

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

ONE-E-WAY, INC.,
Appellant

v.

INTERNATIONAL TRADE COMMISSION,
Appellee

**SONY CORPORATION, SONY CORPORATION OF
AMERICA, SONY ELECTRONICS, INC., BLUEANT
WIRELESS PTY, LTD., BLUEANT WIRELESS, INC.,
CREATIVE TECHNOLOGY LTD., CREATIVE LABS,
INC., GN NETCOM A/S,**
Intervenors

2016-2105

Appeal from the United States International Trade
Commission in Investigation No. 337-TA-943.

Decided: June 12, 2017

DOUGLAS GLEN MUEHLHAUSER, Knobbe, Martens, Ol-
son & Bear, LLP, Irvine, CA, argued for appellant. Also
represented by CAMERON JAHANSOUZ, ALAN GRAYSON
LAQUER, PAYSON J. LEMEILLEUR.

MEGAN MICHELE VALENTINE, Office of the General Counsel, United States International Trade Commission, Washington, DC, argued for appellee. Also represented by DOMINIC L. BIANCHI, WAYNE W. HERRINGTON.

JOHN FLOCK, Andrews Kurth Kenyon LLP, New York, NY, argued for all intervenors. Intervenors Sony Corporation, Sony Corporation of America, Sony Electronics, Inc., also represented by KSENIA TAKHISTOVA; PAUL T. QUALEY, AIMEE NOELLE SOUCIE, Washington, DC.

DUANE H. MATHIOWETZ, LeClair Ryan, San Francisco, CA, for intervenors Blueant Wireless Pty, Ltd., Blueant Wireless, Inc. Also represented by PATRICIA LYNN PEDEN.

JONATHAN DANIEL BAKER, Farney Daniels PC, San Mateo, CA, for intervenors Creative Technology Ltd., Creative Labs, Inc. Also represented by MICHAEL D. SAUNDERS, GURTEJ SINGH.

WILLIAM B. NASH, Haynes and Boone LLP, San Antonio, TX, for intervenor GN Netcom A/S. Also represented by JASON WAYNE WHITNEY; GLENN WESTREICH, San Jose, CA.

Before PROST, *Chief Judge*, WALLACH, and STOLL, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* STOLL.

Dissenting opinion filed by *Chief Judge* PROST.

STOLL, *Circuit Judge*.

The International Trade Commission found the claim term “virtually free from interference” indefinite and invalidated the asserted claims of One-E-Way’s patents. Because we conclude that the term “virtually free from interference,” as properly interpreted in light of the

specification and prosecution history, would inform a person of ordinary skill in the art about the scope of the invention with reasonable certainty, we reverse.

BACKGROUND

I.

One-E-Way filed a complaint with the International Trade Commission accusing, among others, Respondents Sony Corporation; Sony Corporation of America; Sony Electronics, Inc.; BlueAnt Wireless Pty, Ltd.; BlueAnt Wireless, Inc.; Creative Technology Ltd.; Creative Labs, Inc.; and GN Netcom A/S (collectively, “Respondents”) of infringing two of its related patents, U.S. Patent Nos. 7,865,258 and 8,131,391. One-E-Way asserted, *inter alia*, claim 8 of the ’258 patent and claims 1, 3–6, and 10 of the ’391 patent.

II.

Both patents disclose a wireless digital audio system designed to let people use wireless headphones privately, without interference, even when multiple people are using wireless headphones in the same space. ’258 patent, Abstract.¹ The specification explains that previous wireless digital audio systems did not, among other things, provide “private listening without interference where multiple users occupying the same space are operating wireless transmission devices.” *Id.* at col. 1 ll. 15–49. The specification further explains that the prior art “audio systems ma[de] use of electrical wire connections between the audio source and the headphones to accomplish private listening to multiple users.” *Id.* at col. 1 ll. 40–42.

¹ Because the ’258 and ’391 patents share the same specification, we cite only to the ’258 patent, with the understanding that these citations also refer to the corresponding sections of the ’391 patent.

The patents purport to solve these problems in the prior art by disclosing a digital wireless audio system that ensures private listening. Specifically, the patent specification proposes changing the way prior art systems sent and processed the wireless signal. It suggests sending a digitally encoded signal to ensure each user can independently access his or her transmission. *Id.* at col. 3 ll. 16–18. It further suggests processing the signal with a fuzzy logic detection subsystem to enhance signal clarity. *Id.* at col. 3 ll. 40–43, 56–59. These and other improvements enable a user “to listen (privately) to high fidelity audio music, using any of the audio devices listed previously, without the use of wires, and without interference from any other receiver headphone . . . user, even when operated within a shared space.” *Id.* at col. 3 ll. 28–32.

