

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

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**CLEARONE, INC.,**  
*Appellant*

v.

**SHURE ACQUISITION HOLDINGS, INC.,**  
*Appellee*

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2021-1517

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Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2019-00683.

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Decided: June 1, 2022

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MATTHEW C. PHILLIPS, Laurence & Phillips IP Law, Washington, DC, argued for appellant. Also represented by KEVIN BRENT LAURENCE, DEREK MEEKER; XINLIN LI MORROW, The Morrow Firm, Los Angeles, CA; CHRISTINA MARIE RAYBURN, Hueston Hennigan LLP, Newport Beach, CA.

JOSEPH MICHAEL SCHAFFNER, Finnegan Henderson Farabow Garrett & Dunner, LLP, Reston, VA, argued for appellee. Also represented by ALEXANDER MICHAEL BOYER, ELLIOT COOK, J. DEREK MCCORQUINDALE; ERIKA ARNER,

Washington, DC; VLADIMIR AREZINA, VIA Legal, LLC, Chicago, IL.

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

MOORE, *Chief Judge*.

ClearOne, Inc. appeals from an *inter partes* review final written decision holding the self-similar configuration term in substitute claim 57 of U.S. Patent No. 9,565,493 not indefinite. ClearOne also appeals the Patent Trial and Appeal Board’s separate written decision denying its request to file a motion for sanctions against Shure Acquisition Holdings, LLC. For the reasons discussed below, we affirm.

#### BACKGROUND

Shure owns the ’493 patent, which relates to arrays of microphones and housings for the arrays so that the arrays and housings may be fitted into a drop ceiling grid. ’493 patent at Abstract, 1:6–9. The array is configured, in one embodiment, to “include[] a plurality of microphone transducers selectively positioned in a self-similar or fractal-like configuration, or constellation.” *Id.* at 3:66–4:1. For example, “this physical configuration can be achieved by arranging the microphones in concentric rings, which allows the array microphone to have equivalent beamwidth performance at any given look angle in a three-dimensional (e.g.,

X-Y-Z) space.” *Id.* at 4:3–7. An example array of microphones 106b is shown in ’493 patent Figure 5:

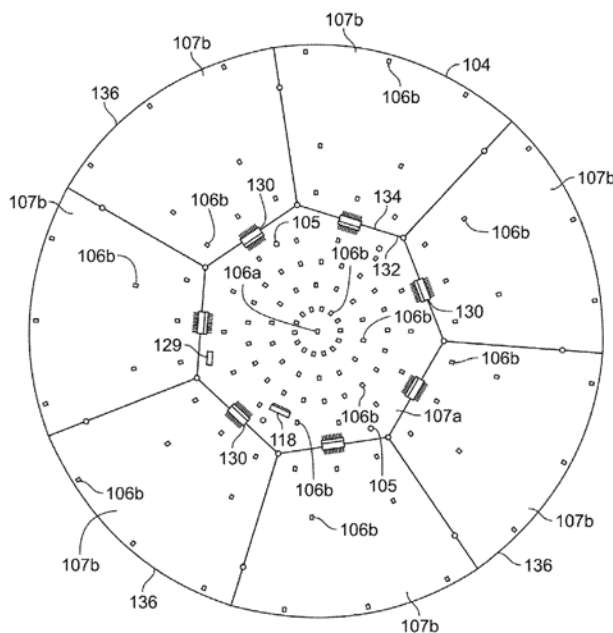


FIG. 5

During *inter partes* review (IPR), Shure moved to amend the claims of the ’493 patent and added independent claim 57, which recites in relevant part:

A microphone assembly comprising:

an array microphone comprising a plurality of microphones *arranged in a self-similar configuration . . . .*

J.A. 1040 (emphasis added).

The Board granted Shure’s motion to amend and concluded that a skilled artisan would understand “self-similar” to have had a well-known meaning and include the specification’s disclosure of “fractal-like[] configurations or constellations,” which does not create an ambiguity.

*ClearOne, Inc. v. Shure Acquisition Holdings, Inc.*, No. IPR2019-00683, 2020 WL 4742525, at \*45 (P.T.A.B. Aug. 14, 2020) (*FWD*).

