

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

TRAXCELL TECHNOLOGIES, LLC,
Plaintiff-Appellant

v.

**SPRINT COMMUNICATIONS COMPANY LP,
SPRINT SPECTRUM, LP, SPRINT SOLUTIONS,
INC., VERIZON WIRELESS PERSONAL
COMMUNICATIONS, LP,**
Defendants-Appellees

TELENAV, INC., T-MOBILE USA, INC.,
Defendants

2020-1852, 2020-1854

Appeals from the United States District Court for the
Eastern District of Texas in No. 2:17-cv-00718-RWS-RSP,
Judge Robert Schroeder, III.

Decided: October 12, 2021

WILLIAM PETERSON RAMEY, III, Ramey & Schwaller,
LLP, Houston, TX, argued for plaintiff-appellant. Also rep-
resented by JOHN PIERRE LAHAD, Susman Godfrey LLP,
Houston, TX.

BRIAN DAVID SCHMALZBACH, McGuireWoods LLP,

Richmond, VA, argued for defendants-appellees Sprint Communications Company LP, Sprint Spectrum, LP, Sprint Solutions, Inc. Also represented by DAVID EVAN FINKELSON; TYLER VANHOUTAN, Houston, TX.

JOSHUA C. KRUMHOLZ, Holland & Knight, LLP, Boston, MA, argued for defendant-appellee Verizon Wireless Personal Communications, LP. Also represented by JACOB KEVIN BARON; KEVIN PAUL ANDERSON, Duane Morris LLP, Washington, DC.

Before PROST, O'MALLEY, and STOLL, *Circuit Judges*.

PROST, *Circuit Judge*.

Traxcell¹ sued Sprint² and Verizon³ for infringement of four patents related to self-optimizing wireless networks and to navigation technology. After claim construction and discovery, the district court granted summary judgment for Sprint and Verizon. Traxcell appeals. For the reasons below, we agree with the district court's claim construction. We also agree that under that construction, Traxcell failed to show a genuine issue of material fact as to infringement and that several of Traxcell's claims are indefinite. We therefore affirm.

BACKGROUND

I

This case involves four patents in the same family: U.S. Patent Nos. 8,977,284 ("the '284 patent"), 9,510,320 ("the '320 patent"), 9,642,024 ("the '024 patent"), and 9,549,388

¹ Traxcell Technologies, LLC.

² Sprint Communications Company LP; Sprint Spectrum, LP; and Sprint Solutions, Inc.

³ Verizon Wireless Personal Communications, LP.

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(“the ’388 patent”). All share a specification and a 2001 priority date.

A

The claims of three of the patents—the ’284, ’320, and ’024 patents—are related to self-optimizing network (“SON”) technology for making “corrective actions” to improve communications between a wireless device (for instance, a phone) and a network. The parties call these the “SON patents.” Claim 1 of the ’024 patent is representative (relevant limitations emphasized):

1. A system including:

one or more radio-frequency transceivers and an associated one or more antennas to which the radio-frequency transceiver is coupled, wherein the one or more radio-frequency transceivers configured for radio-frequency communication with at least one mobile wireless communications device; and

a computer coupled to the one or more radio-frequency transceivers programmed to locate the one or more mobile wireless communications devices and generate an indication of a *location* of the one or more mobile wireless communications devices, wherein the computer further receives and stores performance data of connections between the one or more mobile wireless communications devices and the radio-frequency transceiver along with the indication of *location*, wherein the computer references the performance data to expected performance data, wherein the *computer* determines at least one suggested corrective action in conformity with differences between the performance data and expected performance data in conjunction with the indication of *location*, wherein the *computer* further receives an error code from the radio-

frequency transceiver, determines whether the error code indicates a performance issue with respect to the connection between the one or more mobile wireless communications devices and the radio-frequency transceiver, and wherein the *computer* determines the at least one suggested corrective action in response to the error code.