III.

At the Commission, the parties disputed whether the claim term “virtually free from interference” was indefinite. While the term is present in all the asserted claims, we reproduce claim 8 of the ’258 patent below as illustrative:

8. A portable wireless digital audio system for digital transmission of an original audio signal representation from a portable audio source to a digital audio headphone, said portable wireless digital audio system comprising:

a portable digital audio transmitter configured to couple to said portable audio source and transmitting a unique user code bit sequence with said original audio signal representation in packet format, said digital audio transmitter comprising:

an encoder operative to encode said original audio signal representation to reduce intersymbol interference; and

a digital modulator configured for independent code division multiple access (CDMA) communication operation; and said portable digital audio transmitter configured for direct digital wireless communication with said digital audio headphone, said digital audio headphone comprising:

a direct conversion module configured to capture packets embedded in the received spread spectrum signal, the captured packets corresponding to the unique user code bit sequence;

a digital demodulator configured for independent CDMA communication operation;

a decoder operative to decode the applied reduced intersymbol interference coding of said original audio signal representation;

a digital-to-analog converter (DAC) generating an audio output of said original audio signal representation; and

a module adapted to reproduce said generated audio output, said audio having been wirelessly transmitted from said portable audio source *virtually free from interference* from device transmitted signals operating in the portable wireless digital audio system spectrum.

Id. at col. 7 l. 62 – col. 8 l. 27 (emphasis added).

Respondents and the Commission’s Office of Unfair Import Investigation (“the Staff”) both asserted that “virtually free from interference” was indefinite. One-E-Way, to the contrary, proposed that the term meant “free from interference such that eavesdropping on

device transmitted signals operating in the . . . wireless digital audio system spectrum cannot occur.” J.A. 11454. As the administrative law judge explained, One-E-Way contended that “the specifications of the asserted patents provide ‘abundant guidance’ to one of ordinary skill in the art” to understand that “virtually free from interference” requires “that users of the invention do not hear each other’s transmissions.” J.A. 12927. The ALJ conducted a claim construction hearing and issued a decision finding “virtually free from interference” indefinite under 35 U.S.C. § 112. J.A. 12921–30.

Respondents filed a motion for summary determination that the term “virtually free from interference” is indefinite, which the ALJ granted. J.A. 6–93. The ALJ concluded that the “term ‘virtually free from interference’ is not defined in the Asserted Patents or their history” and does not “have an understood meaning in the relevant art.” J.A. 87. The ALJ explained that he found “virtually free from interference” to be indefinite because one of ordinary skill in the art had “no guidepost in the intrinsic or extrinsic evidence from which [she] could discern the scope of the limitation.” J.A. 88.

One-E-Way petitioned the Commission to review the ALJ’s summary-determination order. J.A. 2. The Commission agreed with the ALJ that “virtually free from interference” was indefinite. *Id.* The Commission thus affirmed the ALJ’s order.

One-E-Way appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(6).

DISCUSSION

We review the Commission’s grant of summary determination de novo. *Amgen, Inc. v. Int’l Trade Comm’n*, 565 F.3d 846, 849 (Fed. Cir. 2009). “Indefiniteness is a question of law that we review de novo, subject to a determination of underlying facts.” *Akzo Nobel Coatings*,

Inc. v. Dow Chem. Co., 811 F.3d 1334, 1343 (Fed. Cir. 2016) (internal citation omitted). We presume that patents are valid, so “[a]ny fact critical to a holding on indefiniteness . . . must be proven by the challenger by clear and convincing evidence.” *Cox Commc’ns, Inc. v. Sprint Commc’n Co. LP*, 838 F.3d 1224, 1228 (Fed. Cir. 2016) (alteration in original) (quoting *Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003)); *see also* 35 U.S.C. § 282.

I.

