, a party will be prejudiced by consideration of the issue, or no purpose will be served by remand." *Id.*

In view of the foregoing considerations, we conclude it is appropriate to reach the enablement issue. On appeal, the parties adequately raised and briefed the issue, which we review without deference as a question of law. *See* Appellant's Br. 32–34; Appellees' Br. 66–73; *see also Alcon*, 745 F.3d at 1188. There is no factual dispute that it is scientifically impossible to transmit electric signals over the air. *See Decision*, 2024 WL 5090284, at *5. And it is so evident that the claims are not enabled based on reciting this scientific impossibility that it would serve no purpose to remand this case only for the district court to reach the same conclusion.

We conclude the claims are invalid for lack of enablement because, to comply with 35 U.S.C. § 112(a)'s enablement requirement, "the specification must enable the *full scope* of the invention as defined by its claims." *Amgen*, 598 U.S. at 610 (emphasis added). This standard cannot possibly be met when, as here, the claims include an express limitation that adds inoperable (and thus non-enabled) alternative embodiments to the scope of the invention. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1380 (Fed. Cir. 2007) (explaining that where the full scope of a claimed invention included an injector system with and without a pressure jacket, "[t]here must be 'reasonable enablement of the scope of the range'"); *see also EMI Grp. N. Am., Inc. v. Cypress Semiconductor Corp.*, 268 F.3d 1342, 1349 (Fed. Cir. 2001) ("[W]hen an impossible limitation, such as a nonsensical method of operation, is clearly embodied within the claim, the claimed invention must be held invalid." (alteration in original) (quoting *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1359 (Fed. Cir. 1999))). Here, claim 1 and its dependent claims explicitly cover "a communications apparatus for transmitting electric *or* electromagnetic signals

over air," '385 patent at 6:30–31 (emphasis added), with the first category being scientifically impossible. "The more one claims, the more one must enable," *Amgen*, 598 U.S. at 610, and in this case, the claims fall woefully short of this burden.

Because the claims explicitly cover a scientific impossibility that cannot be made or used by a skilled artisan, we conclude they are invalid for lack of enablement under 35 U.S.C. § 112(a).

CONCLUSION

We have considered the parties' remaining arguments and find them unpersuasive. For the foregoing reasons, we affirm the district court's final judgment of invalidity of claims 1, 11, and 18 of the '385 patent.

AFFIRMED

COSTS

Costs to Samsung.