No. 2025-1444

In the United States Court of Appeals for the Federal Circuit

IN RE: SATIUS HOLDING, INC.,

Appellant.

On Appeal from the Patent Trial and Appeals Board,
Ex Parte Reexamination No. 90/014,826.

REPLY BRIEF OF APPELLANT SATIUS HOLDING, INC.

JAMES HANNAH
HERBERT SMITH FREEHILLS KRAMER (US) LLP
333 Twin Dolphin Dr., Suite 700
Redwood Shores, CA 94065
Telephone: (650) 752-1700

JEFFREY PRICE
HERBERT SMITH FREEHILLS KRAMER (US) LLP
1177 Avenue of the Americas
New York, NY 10036
Telephone: (212) 715-7502

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INTRODUCTION AND SUMMARY OF THE ARGUMENT

The USPTO's Response ("USPTO Br.") confirms that the correct construction of the Matching Limitation is dispositive to this case because it does not argue that Claim 1 of the '385 Patent is obvious under Satius' proposed construction. The Court should, therefore, reverse the Decision on Appeal ("Decision") because Satius disavowed the broader construction that the Board applied in its decision, the narrower construction is correct, and Satius did not forfeit its claim construction argument.

The USPTO's argument that Satius' disavowal was ambiguous does not withstand scrutiny. Satius expressly argued that the claims require that the primary winding of the coupler's transformer must be "designed to match the most common characteristic impedance of the air where the wireless transmitter/receiver will be used" and distinguished the prior art on that basis. Appx3343-3344 (quoting Appx1625) ("[This] is a modification contemplated nowhere in either Claim 13 of Abraham '987 (or its specification) or Tran."). Despite calling this argument ambiguous, it does not identify any other possible interpretation of Satius' statement, and there is none.

Satius' proposed construction is also correct on the merits because it is the interpretation that best aligns with the plain language of Claim 1—which expressly recites a "coupler matching the output impedance of the transmitter to the characteristic impedance of the air"—and Inventor's description, which explained that tuning a coupler to match the most common characteristic impedance of air where the coupler will be used solved the particular problem of "notches in the communications

bandwidth." Appx45 at 1:50-52; Appx47 at Claim 1. The USPTO's suggestion that a device need merely be capable of matching the characteristic impedance air at some location ignores the plain language of the claims, which expressly require that the apparatus match the physical environmental value.

Satius also did not forfeit this argument because it consistently argued for this exact interpretation during the reexamination, on appeal to the Board, and in its Request for Rehearing to the Board. *Google LLC v. EcoFactor, Inc.*, 92 F.4th 1049, 1057, n.3 (Fed. Cir. 2024). The USPTO's suggestion that Satius forfeited this argument because it did not "put forward a specific construction for the Matching Limitation" (USPTO Br. at 15) is irrelevant because the law does not require a party to propose an "explicit claim construction" to preserve the issue on appeal. *Google LLC*, 92 F.4th at 1057 & n.3. The USPTO is also wrong on the facts because Satius repeatedly argued for its construction during its appeal to the Board when distinguishing the Examiner's rejection of Claim 1 over Lindenblad, and the Board **found that argument persuasive** in the Decision when reversing the Examiner's rejection of Claim 1 over Lindenblad and entering its new grounds of rejection incorporating McCoy and Orr. Appx7 (agreeing that "[u]nless that antenna's input impedance is designed to match the characteristic impedance of air . . . then the transformer does not expressly or inherently disclose the limitation").

ARGUMENT

I. The Board's Claim Construction Was Erroneous

A. Satius Disavowed the Board's Broader Construction

The Court should determine that the claims "require that the primary winding be 'designed to match the most common characteristic impedance of the air where the wireless transmitter/receiver will be used'" to satisfy the limitations of claim 1 because Satius disavowed the Board's broader construction. Opening Br. at 15-18. The USPTO barely disputes this issue, which is dispositive because the USPTO does not suggest that the combinations of Lindenblad and McCoy or Orr render the claims obvious under Satius' construction. *See* USPTO Br. at 17-18; Opening Br. at 4. The Court should, therefore reverse the Decision on this basis. *See infra* § II.

The USPTO's allegation that "Satius has never offered a specific claim construction for the Matching Limitation, much less a clear articulation of how such a construction is 'narrower' than the plain language of the claim" is at odds with the record. USPTO Br. at 17. In the first reexamination, Satius distinguished the Inventor's earlier power-line coupler on the basis that although "the overall structure of the coupler disclosed in Abraham '987 requires no modification, the '385 Patent does require that the primary winding be 'designed to match the most common characteristic impedance of the air where the wireless transmitter/receiver will be used,' which is a modification contemplated nowhere in either Claim 13 of Abraham '987 (or its specification) or Tran." Appx3343-3344. There is nothing "ambiguous" about this

statement, which is consistent with the USPTO's failure to identify any other possible interpretation of Satius' clear disavowal. USPTO Br. at 17-18.