The Patent Act requires inventors to claim their invention in “full, clear, concise, and exact terms.” 35 U.S.C. § 112. This indefiniteness requirement is “part of the delicate balance the law attempts to maintain between inventors, who rely on the promise of the law to bring the invention forth, and the public, which should be encouraged to pursue innovations, creations, and new ideas beyond the inventor’s exclusive rights.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002). This balance recognizes that all claims suffer from “the inherent limitations of language,” but also that claims must “be precise enough to afford clear notice of what is claimed.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2128–29 (2014). This balance permits “[s]ome modicum of uncertainty” to “ensur[e] the appropriate incentives for innovation,” but it also provides a “meaningful definiteness check” to prevent patent applicants from “inject[ing] ambiguity into their claims.” *Id.* (internal quotations omitted). Recognizing this balance, the Supreme Court articulated the test for indefiniteness as “requir[ing] that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Id.* at 2129. This test “mandates clarity, while recognizing that absolute precision is unattainable.” *Id.*

As long as claim terms satisfy this test, relative terms and words of degree do not render patent claims invalid. *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014). To determine whether a particular term is indefinite, “[o]ne must bear in mind . . . that patents are ‘not addressed to lawyers, or even to the public generally,’ but rather to those skilled in the relevant art.” *Nautilus*, 134 S. Ct. at 2128–29 & n.5 (quoting *Carnegie Steel Co. v. Cambria Iron Co.*, 185 U.S. 403, 437 (1902), and citing *Eibel Process Co. v. Minn. & Ont. Paper Co.*, 261 U.S. 45, 58, 65–66 (1923)). For example, in 1923, the Supreme Court “up[h]eld as definite a patent for an improvement to a paper-making machine, which provided that a wire be placed at a ‘high’ or ‘substantial elevation.’” *Nautilus*, 134 S. Ct. at 2129 n.5 (citing *Eibel Process*, 261 U.S. at 58). The Court explained that these relative terms—“substantial” and “high”—were sufficiently definite because “readers . . . skilled in the art of paper making and versed in the use of the . . . machine’ would have ‘no difficulty . . . in determining . . . the substantial [elevation] needed’ for the machine to operate as specified.” *Id.* (quoting *Eibel Process*, 261 U.S. at 65–66).

This historical practice continues today. In one of our post-*Nautilus* decisions, we upheld as definite a claim that employed the relative term “substantially centered.” *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983, 1002 (Fed. Cir. 2015), *rev’d and remanded on other grounds*, 137 S. Ct. 429 (2016). The claim term, used in a patent relating to a user-interface feature, required that a selected portion of an electronic display be enlarged and “substantially centered” on the display. *Id.* (quoting U.S. Patent No. 7,864,163 (Claim 50)). The patent challenger had failed to adduce any evidence showing that the person of ordinary skill would lack reasonable certainty in the claim’s scope, while the patent owner had presented expert testimony that skilled artisans would interpret “substantially centered” in the patent “to mean essential-

ly centered except for a marginal spacing to accommodate ancillary graphical user interface elements.” *Id.* at 1003. Moreover, the expert’s suggested interpretation of “substantially centered” paralleled the patent specification’s disclosure. *Id.* Relying on these disclosures, the court concluded that “substantially centered” was not indefinite. *Id.*

II.

Here, we must determine whether the term “virtually free from interference” is indefinite.² The Commission determined that the term is indefinite, and both the Government and Respondents urge affirmance of that conclusion on appeal. One-E-Way proposes that the claim term, viewed in light of the specification and prosecution history, should be interpreted to mean “free from interference such that eavesdropping on device transmitted signals operating in the . . . wireless digital audio system spectrum cannot occur.” J.A. 11454; Appellant Br. 13. Put simply, One-E-Way proposes that “virtually free from interference” prevents one user from eavesdropping on another. We agree.

A.

First, the claims require that the system user’s audio is “virtually free from interference” from signals transmitted by other users’ wireless audio transmission devices. For example, claim 8 of the ’258 patent requires a “digital audio system comprising . . . a module adapted to repro-

² While the parties both focus their argument on whether the term “virtually free from interference” is indefinite, the entire disputed claim term differs slightly in each of the asserted claims, but it takes the following general form: “virtually free from interference from device transmitted signals operating in the [wireless digital audio system] spectrum.” J.A. 11454.

duce . . . generated audio output, said audio having been wirelessly transmitted from said portable audio source *virtually free from interference* from device transmitted signals operating in the portable wireless digital audio system spectrum.” ’258 patent col. 7 l. 62 – col. 8 l. 47 (Claim 8) (emphasis added). This claim requires that the headphone’s audio output be “virtually free from interference.” And the claim names the source of this interference: signals transmitted by other wireless audio transmission devices.

That the claims require a listener’s audio enjoyment to be “virtually free from interference” from other wireless-headphone listeners is not surprising, particularly in light of the specification’s disclosure. As explained above, the specification discloses a system that enables wireless headphone users to enjoy their audio privately, without interference.