ClearOne then requested rehearing and leave to file a sanctions motion against Shure, arguing Shure violated its duty to disclose material prior art. ClearOne explained that three weeks before the Board issued its FWD, Shure petitioned for post-grant review of U.S. Patent No. 10,728,653, which also relates to drop ceiling microphone arrays. '653 patent at Abstract; *see generally Shure Inc. v. ClearOne, Inc.*, No. PGR2020-00079, 2020 WL 4361034 (P.T.A.B. July 28, 2020) (*PGR Petition*). Shure asserted that all claims of the '653 patent would have been obvious over, *inter alia*, U.S. Patent Publication No. 2009/0173570 (Levit) and disclosed U.S. Patent Publication No. 2009/0173030 (Gulbrandsen) for background information purposes. *See generally PGR Petition*, 2020 WL 4361034. Shure did not disclose Levit or Gulbrandsen in the IPR of the '493 patent, including in its motion to amend. According to ClearOne, this was a violation of Shure's duty of disclosure warranting rehearing and sanctions. *See* J.A. 1565–72, 12010–18.

After ClearOne served its proposed sanctions motion on Shure and the parties participated in an oral hearing before the Board, the Board denied rehearing and did not authorize ClearOne to file a sanctions motion. *ClearOne, Inc. v. Shure Acquisition Holding, Inc.*, No. IPR2019-00683, 2020 WL 6434969, at \*4 (P.T.A.B. Nov. 2, 2020) (*Sanctions Decision*); *Clearone, Inc. v. Shure Acquisition Holdings, Inc.*, No. IPR2019-00683, 2020 WL 6479365, at \*2 (P.T.A.B. Nov. 3, 2020) (*Rehearing Denial*). The Board concluded that Shure did not violate its duty to disclose because, *inter alia*, Levit and Gulbrandsen were cumulative of references asserted by ClearOne in its IPR petition. *Sanctions Decision*, 2020 WL 6434969, at \*3. The Board reasoned that allowing ClearOne to file its sanctions motion would be little more than a second opportunity at

its IPR with the hindsight benefit of knowing the Board's views of the deficiencies in its invalidity contentions. *Id.*

ClearOne appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

#### DISCUSSION

Definiteness is a matter of claim construction, which is a legal determination we review de novo. *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311 (Fed. Cir. 2012); *HTC Corp. v. Cellular Commc'ns Equip., LLC*, 877 F.3d 1361, 1367 (Fed. Cir. 2017). Claim construction may be based on factual determinations by the Board, which we review for substantial evidence. *HTC Corp.*, 877 F.3d at 1367. Under 35 U.S.C. § 112(b), patent claims must “particularly point[] out and distinctly claim[] the subject matter” regarded as the invention. This requires that 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.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). Extrinsic evidence may help identify the scope of the claims. *Guangdong Alison Hi-Tech Co. v. Int'l Trade Comm'n*, 936 F.3d 1353, 1359–60 (Fed. Cir. 2019). Failure to meet this standard renders a claim invalid as indefinite. *Nautilus*, 572 U.S. at 901.

The Board determined that claim 57's self-similar configuration limitation is not indefinite. It reasoned that it has a well-known meaning and that a skilled artisan would understand the term to include the specification's example patterns, including “fractal-like[] configurations or constellations.” *FWD*, 2020 WL 4742525, at \*45. It also concluded that the specification's disclosure of a self-similar or fractal-like configuration does not create an ambiguity as to whether the patent “equates or contrasts the term ‘self-similar’ with the term ‘fractal-like.’” *Id.* The Board found, based on extrinsic dictionary definitions and expert testimony, that the specification does not deviate from the term's well-known meaning. *Id.*