Accordingly, the Court should find that Satius disavowed the interpretation that the Board applied in its Decision. *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013) ("[W]hen the patentee unequivocally and unambiguously disavows a certain meaning to obtain a patent, the doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the scope of the claim surrendered."). And because the USPTO does not suggest that Claim 1 is unpatentable under Satius' construction, the Court should reverse the Decision on this basis.

B. Satius' Construction is Correct

To the extent that the Court reaches the merits of the claim construction issue on appeal instead of finding the issue resolved by Satius' disavowal, the Court should adopt Satius' proposed construction because it is the only construction in harmony with what the Inventor claimed and claimed to have invented a coupler designed to match the output impedance of a transmitter to the characteristic impedance of air.

This Court's precedent counsels that "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005). There is certainly no friction aligning the claim language and the specification with Satius' disclosure: Claim 1 expressly claims an assembly that performs this matching. Appx47 (reciting "said coupler matching the output impedance of the

transmitter to the characteristic impedance of the air"). The Inventor described the invention in the same terms in the specification:

> The characteristic impedance change in the air from walls and other objects reflects back to the transmitter and receiver, which causes notches in the communications bandwidth. The two impedances (air and transmitter/receiver) need to be matched to each other to avoid notches in the communications bandwidth.
>
> There is thus a need for a coupler that is capable of matching the impedance of the air with the impedance of a wireless transmitter and receiver in order to eliminate notches in the communications bandwidth.

Appx45 at 1:47-56.

On the other hand, the USPTO's argument that "construing the Matching Limitation as defining a capability of the coupler is consistent with the '385 patent's specification," fails. USPTO Br. at 14. Although the USPTO is correct that "[t]he patent teaches that the air-core transformer used for the coupler has a fixed structure," that does not imply that the claims **merely** "require that the coupler is *capable* of 'matching the output impedance of the transmitter to the characteristic impedance of the air' for some location." *Id.* at 14-15. Of course, it is necessary that the coupler be capable of matching the characteristic impedance of air, but they claims do not stop there: They expressly require that matching to occur, which requires designing or otherwise tuning the coupler to have the requisite impedance value where it will be used, since the value can change depending on location.

Moreover, the USPTO's "plain and ordinary meaning" interpretation—whereby the claim "merely requires that the coupler of the communications apparatus be capable of matching the output impedance of the transmitter to the characteristic impedance of the air at some location"—is inconsistent with what the Inventor described and claimed because it encompasses the very prior art systems that '385 Patent improved upon. USPTO Br. at 12. "Where," as here, "the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent." *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1341 (Fed. Cir. 2001); *see also Apple Comput., Inc. v. Articulate Sys., Inc.*, 234 F.3d 14, 24-25 (Fed. Cir. 2000) (reversing construction of "help access window" as a window containing one or more user interface controls for accessing *any* software information, where the specification described the purpose of the help access window as providing help information, specifically).

Under the USPTO's interpretation, literally any transmitter/coupler/antenna system with an antenna input impedance (and, therefore, a coupler output impedance) in the range of **possible** values of the characteristic impedance of air would satisfy the language of the claims.[1] However, the very problem that the Inventor identified with

[1] Acting as "amicus," third-party requester, Samsung, points out that "[i]f the prior art discloses a *point* within the claimed range, the prior art anticipates the claim." Samsung Br. at 15-16. However, Claim 1 does not claim a "range," it claims a **variable** that has a specific value at any point in time and space.

such systems is that without matching the output impedance of the coupler to the characteristic impedance of air, such systems suffered from "notches in the communications bandwidth." Appx45 at 1:50-52. A patent "claim must be interpreted in light of the teachings of the written description and purpose of the invention described therein," but the USPTO's interpretation does not even purport to align with the purpose of the invention. *Apple Comput., Inc.*, 234 F.3d at 25.

Consequently, aside from labeling its construction the "plain and ordinary" of the Matching Limitation, the Board did not cite any evidence that this limitation **has** a "plain and ordinary meaning" in that art or demonstrate that such a meaning is consistent with the intrinsic record. Appx14-15. Nor does the USPTO identify any such evidence on appeal. USPTO Br. at 12. Accordingly, this is not a case where a claim term has an agreed-upon plain and ordinary meaning and Satius seeks to "import limitations"[2] from the specification to diverge from that meaning. *Id.* at 12-14. This is a case where the express language of the claim demands that the claimed apparatus have certain structural requirements, namely a coupler that matches the output impedance of a transmitter to the characteristic impedance of air, and description of the invention informs the POSITA both how to accomplish that task and why.[3]

[2] Even if Satius' construction did "import limitations" from the specification, it disavowed any interpretation of the claims that excluded those limitations. *See supra* § I.A.