Claim 1 of the '284 patent is similar but also includes a means-plus-function limitation that was disputed in this case (further emphasized):

1. A wireless network comprising:
 - a) at least two wireless devices, each said wireless device communicating via radio frequency signals;
 - b) *a first computer* programmed to perform the steps of:
 - 1) locating at least one said wireless device on said wireless network and referencing performance of said at least one wireless device with wireless network known parameters,
 - 2) routinely storing performance data and a corresponding *location* for said at least one wireless device in a memory;
 - c) a radio tower adapted to receive radio frequency signals from, and transmit radio frequency signals to said at least one wireless device; wherein said *first computer* further includes *means for receiving said performance data and suggest corrective actions obtained from a list of possible causes for said radio tower based upon the performance data and the corresponding location associated with said at least one wireless device;*

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d) wherein said radio tower generates an error code based upon operation of said at least one wireless device; and

e) wherein said *first computer* is further programmed to,

1) receive said error code from said radio tower, and,

2) selectively suggest a corrective action of said radio frequency signals of said radio tower in order to restrict processing of radio frequency signals from at least one of said at least two wireless devices based upon said error code, and, whereby said *first computer* suggests said corrective action in order to improve communication with at least one said wireless device.

B

Unlike the SON patents, the claims of the '388 patent are directed to network-based navigation—namely, having the network, rather than a wireless device itself, determine the device's location. The parties call the '388 patent the “navigation patent.” Claim 1 is representative:

1. A wireless communications system including:

a first radio-frequency transceiver within a wireless mobile communications device and an associated first antenna to which the first radio-frequency transceiver is coupled, wherein the first radio-frequency transceiver is configured for radio-frequency communication with a wireless communications network;

a first processor within the wireless mobile communications device coupled to the at least one first radio-frequency transceiver programmed to receive a location of the wireless mobile communications

device from the wireless communications network and generate an indication of a location of the wireless mobile communications device with respect to geographic features according to mapping information stored within the wireless mobile communications device, and wherein the processor displays to the user navigation information according to the location of the wireless mobile communications device with respect to the geographic features and a destination specified by the user at the wireless mobile communications device;

at least one second radio-frequency transceiver and an associated at least one second antenna of the wireless communications network to which the second radio-frequency transceiver is coupled; and

a second processor coupled to the at least one second radio-frequency transceiver programmed to determine the location of the wireless mobile communications device, wherein the second processor selectively determines the location of the wireless mobile communications device dependent on the setting of preference flags, wherein the second processor determines the location of the wireless mobile communications device if the preference flags are set to a state that permits tracking of the user of the wireless mobile communications device and communicates the location of the wireless mobile communications device to the first processor via the second radio-frequency transmitter, and wherein the second processor does not determine and communicate the location of the wireless mobile communications device if the preference flags are set to a state that prohibits tracking of the wireless mobile communications device.

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II

Traxcell asserted against Verizon the '284, '024, and '388 patents.⁴ For the '284 and '024 SON patents, Traxcell's allegations involve Verizon's implementation of Ericsson's self-organizing network technology—the so-called Ericsson C-SON. And for the '388 patent, Traxcell points to Verizon mobile devices using VZ Navigator or Google Maps (made by Comtech and Google, respectively).

Traxcell also asserted these same patents, plus the '320 patent, against Sprint.⁵ For the asserted SON claims of the '284, '024, and '320 patents, Traxcell's infringement allegations involve Sprint's use of Samsung's distributed self-optimizing network technology—the so-called Samsung dSON. And for the '388 patent, Traxcell's infringement allegations concern Sprint mobile devices loaded with Google Maps.

III

The magistrate judge entered a claim-construction order on April 15, 2019, under which claims 1–11 of the '284 patent were indefinite. After claim construction, Sprint and Verizon separately moved for summary judgment of noninfringement on the remaining claims.

⁴ Traxcell appeals determinations related to claims 1–10 of the '284 patent; claims 1, 6–11, and 17–22 of the '024 patent; and claims 1–11 and 21 of the '388 patent.

⁵ Traxcell appeals determinations related to claims 1–12 of the '284 patent; claims 1, 6–11, and 17–22 of the '024 patent; claims 1–6 of the '320 patent; and claims 1–11 and 21 of the '388 patent.