Based on the intrinsic record alone, we conclude that the written description provides, with reasonable certainty, the scope of the term self-similar. It discloses an embodiment having “a plurality of MEMS microphones . . . arranged in a self-similar *or repeating* configuration comprising *concentric, nested rings* of microphones (e.g., the rings 910–922) surrounding a central microphone.” ’493 patent at 15:8–13 (emphasis added); *see id.* at Figs. 5, 9. It also refers to the microphones being arranged “in a fractal, or self-similar, configuration surrounding the central microphone.” *Id.* at 9:8–10. “[T]he microphones . . . can be arranged in concentric, circular rings of varying sizes” and at different “radial distances from the central microphone.” *Id.* at 9:25–34. The microphones may also be arranged in other repeating shapes, “such as . . . ovals, squares, rectangles, triangles, pentagons, or other polygons.” *Id.* at 12:19–21. Figure 9, reproduced below, illustrates an example of a self-similar arrangement of nested concentric circles. These disclosures show that self-similar configuration refers to repeating or fractal-like configurations, such as concentric rings, ovals, or other shapes. Accordingly, read in light of the specification, the term self-similar informs skilled artisans, with reasonable certainty, about the scope of the invention.

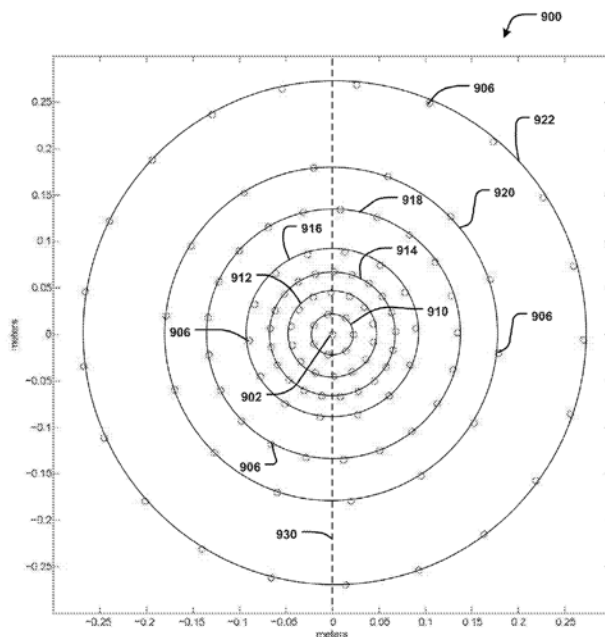


FIG. 9

ClearOne argues that the written description's disclosure of fractals, concentric circles, and repeating patterns confuses, rather than clarifies, what arrangements are self-similar because those examples must be understood as distinct from self-similar configurations. Appellant's Opening Br. 41–47. We do not agree. In context, all those disclosed patterns are examples of self-similar configurations, not of distinct embodiments. The phrases “self-similar or fractal-like” and “self-similar or repeating” are not juxtapositions; they equate self-similar to fractal-like or repeating patterns. And even if self-similar is broader than these examples, that does not make the term indefinite. *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1367 (Fed. Cir. 2017). We reject ClearOne's argument that the specification creates any ambiguity.

Moreover, substantial evidence supports the Board's finding that self-similar has a well-known meaning and confirms the scope of the invention in the written

description. One dictionary of record defines self-similar as “the quality or state of having an appearance that is invariant upon being scaled larger or smaller.” *FWD*, 2020 WL 4742525, at \*45 (quoting Merriam-Webster’s Collegiate Dictionary 1128 (11th ed. 2003)). And Dr. Begault, ClearOne’s own expert, testified that the term “refers to an object that is exactly or approximately similar to a part of itself (i.e., the whole has the same shape as one or more of the parts, which is also a characteristic of a *fractal*.)” J.A. 3835 ¶ 157 (emphasis in original). Further, his ability to determine that prior art disclosed a self-similar microphone configuration, J.A. 3853 ¶ 187, “further supports the conclusion that a skilled artisan did understand the term with reasonable certainty.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1380 (Fed. Cir. 2017). Based on this extrinsic evidence, a reasonable person could find that the term self-similar has a definite meaning. *See Guangdong*, 936 F.3d at 1361–62 (relying on dictionaries and expert testimony to confirm “objective boundaries” of claim term).

