NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

VOCALIFE LLC,
Plaintiff-Cross-Appellant

v.

AMAZON.COM, INC., AMAZON.COM LLC,
Defendants-Appellants

2021-1937, 2021-1984

Appeals from the United States District Court for the Eastern District of Texas in No. 2:19-cv-00123-JRG, Chief Judge J. Rodney Gilstrap.

Decided: July 28, 2022

ALFRED ROSS FABRICANT, Fabricant LLP, Rye, NY, argued for plaintiff-cross-appellant. Also represented by ENRIQUE WILLIAM ITURRALDE, PETER LAMBRIANAKOS, VINCENT J. RUBINO, III.

JOSEPH R. RE, Knobbe, Martens, Olson & Bear, LLP, Irvine, CA, argued for defendants-appellants. Also represented by ALAN GRAYSON LAQUER; COLIN B. HEIDEMAN, Seattle, WA.

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

HUGHES, *Circuit Judge*.

Defendants-Appellants Amazon.com, Inc. and Amazon.com LLC appeal from the United States District Court for the Eastern District of Texas' denial of Amazon's motion for judgment as a matter of law on the issue of noninfringement. Plaintiff-Cross-Appellant Vocalife LLC cross-appeals two of the district court's summary judgment grants. Because there is no substantial evidence to support infringement of the "plurality of configurations" limitation, we reverse the district court's denial of Amazon's motion for judgment as a matter of law, vacate the jury verdict, and dismiss Vocalife's cross-appeal as moot.

I

Vocalife owns U.S. Patent No. RE 47,049, which is directed to methods and systems for "enhancing acoustics of a target sound signal received from a target sound source, while suppressing ambient noise signals." '049 patent, 2:6–8. Claim 1 of the '049 patent covers one such method and recites a number of steps, including "providing a microphone array system comprising an array of sound sensors positioned in a linear, circular, or other configuration" and "determining a delay . . . wherein said determination of said delay enables beamforming for said array of sound sensors in a plurality of configurations."[1] *Id.*, 21:27–22:3 (claim 1). We refer to the latter step as the "plurality of configurations" limitation.

---

[1] "Beamforming" refers to a signal processing technique by which the disclosed microphone array can focus on a sound signal coming from a particular direction instead of sound signals from other directions. *See* '049 patent, 5:65–6:2, 6:17–23.

Vocalife filed a patent infringement suit against Amazon, accusing certain Amazon Echo products of infringing the '049 patent. At the summary judgment stage, the district court granted summary judgment that, among other things, absolute intervening rights under 35 U.S.C. § 252 apply to certain Echo products and Vocalife was not entitled to damages for pre-suit induced infringement. The case proceeded to trial. Amazon moved for judgment as a matter of law (JMOL) of noninfringement after the close of evidence. The district court denied JMOL of no induced infringement but granted JMOL of no direct or contributory infringement by Amazon and no infringement under the doctrine of equivalents. Thus, the only infringement issue for the jury to decide was whether Amazon induced users of the Echo to literally infringe the patent. After the six-day trial concluded, the jury returned a verdict finding that Amazon did. Amazon renewed its motion for JMOL of no induced infringement, which the district court again denied.

Both parties appeal. Amazon appeals the denial of its JMOL motion. Vocalife cross-appeals the two summary judgment grants. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

II

We review JMOL denials under the law of the regional circuit, here the Fifth Circuit, which reviews such denials de novo. *Raytheon Co. v. Indigo Sys. Corp.*, 895 F.3d 1333, 1338 (Fed. Cir. 2018). JMOL "is appropriate only where 'the facts and inferences point so strongly and overwhelmingly in favor of one party that the court concludes that reasonable jurors could not arrive at a contrary verdict.'" *Id.* (quoting *Orion IP, LLC v. Hyundai Motor Am.*, 605 F.3d 967, 973 (Fed. Cir. 2010) (applying Fifth Circuit law)). Thus, "[w]e affirm a district court's denial of [JMOL] when there was substantial evidence to support the jury's verdict." *Id.* (citing *Power-One, Inc. v. Artesyn Techs., Inc.*,