Adopting the magistrate judge’s recommendations, the district court granted both motions.⁶

Traxcell appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

The district court granted summary judgment for defendants Sprint and Verizon in light of its construction of several claim terms. Traxcell appeals both the claim constructions and the noninfringement determinations that flow from them.

“We review claim construction based on intrinsic evidence de novo and review any findings of fact regarding extrinsic evidence for clear error.” *SpeedTrack, Inc. v. Amazon.com*, 998 F.3d 1373, 1378 (Fed. Cir. 2021). And we review the district court’s summary judgment de novo under the law of the regional circuit—here the Fifth Circuit. *Ericsson Inc. v. TCL Commc’n Tech. Holdings Ltd.*, 955 F.3d 1317, 1324–25 (Fed. Cir. 2020). Summary judgment is proper “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). We “view[] all evidence in the light most favorable to the nonmoving party and draw[] all reasonable inferences in that party’s favor.” *Kariuki v. Tarango*, 709 F.3d 495, 501 (5th Cir. 2013) (quoting *Pierce v. Dep’t of the Air Force*, 512 F.3d 184, 185 (5th Cir. 2007)). But “the non-movant can’t defeat summary judgment with conclusory allegations, unsupported assertions, or only a scintilla of

⁶ For simplicity, and because the district judge adopted the magistrate judge’s orders and recommendations as the opinion of the court, we refer to “the district court” in discussing the underlying determinations, whether first made by the magistrate judge or the district judge.

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evidence.” *Batiste v. Lewis*, 976 F.3d 493, 500 (5th Cir. 2020).

Summary judgment was based on several grounds. First, claim 12 of the ’284 patent was not infringed because Traxcell hadn’t met the “way” prong of the function-way-result test in asserting an infringing structural equivalent to a means-plus-function limitation. Second, Traxcell hadn’t shown a genuine dispute about either the “location” limitation (present in every asserted SON patent claim) or the “first computer” and “computer” limitations (present in most asserted SON patent claims). As to claim 1 of the ’284 patent, the district court held it indefinite for failure to disclose sufficient structure for a means-plus-function limitation. And as to the ’388 patent, Traxcell couldn’t show that the accused technology determined a wireless device’s location on the network itself, as claimed, rather than on the device. Traxcell appeals this all. We address each issue in turn.

I

As to claim 12 of the ’284 patent, the district court granted summary judgment of noninfringement because there was no genuine dispute that Sprint’s accused system did not meet that claim’s means-plus-function limitation.⁷ That is, Traxcell asserted an infringing structural equivalent but fell short under the “way” prong of the function-way-result test. We agree with the district court.

A

First, we address claim construction. The parties agreed that claim 12 includes a means-plus-function limitation: a “means for receiving said performance data and corresponding locations from said radio tower and correcting radio frequency signals of said radio tower.” J.A. 37.

⁷ Traxcell did not assert claim 12 against Verizon.

The corresponding function is “receiving said performance data and corresponding locations from said radio tower and correcting radio frequency signals of said radio tower.” J.A. 37. And the corresponding structure is an algorithm that Traxcell identified from the specification. J.A. 37 (citing ’284 patent Figs. 38-A, 38-B, 38-C; *id.* at col. 54 l. 21–col. 55 l. 41). This construction is undisputed on appeal.

B

Next, we address infringement. Traxcell argues that Sprint’s accused technology includes a structural equivalent to the disclosed structure under the function-way-result test. The district court disagreed, reasoning that Traxcell failed to establish that the accused technology operates in substantially the same “way.”