ClearOne’s arguments focus on self and similar separately as terms of degree and by posing a series of rhetorical questions to show its varying interpretations of the self-similar term. Appellant’s Opening Br. 39–47; Appellant’s Reply Br. 34–35. However, claim 57 does not use the term similar in isolation as a term of degree but in the context of a self-referential or self-repeating geometric pattern for configuring microphones in an array, as confirmed by claim 57’s limiting language that the configuration (i.e., the form or combination) is what must be self-similar.

ClearOne’s arguments for indefiniteness merely identify different ways one could interpret self-similar. Just because a term is susceptible to more than one meaning does not render it indefinite. “Such a test would render nearly every claim term indefinite so long as a party could manufacture a plausible construction.” *Neuro Corp. v. Bos. Sci. Corp.*, 955 F.3d 35, 41 (Fed. Cir. 2020). Because the intrinsic evidence informs, with reasonable certainty,



skilled artisans about the scope of the invention, and because substantial evidence supports that scope, we affirm the Board's holding that claim 57 is not indefinite.

We next address the Board's decision denying ClearOne's request for authorization to file a sanctions motion. We review questions of compliance with the Board's procedures for an abuse of discretion. *Intelligent BioSys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016). The Board abuses its discretion if its decision "(1) is clearly unreasonable, arbitrary, or fanciful; (2) is based on an erroneous conclusion of law; (3) rests on clearly erroneous fact finding; or (4) involves a record that contains no evidence on which the Board could rationally base its decision." *Id.* We conclude the Board did not abuse its discretion in denying ClearOne's request.

Sanctions are not awarded automatically; the Board has discretion to impose them. *See* 37 C.F.R. § 42.12(a) ("The Board *may* impose a sanction against a party for misconduct[.]" (emphasis added)); *see also* 37 C.F.R. § 42.11(d)(1) ("[T]he Board may impose an appropriate sanction on any attorney[.]"). The Board also has discretion to determine whether a party may file a sanctions motion in the first place. *See* 37 C.F.R. § 42.20(b). The Board's regulations do not obligate it to allow the filing of a sanctions motion, let alone sanction a party.

The Board did not abuse its discretion in denying ClearOne's request to file its sanctions motion. After holding a hearing on the merits of the sanctions motion, the Board issued an order explaining that several considerations weighed against allowing ClearOne to file the motion. *See Sanctions Decision*, 2020 WL 6434969. The Board found the arguments ClearOne raised in its sanctions motion were "essentially the same as the arguments presented and developed in its Request for Rehearing" and, thus, "amount[ed] to nothing more than a thinly veiled attempt at a second bite at the apple." *Id.* at \*2. On appeal,

ClearOne concedes that the arguments in its sanctions motion were “identical to the arguments [it] had raised” in its request for rehearing. Oral Arg. at 2:38–57.<sup>1</sup> The Board also found that allowing ClearOne a second attempt at the IPR after the FWD would result in an inefficient proceeding. *Sanctions Decision*, 2020 WL 6434969, at \*2 (citing 37 C.F.R. § 42.1(b)). Finally, it found that Shure did not intend to breach its duty to disclose references. *Id.* at \*3. These findings establish that the Board did not abuse its discretion. We need not reach the Board’s many additional reasons for denying ClearOne’s request to file its sanctions motion, including that Levit and Gulbrandsen are cumulative to references in the instituted grounds. *See id.*

ClearOne also argues that the Board violated its due process rights. All that due process requires is notice and opportunity to be heard by a “disinterested decision-maker.” *Abbott Labs. v. Cordis Corp.*, 710 F.3d 1318, 1328 (Fed. Cir. 2013). The Board’s procedures here met this requirement.

#### CONCLUSION

There is no error in the Board’s determination that the self-similar term is not indefinite, and substantial evidence supports the Board’s subsidiary fact findings based on extrinsic evidence. The Board did not abuse its discretion in denying authorization to file a sanctions motion. Accordingly, we affirm.

#### AFFIRMED

#### COSTS

ClearOne shall bear costs.

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<sup>1</sup> Available at [https://oralarguments.cafc.uscourts.gov/default.aspx?fl=21-1517\\_04072022.mp3](https://oralarguments.cafc.uscourts.gov/default.aspx?fl=21-1517_04072022.mp3).