The specification repeatedly highlights this private-listening feature of the claimed invention. And in each repetition, the specification states that private listening is “without interference” from other users’ wireless audio transmission devices. For instance, the background of the invention emphasizes that the prior art needs a system like the one disclosed in the ’258 patent capable of “private listening without interference where multiple users occupying the same space are operating wireless transmission devices.” *Id.* at col. 1 ll. 38–40. The summary of the invention touts the claimed invention as being capable of “private listening without interference from other users or wireless devices.” *Id.* at col. 1 ll. 64–67. The detailed description additionally features an embodiment capable of private listening “without interference from any other receiver headphone . . . user, even when operated within a shared space.” *Id.* at col. 3 ll. 30–32. And the abstract underscores the patented system’s ability to deliver “private audio enjoyment without interference from other users of independent wireless digital

transmitters and receivers sharing the same space.” *Id.* at Abstract.

Taken together, the specification makes clear that private listening is listening without interference from other users. In other words, the interference would cause one user to hear another user’s wireless transmissions, potentially interfering with the utility of a device. The patented invention sought to prevent such interference, making it possible for wireless-headphone users to listen in private. *Id.* at col. 1 ll. 43–49.

B.

The prosecution history confirms One-E-Way’s interpretation of “virtually free from interference.” During prosecution of the related parent patent,³ the applicant explained that the term “virtually free from interference” results in the ability to listen without eavesdropping:

As is agreed to by the Applicant and Examiner, most recently discussed during the teleconference with the Examiner on June 3, 2009, Lavelle [prior art] does not teach, disclose, or suggest such a relationship where *interference is virtually eliminated (e.g. where eavesdropping cannot occur)* where multiple receivers and transmitters occupy the same environment.

J.A. 15271 (emphasis added).

³ We have often held that the meaning of claim terms in one patent can be informed by statements made during prosecution of other patents in the same family. We have explained, for example, that “past and future prosecution of related patents may be relevant to the construction of a given claim term.” *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1343 n.5 (Fed. Cir. 2015).

The parties dispute, however, the relevance of this statement in the prosecution history. The Government and Respondents assert that this prosecution history statement is irrelevant to the meaning of “virtually free from interference” because it was made by the applicant regarding claims reciting the term “free from interference,” rather than “*virtually* free from interference.” J.A. 15271 (discussing amendments to claims 24–27 in parent patent application 12/144,729). Because the prosecution history statement referred to “virtually free from interference” and the claims referred to “free from interference,” the ALJ found “it impossible to agree with Complainant that one of ordinary skill in the art would conclude that the applicant was providing guidance as to the meaning and scope of a different limitation (i.e., ‘virtually free from interference’).” J.A. 10.

We conclude, however, that the person of ordinary skill would have found this statement in the prosecution history instructive. First, the “free from interference” claims were not the only ones pending at the time applicants filed the response. Rather, there were other pending claims reciting “virtually free from interference,” namely already-allowed claims 12 and 16. J.A. 15296, 15329–31.

Moreover, the very language of the prosecution history statement employs the term “virtually.” The applicant stated that Lavelle does not teach that “interference is virtually eliminated (e.g. where eavesdropping cannot occur).” J.A. 15271. On its face, this statement suggests that interference, virtually eliminated, results in listening without eavesdropping. As noted above, this understanding is entirely consistent with the specification, which suggests that “free from interference” provides private listening. See ’258 patent col. 1 ll. 64–67. This understanding is also consistent with the testimony of One-E-Way’s technical expert, who explained that “[t]he concept of a user not being able to eavesdrop on the device

transmissions of another user is consistent with the purpose (“private listening”) and the mechanisms (separation of users by recognizing other transmissions as ‘noise’) disclosed in the patents.” J.A. 12922 (alteration in original) (ALJ’s order construing terms of the asserted patents and acknowledging expert testimony).

The context of the prosecution history does not mandate a different reading. The examiner had rejected the claims over Lavelle. Lavelle, according to the applicant, did not disclose the claimed audio “free from interference.” That might have been enough for the applicant’s amendment to succeed, but the applicant appears to have made an even bolder claim, namely that Lavelle is not even “virtually free from interference,” let alone totally free. In other words, Lavelle does not meet the “free from interference” claim term because it does not disclose listening that is even *virtually* free.

C.