Under the function-way-result test, “[l]iteral infringement of a means-plus-function claim limitation requires that the relevant structure in the accused device perform the identical function recited in the claim and be identical or equivalent to the corresponding structure in the specification.” *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1333 (Fed. Cir. 2006). “Once the relevant structure in the accused device has been identified, a party may prove it is equivalent to the disclosed structure by showing that the two perform the identical function in substantially the same way, with substantially the same result.” *Id.*

The district court held that Traxcell had not offered sufficient evidence that Sprint’s system contained the structure required for the means-plus-function element. J.A. 109, 119–23. As it observed, the identified structure from the specification is a “very detailed” algorithm. J.A. 120. That algorithm includes numerous steps necessary for its function. J.A. 122. But Traxcell neglected to address a significant fraction of that structure. Indeed, Traxcell’s infringement expert instead discussed the accused technology at only a generalized level and didn’t at

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all discuss at least nine entire steps of the algorithm—focusing on function and results but eliding the way those results are achieved. J.A. 121–22. Accordingly, Traxcell didn’t provide enough evidence for a reasonable jury to conclude that the accused structure performs the claimed function in “substantially the same way” as the disclosed structure. *See Kemco Sales, Inc. v. Control Papers Co., Inc.*, 208 F.3d 1352, 1364–65 (Fed. Cir. 2000) (affirming summary judgment of noninfringement, both literally and under doctrine of equivalents, where “way” and “result” were not substantially the same as claimed means-plus-function structure).

We agree with the district court’s thorough analysis. Showing identical function is not enough for literal infringement of a means-plus-function claim—Traxcell must also provide evidence of identical or equivalent *structure*. Here it did not, and so summary judgment was proper.

II

We move next to the “location” limitation. All asserted claims of the ’284 and ’320 patents include the term “location.” The parties stipulated that the term meant a “location that is not merely a position in a grid pattern.” The court granted summary judgment of noninfringement under that construction to Sprint and Verizon. For the reasons below, we agree.

A

First, we address claim construction. In the related *Nokia* case, the construction of “location” in these claims was disputed at the district court. *See Traxcell Techs., LLC v. Nokia Sols. & Networks Oy*, No. 20-1440, slip op. at 6–7 (Fed. Cir. Oct. 12, 2021) (“*Nokia*”). Not so here. Instead, the parties agreed that “location” means “location that is not merely a position in a grid pattern.” J.A. 12–13, 68, 101. The district court accepted that construction; the

parties proceeded through discovery and briefing accordingly. And under that construction, Traxcell lost.

Now Traxcell insists in retrospect that this construction was wrong. But having stipulated to it, Traxcell cannot pull an about-face. Traxcell suggests that it preserved the issue because it contested the term in the related *Nokia* case and claim construction “should be applied consistently between related cases.” Reply Br. 15 (capitalization normalized). We are unconvinced. At any rate, for the reasons we explained in the *Nokia* appeal, the stipulated-to construction is correct. *See Nokia*, slip op. at 6–7.

B

Next, we address infringement. The independent claims of the SON patents all require sending, receiving, generating, storing, or using the “location” of a wireless device. The district court concluded that Traxcell hadn’t shown that the accused technologies use a “location” as construed by the court, such that summary judgment was proper. *See* J.A. 117–19, 173–74, 176 (Sprint), 73–77, 163–64, 165 (Verizon). For the reasons below, we agree.

1

The district court found that Traxcell had failed to create a genuine issue about whether Sprint’s accused technology (i.e., the Sprint LTE Service Manager, or “LSM”) sends, receives, generates, stores, or uses “location” as construed.

First, Traxcell had argued that the LSM used location in the form of a device’s cell or sector to make adjustments. But the district court concluded that using information about a device’s “cell or sector” amounted to using merely a position in a grid pattern. *See* J.A. 173–74; *see also* J.A. 117. We agree.

Traxcell also insisted that the LSM generates a device’s location through an alphabet soup of approaches, including