599 F.3d 1343, 1350 (Fed. Cir. 2010) (applying Fifth Circuit law)).

III

Vocalife contends it provided substantial evidence that the Echo infringes the "plurality of configurations" limitation. At trial, Vocalife's expert, Joseph McAlexander, testified that the Echo determines a delay as part of its beamforming process using inputs from the incoming target sound signal in conjunction with certain information—beam coefficients—stored on the device. *See, e.g.*, Appx6326–27 at 617:19–618:3; Appx6340–42 at 631:2–633:19; Appx6427–28 at 718:10–719:22; Appx6429 at 720:10–17. As Mr. McAlexander testified, Amazon calculated the pre-loaded beam coefficients via computer simulation during development of the Echo and pre-loaded those coefficients onto the Echo devices during manufacturing. *See, e.g.*, Appx6326–27 at 617:3–618:3; Appx6390–91 at 681:24–682:7. Mr. McAlexander further testified that the Echo's delay determination enables beamforming for a plurality of configurations because the software code running on the Echo can be utilized across different Echo products with different microphone array configurations. *See, e.g.*, Appx6297–98 at 588:21–589:14; Appx6339–40 at 630:20–631:1.

None of this testimony, however, supports the conclusion that the Echo products infringe the '049 patent. The testimony does not show that the delay determination occurring on a given Echo device enables beamforming for a plurality of configurations, as claim 1 requires. If anything, Mr. McAlexander's testimony suggests that this determination enables beamforming for only the specific microphone array configuration on that specific device.[2]

[2] At oral argument, Vocalife hypothesized that "there could be" multiple configurations on a given Echo

Mr. McAlexander repeatedly described the pre-loaded beam coefficients as being specific to a "particular" microphone array. *See, e.g.*, Appx6325–26 at 616:14–617:2 (Amazon's computer simulation is "a construct by which they take the instantiation of a particular microphone array organized in a certain fashion, arranged in a certain architecture" to create beam coefficients "that are associated with [ ] that particular kind of a structure."); Appx6326 at 617:7–18 (Amazon "take[s] a specific designed architecture with a physical arrangement of the microphones" to provide the beam coefficients, which "go[] into the [ ] initial construct of how the beams will be formed once they are instantiated in the accused device."); Appx6327 at 618:6–11 (The beam coefficients "include the understanding of how that arrangement of the architecture is," as "you have to define the microphone array first."); Appx6437 at 728:8–14 (Amazon determines the beam coefficients "based on an architectural arrangement or a layout of the sound sensors" and "that calculation is already built into the coefficients that are then programmed into this device."). While it is undisputed that Amazon pre-loads certain beam coefficients onto each Echo device, Vocalife provides no evidence showing that the coefficients loaded onto a given Echo device enable beamforming for a variety of microphone configurations, as opposed to only the configuration

---

device "in the situations where not all of the microphones are operating or certain microphones aren't receiving the sound or performing as designed." Oral Argument at 20:00–20:09, https://oralarguments.cafc.uscourts.gov/default.aspx?fl=21-1937_07072022.mp3. This contention, which appears nowhere in Vocalife's briefing, comes too late. *See Henry v. Dep't of Justice*, 157 F.3d 863, 865 (Fed. Cir. 1998) (declining to consider argument raised for the first time at oral argument). In any event, Vocalife cites no evidence—nor have we found any—showing that these hypothetical configurations exist.

of that particular device. Mr. McAlexander's conclusory, unsupported testimony that the Echo meets the "plurality of configurations" limitation, *see* Appx6338 at 629:2–14, is otherwise insufficient to support the jury's infringement verdict, *see, e.g.*, *Yoon Ja Kim v. ConAgra Foods, Inc.*, 465 F.3d 1312, 1320 (Fed. Cir. 2006) (affirming JMOL of noninfringement where patentee's expert offered only conclusory, unsupported testimony).

Because there is no substantial evidence showing that any delay determination occurring on a given Echo device enables beamforming for a microphone array "in a plurality of configurations," we conclude that Vocalife failed as a matter of law to prove that the Echo infringes claim 1 of the '049 patent. We reverse the district court's denial of JMOL of no induced infringement and vacate the jury verdict. This moots Vocalife's cross-appeal, and we accordingly dismiss as moot Appeal No. 2021-1984.

REVERSED IN PART, DISMISSED IN PART

Costs to Defendants-Appellants.