Respondents further argue that the term “virtually free from interference” does not “inform one of ordinary skill in the art as to any particular level of interference or as to how much interference is permitted.” Intervenors’ Br. 13. The ALJ similarly found that the term “is indefinite . . . because one of ordinary skill in the art would not be able to discern with reasonable certainty what amount or level of interference constitutes ‘virtually free from interference.’” J.A. 12925 (ALJ’s order construing terms of the asserted patents). This finding was based in part on Respondents’ assertion “that there are known ways to define levels of interference in the ISM band, such as signal to noise ratios, packet errors and bit rate errors, but that the specifications give no examples or descriptions and have no relevant figures relating to levels of interference.” J.A. 12923 (ALJ’s summary of Respondents’ position).

While One-E-Way did not define the scope of the term “virtually free from interference” in a technical sense as both the ALJ and Respondents would seemingly require, the lack of a technical definition does not render the term indefinite. As demonstrated by the specification and prosecution history discussed above, the applicant used the term “interference” in a non-technical manner to simply mean that the wireless headphone user is able to listen without eavesdropping. This interpretation is consistent with the specification and prosecution history and provides a clear line such that it informs those skilled in the art about the scope of the invention with reasonable certainty. For the purposes of definiteness, the term is not required to have a technical measure of the amount of interference.

D.

Finally, we consider the Government and Respondent’s claim that “virtually free from interference” must be indefinite because One-E-Way fails to identify how it differs in scope from claims that recite the term “free from interference.”

At the outset, we note that One-E-Way has not asserted claims that recite the term “free from interference” here. The asserted claims recite only “virtually free from interference.” We are aware of no precedent requiring us to construe the “free from interference” term where, as here, the term is absent from any asserted claim.

Nevertheless, without deciding the meaning of the term “free from interference,” an understanding of the relative meaning of these terms is readily apparent. Both terms relate, of course, to the ultimate aim of the patented invention: providing private listening without interference from signals transmitted by other users’ wireless audio transmission devices. *E.g.*, ’258 patent, Abstract. As we have explained, the claims, specification, and prosecution history show that “virtually free from inter-

ference” means the ability to listen without eavesdropping such that a user is not able to listen to another user’s transmissions in the wireless digital audio system spectrum. When the patented system works, the listener will, for example, hear only their music, but not that of others. The claims recite this listening-without-eavesdropping feature as audio “virtually free from interference.”

Audio “free from interference” will be a bit better than audio “virtually free from interference,” in the same way something “free from defects” will be a bit better than something “substantially” or “virtually free from defects.” It follows that one of ordinary skill might expect that because audio “virtually free from interference” is free from eavesdropping, audio “free from interference” will be, at a minimum, free from eavesdropping as well.

CONCLUSION

We conclude that a person of ordinary skill in the art, viewing the claim term “virtually free from interference” in light of the specification and prosecution history, would be informed of the scope of the invention with reasonable certainty. While we note that “virtually” is a term of degree, one that slightly expands the scope of the term “free from interference,” the inclusion of “virtually” in these claims does not render them indefinite. *See Eibel Process*, 261 U.S. at 58. The term “virtually” does not expand “free from interference” without end: it simply requires that the claimed invention does not allow for eavesdropping. A system that permits eavesdropping is no longer “free” or “virtually free from interference”; that system is no longer captured by the asserted patents’ claims. Thus, the term “virtually free from interference” satisfies the requirements of § 112 ¶ 2.

We reverse the Commission's determination that the asserted claims are indefinite and remand to the Commission for further proceedings consistent with this opinion.

REVERSED AND REMANDED

COSTS

Costs to Appellant.

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2016-2105

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Commission in Investigation No. 337-TA-943.

PROST, *Chief Judge*, dissenting.

In finding that the claim limitation-at-issue—
“virtually free from interference”—meets the definiteness
requirement, the majority relies primarily, if not exclu-
sively, on a single, non-definitional remark from the
prosecution history and ignores intrinsic evidence that
injects ambiguity. The written description lacks any
reference to the disputed limitation. And One-E-Way

does not submit that the limitation-at-issue has any ordinary meaning to a skilled artisan.

By relying so heavily on the cherry-picked prosecution remark, the majority’s decision significantly relaxes the law on indefiniteness against the tide of the Supreme Court’s recent decision in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014). It also flouts the well-established principle that “the written description is key to determining whether a term of degree is indefinite.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1378 (Fed. Cir. 2017). Even if it may be possible to “ascribe some meaning” to the disputed limitation, the Supreme Court has held that more is required. *Nautilus*, 134 S. Ct. at 2130. Here, the intrinsic evidence falls well short of providing a skilled artisan “reasonable certainty” about the metes and bounds of the disputed limitation, especially as distinguished from the narrower limitation “free from interference” (without the modifier “virtually”). *Id.* at 2124.