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“(1) receiving and collecting UE-referenced network and device performance measurements from the Minimization of Drive Tests (‘MDT’) Reports and UE Measurement Reports[,] (2) Observed Time Distance of Arrival (‘OTDOA’), (3) call trace analysis, (4) the GUI in the NV 4.0 Release, (5) the collection of Cell ID, (6) throughput, and through (7) Received Signal Strength Indication (‘RSSI’), Received Signal Received Power (‘RSRP’), dropped calls, and the like.” J.A. 118. The district court concluded, and we agree, that Traxcell’s arguments on this front amounted to “conclusory statement[s] . . . without any analysis to support” them. *E.g.*, J.A. 118. That is, Traxcell didn’t explain how any of these approaches match up to the court’s claim construction, how the approaches are actually used in the accused technology, and how the approaches would meet other limitations of the claims. *See Novartis Corp. v. Ben Venue Labs., Inc.*, 271 F.3d 1043, 1054 (Fed. Cir. 2001) (affirming summary judgment of noninfringement because patentee did not meet “obligation to set forth the detailed basis of its evidence such that the district court could evaluate whether it could support a finding of infringement”) (citing *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586 (1986)). The same is true of Traxcell on appeal. Traxcell’s unexplained listing of accused elements that purportedly send, receive, generate, store, or use a wireless device’s location is insufficient to create a genuine issue of material fact.

2

The district court also found that Traxcell had failed to create a genuine issue of material fact about whether Verizon’s accused technology (i.e., the Ericsson C-SON) uses “location” as construed.

First, the court rejected Traxcell’s argument that the accused technology uses “location” because it collects “information regarding the distance of devices from a base station.” That is, according to Verizon’s un rebutted evidence,

the Ericsson C-SON “doesn’t get location data,” but rather simply gets information “to calculate distance” to base stations. *E.g.*, J.A. 5572; *see also* J.A. 5560–61, 5571, 5577. And location and distance from a point are different, the court concluded. J.A. 73–74, 163–64. We agree.

Second, the court rejected Traxcell’s arguments that the accused technology determines which sector or cell a device falls within, thereby constituting a “location.” The court found that the evidence only shows that the accused technology determines a device’s position within a grid. J.A. 164. And Verizon’s un rebutted evidence confirms this—as the district court explained, the accused technology “does not provide a specific location for any individual device, but only places the device into a pre-defined area and then makes decisions based on the area that the device falls into.” J.A. 76. This was consistent with Traxcell’s expert’s statements, which likened the sector-and-cell “bins” to a grid. *See* J.A. 5537.⁸ Again, we agree with the district court. *See Profectus Tech. LLC v. Huawei Techs. Co.*, 823 F.3d 1375, 1382–83 (Fed. Cir. 2016) (affirming summary judgment of noninfringement in light of un rebutted evidence). Sectors and cells, as the parties use them, are “merely a position within a grid pattern.” *See* J.A. 73–75. And even if a “sector” (i.e., an angle-plus-distance subset of a cell) were more than a grid-pattern position, the district court observed that there is no evidence that the Ericsson C-SON actually *uses* sector data in this way. *See* J.A. 76.

⁸ Traxcell points to other contrary statements by the same expert, but, as Verizon points out, that evidence seems to be from another case entirely (one not even involving the Ericsson C-SON). *See* Appellant’s Br. 60 & nn.242–43; Verizon Br. 21–22. We agree with Verizon that it is puzzling how it could be error for the district court not to account for this evidence.

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Beyond all this, the court also rejected Traxcell’s recitation of a “long list of various types of data that the accused products allegedly use without explaining how using that . . . data would satisfy the claim construction.” J.A. 164. That is, Traxcell didn’t link its citations to the claims and left its evidence unexplained. Traxcell has done the same on appeal—insisting in a conclusory fashion that the district court overlooked various pieces of evidence but not explaining the role of that evidence in its infringement theory as to the Ericsson C-SON. Again, that is not enough to meet Traxcell’s burden.

We agree with the district court. Traxcell did not create a genuine dispute of material fact that Verizon’s accused technology uses “location.”

III

Next we move to the “first computer” and “computer” limitations, which are in all the asserted claims of the SON patents except claim 6 of the ’024 patent and those depending from it. These terms are paired throughout with various functions. Construing those terms to require that a single computer be capable of performing the recited functions, the district court concluded that Traxcell hadn’t shown that the accused technology met those limitations, and that summary judgment for the defendants was proper. For the reasons below, we agree.

A

First, we address claim construction. In short, we agree with the district court. This construction was also at issue in the parallel *Nokia* case. *See Nokia*, slip op. at 10–13. And as we explained in that case, a “first computer” or a “computer” means a *single* computer. *Id.* So too here.