[3] "Amicus" also argues that Satius' construction would render the claim indefinite. Samsung Br. at 21. However, there is no dispute over whether a POSITA knows

The USPTO's attempt to distinguish *Advanced Software* on the basis that because Claim 1 is an apparatus claim fails because that case did not "address the possible consequences of the distinction between" method and system claims. *Advanced Software Design Corp. v. Fiserv, Inc.*, 641 F.3d 1368, 1374 (Fed. Cir. 2011). Accordingly, its assumption that the preamble for an apparatus claim can only "help[] define the capability that the coupler must have—not the environment where a method of using the coupler must occur," finds no support in *Advance Software*. USPTO Br. at 13.. In fact, in the *Uniloc* case cited in *Advanced Software*, this Court determined applied this principle to a system claim. *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1309 (Fed. Cir. 2011) ("This is exactly what Uniloc did in claim 19, which focuses exclusively on the 'remote registration station,' and defines the environment in which that registration station must function.").

Accordingly, the preamble of a claim can also "define the environment" in which an infringing system must function, which is what the preamble of Claim 1 does:

> 1. A communications apparatus for transmitting electric or electromagnetic signals over air, **the air having a characteristic impedance**, the communications apparatus comprising:

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both how to measure the characteristic impedance of air in any given location or how to design a coupler to meet that value. Appx3523 (citing Appx46 at 4:6-19). A device infringes if it is designed to match the characteristic impedance of air where it is to be used, whether that tuning is fixed from the factory or otherwise adjusted in the field.

> 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**.

Appx47 at Claim 1 (emphasis added). Accordingly, as Satius argued in its Request for Rehearing, "the claims require not only that 'those antenna impedances will match the air's characteristic impedances at *some* location,' as the Board reasoned. They require matching the air characteristic impedance at that location." Appx3567 (citing *Advanced Software*, 641 F.3d at 1374).

Accordingly, the Satius' proposed construction is consistent with the conclusion that a POSITA would reach, and the Board's broader construction was disavowed and inconsistent with the intrinsic record.

C. Satius Did Not Forfeit its Claim Construction Argument

The USPTO's suggestion that Satius forfeited the very claim interpretation that it has consistently (and until now, successfully) applied to distinguish prior art couplers is inconsistent with the law and the facts. USPTO Br. at 15-17 (arguing that Satius forfeited this claim construction argument because it "did not put forward a specific construction for the Matching Limitation in its Appeal Brief, Reply Brief, or Request for Rehearing").

A party does not need to propose an "explicit claim construction" for a claim construction argument to be preserved on appeal. *Google LLC*, 92 F.4th at 1057, n.3. What the law requires is that the "meaning and scope of the . . . limitation" was argued "under the same framework" during the proceeding and on appeal. *Id.* (citing *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1290 (Fed. Cir. 2015)) (finding no forfeiture when a party's argument was consistent during the proceeding and on appeal). Accordingly, to the extent that the USPTO's argument is meant to suggest that Satius's failure to raise an "explicit claim construction" argument means that it forfeited this argument on appeal, the Court should reject the argument as a matter of law. *Id.*

As a matter of fact, consistently advocated for this exact claim construction argument throughout the two reexaminations of the '385 Patent, their respective appeals (the first of which was resolved in part on this exact issue), and now throughout the appeal to this Court. As discussed above, Satius successfully raised this exact argument when distinguishing Abraham and Tran during the first reexamination. *See supra* § I.A; Appx3343-3344 (determining that "the '385 Patent does require that the primary winding be 'designed to match the most common characteristic impedance of the air where the wireless transmitter/receiver will be used'").

Satius also consistently applied this construction in the second reexamination to distinguish Lindenblad. In response to the Non-Final Office Action Satius disagreed with the Examiner's interpretation of the '385 Patent because "the '385 Patent is explicit that the system must be 'designed' to have a particular impedance at the outer coil (the

characteristic impedance of air, as claimed)." *See* Appx3400-3401. Satius made the same arguments in response to the Final Office Action Appx3438-3439 ("First, the [Final Office Action] conflicts with the Board's determinations in the first reexamination of the '385 Patent.").