I therefore respectfully dissent from the majority’s conclusion reversing the Commission’s indefiniteness determination.

I

Under the definiteness requirement, a patent applicant must conclude the specification with “one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.”¹ 35 U.S.C. § 112, ¶ 2. The Supreme Court

¹ The language of 35 U.S.C. § 112, ¶ 2 was replaced with § 112(b) by § 4(c) of the America Invents Act (“AIA”), and § 4(e) makes that change applicable “to any patent application that is filed on or after” September 16, 2012. Pub. L. No. 112-29, § 4, 125 Stat. at 296–97. Because the

has explained that this requirement serves an important notice function, ensuring that a patent “appris[es] the public of what is still open to them.” *Nautilus*, 134 S. Ct. at 2129 (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996)). It should also serve as a “meaningful . . . check” against “foster[ing] [an] innovation-discouraging ‘zone of uncertainty.’” *Id.* at 2129–30 (quoting *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942)). In resolving the level of precision required, the Supreme Court held that patent claims are invalid for indefiniteness if, when read in light of the specification and the prosecution history, they “fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Id.* at 2124.

The parties agree that “virtually free from interference” is a “term of degree.” Appellant’s Opening Br. 11; Government’s Br. 19; Respondents’ Br. 13.² Terms of degree are not “inherently indefinite,” and “absolute or mathematical precision is not required.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014). Nevertheless, the claims, read in context “must provide objective boundaries for those of skill in the art.” *Id.* at 1371 (citing *Nautilus*, 134 S. Ct. at 2130 & n.8). “[P]ast and future prosecution of related patents may be relevant to the construction of a given claim term.” *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1343 n.5 (Fed. Cir. 2015). But as noted above, the written description is “key” to the indefiniteness inquiry for a term of degree. *Sonix*, 844 F.3d at 1378; see also *Liberty Ammunition, Inc. v. United States*, 835 F.3d 1388, 1395 (Fed.

applications resulting in the patents-at-issue were filed before that date, the pre-AIA version of § 112 applies.

² Following the majority’s convention, I refer to the Commission as the “Government” when referring to its role as a party on appeal.

Cir. 2016) (“[T]he specification is the single best guide to the meaning of a disputed term and usually, it is dispositive.” (alteration and internal quotation marks omitted)).

One-E-Way did not submit any extrinsic evidence to argue that “virtually free from interference” has any ordinary meaning to a person of ordinary skill in the art. The indefiniteness inquiry therefore rests on the intrinsic evidence.

A

One-E-Way relies heavily on a single statement made during prosecution of U.S. Patent No. 7,684,885 (“885 patent”), which shares a common specification with the patents-at-issue. Specifically, in traversing a rejection, the patentee stated that the prior art “does not teach, disclose, or suggest . . . a relationship where interference is *virtually eliminated* (e.g. where eavesdropping cannot occur) where multiple receivers and transmitters occupy the same environment.” J.A. 15271 (emphasis added). One-E-Way submits that this remark “inform[s]” a person of ordinary skill that “virtually free from interference” refers to “no eavesdropping.” Appellant’s Opening Br. 9, 15. The Government and Respondents argue that the remark is entirely irrelevant because it related to claims that do not recite the “virtually free from interference” limitation.

For the reasons explained by the majority (and contrary to the Commission’s decision), I agree that the prosecution history statement, read in context, is relevant to the meaning of “virtually free from interference.” But I disagree that it, alone or with the rest of the intrinsic evidence, informs with the reasonable certainty needed to satisfy the definiteness requirement.

One-E-Way concedes that the patentee was not acting as his own lexicographer to define “virtually free from interference” to mean “no eavesdropping.” Oral Argu-

ment 9:08–9:41, <http://oralarguments.cafc.uscourts.gov/mp3/2016-2105.mp3>. Indeed, One-E-Way originally proposed construing “virtually free from interference” to mean “for practical purposes free from extraneous energy artifacts impeding the desired signal.” J.A. 11252. By doing so, One-E-Way implicitly recognized that “no eavesdropping” is not the only way that a skilled artisan might understand the disputed limitation in view of the intrinsic evidence. It was not until the Government argued that the term is indefinite that One-E-Way changed its proposed construction to rely on the statement from the prosecution history. See J.A. 11269–71. That statement is the only place in the intrinsic evidence where the concept of “eavesdropping” ever appears. Therefore, though the majority dresses up its analysis with references to the claims and specification, its conclusion that the disputed limitation “means the ability to listen without eavesdropping,” Majority Op. 15, necessarily hinges on the prosecution history statement.