B

Next, we turn to infringement. As explained above, the “first computer” and “computer” terms are paired with

various functions. For example, claim 1 of the '024 patent requires that “a computer” not only be “programmed to locate” one or more mobile devices but also to “further receive[] and store[] performance data,” to “reference[] the performance data,” to “further receive[] an error code,” and to “determine[]” “at least one suggested corrective action in response to the error code.”

For both Sprint and Verizon, the district court determined that Traxcell hadn't shown a genuine issue of material fact that these limitations were met. For the reasons below, we agree.

1

As to Sprint, the court concluded that Traxcell had failed to show a genuine dispute of material fact that the accused technology uses a single computer capable of meeting each of the claim limitations. J.A. 110–14.

The accused Samsung dSON system operates with Sprint's wireless network across Sprint's LSM, Operating Support Systems (“OSSs”), and various base stations (or “eNodeBs”). The LSM configures and manages network elements—such as the eNodeBs—and works with other systems like the OSS to manage network functionality. The OSSs are operating systems that interact with the eNodeBs and work with both the LSM and the eNodeB to execute the SON functionality. The Samsung dSON is “distributed”: that is, its functions are spread among many computers in the LSM, OSSs, and eNodeBs.

Traxcell didn't generally dispute those facts. Instead, Traxcell argued broadly that the LSM server and every computer at an eNodeB each *also* constitutes a single computer that would be able to meet all the limitations of the claims. *See* J.A. 110. But Traxcell didn't particularize those conclusory assertions with specific evidence and arguments. The district court concluded that Traxcell had failed to show how either the LSM or the computer at the

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eNodeB could independently perform each of the claimed functions. J.A. 110–11. To the contrary, the only reasonable conclusion from the evidence was that the LSM and eNodeBs must work together to conduct most operations, requiring multiple computers. J.A. 110–11.

Traxcell argues that it “presented substantial evidence that the LSM was capable of performing the required functions.” *See* Appellant’s Br. 48. On appeal, it reproduces four pages from its district-court briefing that it says weren’t addressed on this point. *See* Appellant’s Br. 48 (quoting J.A. 8313–16); *see also* Reply Br. 18–21. To be sure, those pages include an army of citation footnotes crouching in a field of jargon. What they lack is explanation. As an initial matter, we disagree that the district court ignored this evidence. To the contrary, the district court spent five pages discussing Traxcell’s evidence. *See* J.A. 110–14. And Traxcell’s showing is simply too unexplained and too conclusory to meet the summary-judgment standard.

2

As to Verizon, the district court again concluded that Traxcell had failed to show a genuine dispute of material fact about the “first computer” or “computer” limitation. J.A. 71–72, 162–63.

The accused Ericsson C-SON system is, like the Samsung dSON, distributed across many computers. Traxcell doesn’t dispute this fundamental point. Instead, it points to a part of the system—the so-called SON Portal—and argues that it is a single computer that satisfies the limitations. *See* Appellant’s Br. 55–56.

But the SON Portal is only an interface. It doesn’t perform all the functions itself—rather, it collects their output from other computers for the convenience of the user. Verizon provided un rebutted evidence that the accused functionalities were carried out by other computers within the

Ericsson-CSON, being spread across the SON Data Gateway, the SON Application Server, and the SON Implementation Server. Traxcell argued to the district court that the SON Portal “controls and displays the individual services” of the other servers, and that through it a “user can control and execute all SON functions.” *See* J.A. 72. But that isn’t enough. That a *user* can execute all the functions through the SON Portal doesn’t mean that the SON Portal *itself* is capable of performing the claimed functions. What’s missing is a showing that the SON Portal is a single computer that is capable of performing the claimed functions.

To be sure, Traxcell has cited swaths of documents. *See* Appellant’s Br. 54–57 (arguing that “Traxcell’s briefing was slammed full” of “volumes upon volumes” of evidence). But it failed to link those documents to the SON Portal or to explain how those documents support its infringement theory. It didn’t do so at the trial court, and it didn’t do so here. In conclusion, we agree that summary judgment of noninfringement based on this limitation was proper.