Satius also maintained this argument throughout the appeal of this proceeding. *Cf.* USPTO Br. at 15. Satius consistently argued for this interpretation, beginning in the Appeal Brief:

> Accordingly, rather than merely using a coupler to match an antenna's input impedance, as in Lindenblad, **the outer coil is designed to "match the air characteristic impedance."** *Id.* The antenna (if used) is designed such that its input impedance matches that of the outer coil. *Id.* at 4:37-40 (disclosing designing the antenna to match the air core transformer). This is why the emphasized portion of the quote describes the outer coil's impedance as a "value" that can be "chosen to optimally match the air characteristic impedance." **That is, the '385 Patent discloses (and claims) designing the outer coil's primary impedance "to optimally match the air characteristic impedance . . . ."**

Appx3485 (emphasis added);

> The inventor's solution to the problem of notches in the communication bandwidth was to ensure that the output impedance of the transmitter was matched to the characteristic impedance of air *rather than* merely matching the antenna's input impedance and relying on the antenna to match the characteristic impedance of air. Accordingly, '385 Patent describes first **designing the primary winding of the transformer to "match the most common characteristic impedance of the air"** and *then*, if an antenna is used, designing the antenna's input impedance "to match the air core transformer."

Appx3486 (emphasis added) (citing Appx46 at 3:62-63), Appx46 at 4:29-40; *see also* Appx3479; Appx3484-3486.

Satius also put forward this interpretation in its Reply Brief:

> Critically, Lindenblad does not disclose **designing its transformer so that its output impedance matches the characteristic impedance of air**. Nor does Lindenblad disclose designing the *antenna* so that its input impedance in air *also* matches the characteristic impedance of air. Instead, Lindenblad discloses designing the output impedance of its transformer to match whatever the input impedance of the antenna is.
>
> * * *
>
> Appellant respectfully requests that the Board reject the Examiner's attempt to equate the "effective air and reflected device input impedance" with the characteristic impedance of air because those values are only equal when the input impedance of a reflected device (*e.g.* an antenna) **is designed to match the air characteristic impedance**.

Appx3519 (emphasis added); Appx3518 ("Here, the claims do not recite a coupler that is merely *capable of* matching the output impedance of a transmitter to the characteristic impedance of air, they recite a coupler configured to perform this matching.").

And in the Request for Rehearing, Satius argued that the interpretation the Board applied in the Decision concerning the combinations of Lindenblad with McCoy or Orr differed not only from the one it adopted in the First Reexamination, but also the one it adopted when reversing the Examiner's rejections obviousness and anticipation rejections of Claim 1 over Lindenblad. Appx3566-3567 (citing Appx7 (quoting Appx3490 ("Unless that antenna's input impedance is designed to match the

characteristic impedance of air (which is also not disclosed expressly or inherently in Lindenblad), then the transformer does not expressly or inherently disclose the limitation.")))).

Satius did not forfeit this argument.

II. The Court Should Reverse the Decision

Satius' Opening Brief argued that the claim construction issue raised on appeal is dispositive to the obviousness of Claim 1 over Lindenblad in view of McCoy or Orr, and the USPTO's Brief does not dispute that argument or suggest that remand would be necessary for any reason in the event that the Court agrees with Satius' proposed construction. *See Owens Corning v. Fast Felt Corp.*, 873 F.3d 896, 901-02 (Fed. Cir. 2017) (holding that it was not necessary to remand to the Board only because "there [was] neither a request [for a remand] nor an apparent reason to grant a second record-making opportunity").

CONCLUSION

This Court should reverse the Board's determination that Claim 1 of the '385 Patent is unpatentable over Lindenblad in view of McCoy or Orr.

Respectfully submitted,

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By: */s/Jeffrey Price*

Jeffrey Price
HERBERT SMITH FREEHILLS KRAMER (US) LLP
1177 Avenue of the Americas
New York, NY 10036
Telephone: (212) 715-7502
jeffrey.price@hsfkramer.com

James Hannah
HERBERT SMITH FREEHILLS KRAMER (US) LLP
333 Twin Dolphin Drive, Suite 700
Redwood Shores, CA 94065
Telephone: (650) 752-1700
james.hannah@hsfkramer.com

Attorneys for Appellant,
Satius Holding, Inc.

CERTIFICATE OF COMPLIANCE

1. This brief complies with the type-volume limitation of Fed. Cir. R. 32(b)(1) because this brief contains 3,235 words, exclusive of the items exempted by Fed. R. App. P. 32(f) and Fed. Cir. R. 32(b)(2).

2. This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because this brief has been prepared in a proportionally spaced typeface using Microsoft Word in Garamond 14 point font.

Dated: September 5, 2025

/s/ Jeffrey Price
Jeffrey Price