One-E-Way acknowledges that the prosecution statement provides “no eavesdropping” merely as an example of when “virtually free from interference” might be satisfied. Oral Argument 10:47–11:54. As Respondents argue, the use of “e.g.” in the prosecution statement supports that reading. But merely “identify[ing] *some standard* for measuring the scope of [a] phrase” is not sufficient. *Interval Licensing*, 766 F.3d at 1373 (internal quotation marks omitted). The majority runs afoul of the Supreme Court’s warning against “viewing matters *post hoc*” to “ascribe *some* meaning to a patent’s claims.” *Nautilus*, 134 S. Ct. at 2130; cf. *Interval Licensing*, 766 F.3d at 1374 (stating that it is inappropriate to “cull out a single ‘e.g.’ phrase from a lengthy written description to serve as the exclusive definition of a facially subjective claim term”).

To be sure, we have held a term to be definite where it is defined through specific examples in the written description or where an expert opines on the guidance of a

detailed embodiment provided in the written description. *See, e.g., Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1293 (Fed. Cir. 2017) (relying on figures and examples in the specification); *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983, 1002 (Fed. Cir. 2015), *rev'd and remanded on other grounds*, 137 S. Ct. 429 (2016) (relying on expert's explanation of an illustrated embodiment). Neither scenario, however, is before us. One-E-Way has not cited any cases finding a term to be definite based on a single example in the prosecution history of a related patent. I would decline to do so here.

B

One-E-Way also relies on the prosecution history of another related patent, U.S. Patent No. 9,107,000 ("000 patent"), to support its construction of "virtually free from interference." The majority does not include this portion of the prosecution history in its analysis. Perhaps that is because this part of the intrinsic evidence injects ambiguity, rather than clarity, into the disputed limitation.

During examination of the '000 patent, the examiner stated: "[T]he CDMA implementation of the combination requires a device be paired to a particular 'code,' which is the entire basis of CDMA. This code enables transmission and reception *separate from other CDMA transmission, i.e. 'virtually free from interference.'*" J.A. 5962 (emphasis added). One-E-Way argues that the examiner apparently had no trouble understanding the meaning of the disputed limitation. It relies on this court's recent holding in *Sonix* that an examiner's understanding of a claim term "provide[s] evidence that a skilled artisan did understand the scope of th[e] invention with reasonable certainty." 844 F.3d at 1380.

But as the Government and Respondents correctly observe, that decision expressly noted that "application by [an] examiner . . . do[es] not, on [its] own, establish an objective standard." *Id.* Rather, in *Sonix*, this court

relied primarily on written description support. *Id.* at 1378–79 (concluding that the written description provided sufficient level of detail). As explained below, such support is absent in this case.

Furthermore, the examiner’s statement does not refer to eavesdropping, only to separating transmissions. It is not clear how separating transmissions is related, if at all, to no eavesdropping. One-E-Way does not argue that those two concepts are synonymous, only that they are “consistent.” Appellant’s Opening Br. 21. But even assuming they are consistent, there is no indication that a person of ordinary skill would know which concept is being used to define “virtually free from interference.”

The examiner’s statement during prosecution of the ’000 patent therefore fails to demonstrate definiteness or advance One-E-Way’s “no eavesdropping” construction. If anything, the examiner’s statement adds uncertainty to the scope of “virtually free from interference” and supports a determination of indefiniteness.

II

The majority purports to also rely on the common specification of the patents-at-issue to bolster its definiteness conclusion. That specification, however, does not explain, explicitly or implicitly, the limitation “virtually free from interference.” Instead, it discusses “*private listening without interference* from other users or wireless devices.” ’258 patent col. 1 l. 65 (emphasis added).³

³ For consistency with the majority opinion, I cite to the ’258 patent when discussing the common specification.

A

Notably, One-E-Way does not argue that the specification discloses any definition or specific embodiments of “virtually free from interference.” Instead, One-E-Way argues in the negative that nothing in the specification “provide[s] a contrary or inconsistent indication” to the prosecution history remark regarding “no eavesdropping.” Appellant’s Opening Br. 14. For example, One-E-Way contends that the specification’s use of “without interference” allows for some interference—i.e., it does not require zero interference—but stops short of saying that “without interference” is synonymous with “virtually free from interference.”⁴ *Id.* at 23.