3

Traxcell’s remaining infringement arguments on appeal rely on the doctrine of equivalents. But as we concluded in the *Nokia* case, Traxcell surrendered multiple-computer equivalents during prosecution of these patents. *See Nokia*, slip op. at 11–16. Accordingly, we agree with the district court that the doctrine of equivalents is unavailable for Traxcell to assert infringement by the use of multiple computers to meet the “first computer” or “computer” limitations.

IV

Next, we turn to indefiniteness. Claim 1 of the ’284 patent was held to be indefinite on two grounds: (1) lack of reasonable certainty about which “wireless device” the term “at least one said wireless device” referred to, J.A. 26–27, 143–44, and (2) lack of an adequate supporting

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structure in the specification for the claim's means-plus-function limitation, J.A. 32–37, 144–45, 154–55.

Claim 1 of the '284 patent was previously held indefinite in the *Nokia* case. See J.A. 966–67, 971 (*Markman* order of January 2019). Traxcell did not appeal that determination and is, of course, precluded from asserting that original claim. But the indefiniteness issue also pertains to a purportedly corrected version of that claim, which we address below.

After the *Nokia* claim construction order, Traxcell filed a certificate of correction of claim 1 and sought leave to amend its complaint to assert the corrected claim. See J.A. 59, 2077–78. Traxcell argued that even if its original claim 1 was indefinite, it had cured that problem with its correction. Leave to amend, however, was denied as not only prejudicial to Sprint and Verizon but also futile. J.A. 59–61. That is, even if the certificate would correct the first indefiniteness ground, it wouldn't touch the second. See J.A. 33–37, 60. As we discuss next, we agree that asserting the corrected claim would be futile because it would remain indefinite for a reason unrelated to the correction.

Here, both the original and corrected claim 1 include a “means for receiving said performance data and *suggest[ing] corrective actions* obtained from a list of possible causes for said radio tower *based upon* the performance data and *the corresponding location associated with said at least one wireless device*” (emphases added). Traxcell agreed that this is a means-plus-function term. J.A. 32. The district court identified the function to be suggesting corrective actions that were based on location. J.A. 34–35. As the corresponding structure in the specification, Traxcell pointed to the same algorithm that it did for the similar means-plus-function limitation of claim 12. See *supra* p. 10.

A means-plus-function claim is indefinite if the specification fails to disclose adequate corresponding structure to perform the claimed function. *Williamson v. Citrix Online*,

LLC, 792 F.3d 1339, 1351–52 (Fed. Cir. 2015). That was the case here. After considering the algorithm that Traxcell identified, the district court concluded that none of the cited passages of the specification disclose correction based on location data, as claimed. J.A. 36–37, 144–45. It observed that Traxcell had not explained how that structure in the specification *actually* provides location-based corrective actions but had instead offered speculation about how location data *might* be used. J.A. 36–37, 144–45. And it emphasized that “Traxcell’s explanation of the figure and specification provide ‘nothing more than a restatement of the function, as recited in the claim.’” J.A. 145 (quoting *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008)).

Traxcell first argues that the claimed corrective action need not be based on location at all but rather need only “correspond” to it. Appellant’s Br. 33–35. We disagree in view of the claim language: the correction is “based upon . . . location.” Traxcell then argues that the specification discloses location-based correction anyway. Appellant’s Br. 35–36; Reply Br. 13–14. These arguments, like those presented to the district court, are much too vague and speculative. At most, Traxcell has shown that some software in the identified structure *receives* some location data as part of a larger “case file.” And although Traxcell demonstrated that the structure makes corrections based on *other* performance data, it hasn’t shown that any corrections are made using location.

We agree with the district court. The specification lacks the necessary structure for claim 1’s means-plus-function limitation, and so the corrected claim remains indefinite. Allowing Traxcell to assert the corrected claim would be futile. The district court therefore did not abuse its discretion in denying leave to amend.

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V

Last, we turn to the district court's judgment of noninfringement of the '388 patent.