The phrase “without interference” is an absolute term like the phrase “free from interference” (without the modifier “virtually”) that appears in non-asserted claims. *See, e.g.*, ’885 patent col. 6 ll. 44–45, col. 8 ll. 4–5, col. 8 ll. 29–31. Adding the modifier “virtually” provides some degree of broadening that is not captured, on its face, by the phrase “without interference.” Therefore, under a plain reading, the written description’s discussion of “without interference” maps onto the limitation “free from interference,” not the disputed limitation.

⁴ At oral argument, One-E-Way submitted for the first time that “without interference” means “virtually free from interference.” Oral Argument 6:50–7:27. That argument is waived for not being developed in the opening brief. *See SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1319 (Fed. Cir. 2006) (“Our law is well established that arguments not raised in the opening brief are waived.”). Even if it were not waived, I find this argument—which even the majority does not adopt—unpersuasive for the reasons discussed.

The majority relies on the phrase “private listening” from the written description, which it asserts is “entirely consistent” with the concept of “no eavesdropping” mentioned during prosecution. Majority Op. 12. But the specification’s discussion of “private listening” only relates to “without interference,” which is not the same as “virtually free from interference.” When pressed at oral argument, One-E-Way itself declined to equate “private listening” with “no eavesdropping,” only going as far as to say that they can “coexist.” Oral Argument 15:41–18:01; *see also* Appellant’s Opening Br. 10 (asserting vaguely that “private listening and eavesdropping go hand-in-hand”). Just as it is unclear how the concept of separating transmissions is related to eavesdropping, it is also unclear how the concept of private listening is related to eavesdropping.

Therefore, the written description’s discussion of “without interference” and “private listening” do not inform the scope of “virtually free from interference.”

B

Furthermore, the majority fails to construe the meaning of the modifier “virtually,” which undisputedly broadens the scope of the phrase “free from interference.” That is because the intrinsic evidence lacks any such disclosure.

Even if we need not separately construe “free from interference,” we cannot ignore its relevance to the inquiry before us. *Cf. Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”). Adding the modifier “virtually” provides the quintessential wiggle room to reach some audio transmissions that are not strictly “free from interference.” And One-E-Way concedes that under the doctrine of claim differentiation, “virtually” must carry significance in this context. *See* Appellant’s Open-

ing Br. 8, 17; Oral Argument 1:58–2:09. Yet, as discussed above, the written description only delineates the claimed invention in terms of audio free from interference. The use of “virtually” in the claim language is therefore nebulous and does not indicate how much more interference is acceptable to satisfy the disputed limitation.

The majority makes no attempt to construe the import of the word “virtually.” The closest it gets to clarity is to characterize audio that is “free from interference” as being “a bit better” than audio that is “virtually free from interference.” Majority Op. 15. To be sure, One-E-Way relies on the specification’s reference to a technique called “fuzzy logic detection” to argue that the written description is not limited to audio with strictly zero interference. *See* ’258 patent col. 3 ll. 32–35. Even if that is true, however, One-E-Way does not submit that the use of fuzzy logic detection distinguishes audio “virtually free from interference” and audio “free from interference.” Indeed, it cannot be the point of distinction because the ’885 patent includes claims that recite the use of fuzzy logic detection for both levels of interference. *See, e.g.*, ’885 patent col. 6 l. 60–col. 7 l. 7, col. 7 l. 57–col. 8 l. 7, col. 8 ll. 21–38.

Therefore, nothing in the intrinsic evidence clarifies the degree of broadening attached to the word “virtually” or provides a skilled artisan with reasonable certainty about the objective boundaries of the disputed limitation.

III

I recognize that modifiers like “virtually” are sometimes used in claim limitations to provide some leeway in scope. But a skilled artisan reviewing the patents-at-issue must still be able to determine the objective boundaries of the limitation with reasonable certainty. *Nautilus*, 134 S. Ct. at 2124. Here, the intrinsic evidence, at best, mentions one example for determining when audio is “virtually free from interference,” and that example only

appears in a single “e.g.” remark from the prosecution history of a related patent. Viewed alongside the remainder of the intrinsic evidence, which either remains silent or injects ambiguity, there is simply not enough for a person of ordinary skill to determine the boundaries of the limitation, much less the import of the word “virtually.” The majority’s effort to attribute some meaning to the disputed limitation falls far short of the level of clarity required by the Supreme Court under *Nautilus* and skirts the public-notice function of the definiteness requirement.

I would thus affirm the Commission’s determination that the claim limitation “virtually free from interference” is indefinite. For the foregoing reasons, I respectfully dissent.