Although the '388 patent shares a specification with the SON patents, its claims are not about optimizing a wireless network but are instead about providing navigation information from a wireless network to a mobile device. Specifically, the claims require that the device's location is (1) determined on the network, (2) communicated to the device, and (3) used to display navigation information. J.A. 123–24.

The district court determined that, for each accused technology, Traxcell had not shown that this limitation was met under the summary-judgment standard. As explained below, we agree with the district court.

A

As to Sprint, the relevant accused products are phones sold by Sprint loaded with Google Maps and using Sprint's wireless network. The court concluded that Traxcell hadn't shown, for purposes of summary judgment, that the network, as opposed to the device, determines a device's location. *See* J.A. 123–24, 129–32, 172.

For its part, Sprint offered evidence from Google's corporate representatives that Google Maps never receives a mobile device's location from the network—instead, the device determines its own location. *E.g.*, J.A. 130, 6643, 6645–46, 6649. Traxcell identifies no evidence specifically rebutting this point. Instead, it argues that Google Maps needs to use data from the network (GPS information, cell tower information, and the like) to determine location. But it is not *data* from the network that the claims require. It is that the network itself determines location and transmits the *location* to the device. And Traxcell has not shown that the network does so with anything but broad and conclusory scattershot assertions. *See* J.A. 130–31 (rejecting

arguments as conclusory and unsupported). True, at various points Traxcell includes footnotes citing documents or other evidence. *E.g.*, Appellant’s Br. 44. But, continually, Traxcell fails to adequately explain the link between the cited evidence and its infringement theory.

In part, Traxcell argues that Google’s evidence is only about *some* ways of location determination—and that there are other ways of finding a phone. But as observed by the district court, Traxcell referenced these alternative approaches “without explaining within its briefing how those approaches are actually utilized within the accused systems” and how the other limitations would be met “when using the specified form of location.” J.A. 118.

We agree with the district court; this is not enough to establish a genuine dispute of material fact. Traxcell has not made the showing it needs to withstand summary judgment.

B

As to Verizon, the relevant accused products are phones using either VZ Navigator or Google Maps.

Traxcell’s proof problems for Verizon generally parallel those for Sprint. As with the accused Sprint technology, the district court found that Traxcell had failed to provide evidence that the network itself determined the device’s location. J.A. 81–82. In contrast, Verizon offered evidence that the accused products determine location on the device itself. *E.g.*, J.A. 2137–38, 2171. And again, Traxcell points to nothing specifically rebutting this evidence.

Instead, Traxcell argues that location is also determined by Verizon’s network through a handful of other techniques. *See* Appellant’s Br. 37–40. In doing so, Traxcell serves up a platter of footnotes and insists that the district court just didn’t consider all its evidence. *E.g.*, Appellant’s Br. 37–41 & n.131. But again, Traxcell fails to provide the critical link from evidence to infringement. As

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the magistrate judge and district court explained, Traxcell’s conclusory efforts fell short. It “cite[d] to lengthy documents without specifying the specific portions of those documents that were relevant and without explaining how those documents actually showed that the network determines a location.” J.A. 94. And its “briefing consisted largely of conclusory statements and included citations, typically spanning hundreds of pages, to a large number of documents without any explanation for how those documents supported its conclusory statements.” J.A. 166–67.

Accordingly, we agree with the district court that Traxcell has not made the showing needed to withstand summary judgment.

VI

Finally, we note that Sprint and Verizon have argued that many of Traxcell’s arguments have been forfeited through failure to timely raise them at the trial court, or for other reasons. We need not reach the forfeiture issues, however, because we agree with the district court and disagree with Traxcell on the merits. *See Immunex Corp. v. Sanofi-Aventis U.S. LLC*, 977 F.3d 1212, 1216 (Fed. Cir. 2020); *TEK Glob., S.R.L. v. Sealant Sys. Int’l, Inc.*, 920 F.3d 777, 787 (Fed. Cir. 2019).

CONCLUSION

We have considered Traxcell’s remaining arguments but find them unpersuasive. For the reasons we have explained, we affirm.

AFFIRMED