

# United States Court of Appeals for the Federal Circuit

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**GPNE CORP.,**  
*Plaintiff-Appellant,*

v.

**APPLE INC.,**  
*Defendant-Appellee*

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2015-1825

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Appeal from the United States District Court for the Northern District of California in No. 5:12-cv-02885-LHK, Judge Lucy H. Koh.

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Decided: August 1, 2016

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JUSTIN ADATTO NELSON, Susman Godfrey LLP, Houston, TX, argued for plaintiff-appellant. Also represented by MAX LALON TRIBBLE, JR.; KALPANA SRINIVASAN, FRANCES S. LEWIS, Los Angeles, CA; HOWARD JAY SUSSER, Burns & Levinson, LLP, Boston, MA.

LAUREN B. FLETCHER, Wilmer Cutler Pickering Hale and Dorr LLP, Boston, MA, argued for defendant-appellee. Also represented by DANA OLCOTT BURWELL, JOSEPH J. MUELLER; MARK D. SELWYN, Palo Alto, CA; RUFFIN B. CORDELL, Fish & Richardson, PC, Washington,

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DC; BENJAMIN C. ELACQUA, Houston, TX; CHRISTOPHER OWEN GREEN, Atlanta, GA.

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Before PROST, *Chief Judge*, TARANTO and CHEN, *Circuit Judges*.

PROST, *Chief Judge*.

GPNE Corp. (“GPNE”) appeals from a final decision of the United States District Court for the Northern District of California. *GPNE Corp. v. Apple Inc.*, 108 F. Supp. 3d 839 (N.D. Cal. 2015). Following a seven-day jury trial, the district court held that the asserted claims of U.S. Patent No. 7,570,954 (“954 patent”) and U.S. Patent No. 7,792,492 (“492 patent”) (collectively, “patents at issue”) were not infringed by Apple, Inc. (“Apple”). We affirm.

#### BACKGROUND

The patents at issue relate to a two-way paging system, where paging devices are capable of not only receiving messages but also sending messages back in response. ’492 patent col. 1 ll. 33–34, col 1 l. 66–col. 2 l. 17, col. 6 l. 38–col. 8 l. 61. Devices communicate through a central control station, which receives a message from a sending device and then passes the message on to a recipient device. *Id.* at col. 3 ll. 30–50, col. 4 l. 57–col. 6 l. 37. The central control station is also capable of receiving a message from a telephone (such as a callback number, as in typical one-way pager operation) and passing it on to a recipient device. *Id.* at col. 5 ll. 37–48. The specification discloses that “the invention provides a two-way paging system which operates independently from a telephone system for wireless data communication between users.” *Id.* at col. 14 ll. 14–16.

GPNE asserts claim 44 of the ’492 patent and claims 19 and 22 of the ’954 patent. All of these claims refer to the devices on the network as “nodes.” *Id.* at col. 21 ll. 8–

52, col. 22 l. 3–14; '954 patent col. 16 l. 53–col. 17 l. 13, col. 17 ll. 27–43, col. 17 ll. 51–58. The claims require that the “node” be “in a data network, the data network including a plurality of nodes,” have “at least one processor,” have “a memory providing code to the processor,” and have an “interface” that transmits and receives communication signals in a particular manner. *See, e.g.,* '492 patent col. 21 ll. 8–52. The claims are otherwise silent as to the type of device a “node” must be. *Id.*

Apart from the Abstract, the specification does not use the word “node,” but instead exclusively refers to the devices as “pagers” or “paging units.” *See, e.g., id.* at col. 1 ll. 33–34, col. 1 l. 66–col. 2 l. 9, col. 3 l. 51–col. 4 l. 28, col. 5 ll. 51–63, col. 14 ll. 14–16. The specification discloses that each “paging unit” includes a transmitter, a receiver, a beeper, a vibrator, an LCD display, a keyboard, and a “pager computer” which performs the processing necessary for the operation of the device. *Id.* at col. 3 l. 51–col. 4 l. 19, fig.2. In several instances, the specification refers to “pagers” and “telephones” in the same sentence. *See, e.g., id.* at col. 1 ll. 44–51 (describing prior art attempts at two-way communication that “included efforts to connect the pager to a telephone”); *id.* at col. 5 ll. 31–47 (describing differences in processing a “telephone message” versus a “pager message”). It never refers to the devices as “telephones.”

#### PROCEDURAL HISTORY

In 2012, GPNE brought this action against Apple, alleging direct infringement by Apple’s iPhones and iPads that operate on the GPRS and LTE data networks.

During claim construction, the parties disputed the meaning of “node.” GPNE proposed that a “node” should be construed as “[a] device in a network that can transmit and receive information.” Apple contended that “node” should be “[a] pager in a network operating independently of a telephone network.” In its Markman briefing and at

the Markman hearing, GPNE expressed concern that construing a “node” as a “pager” would lead to a fight about what “pager” meant. J.A. 510 (Markman Br. 4) (“Defendants propose an incorrect ambiguity by inserting the term ‘pager’ into ‘node’ as it . . . only begs the question of what a ‘pager’ is . . . .”); J.A. 1568 (Markman Tr. 80:18–24) (“[T]he mischief here is . . . we get into the definition of, what is a pager?”). The court pressed Apple on this point:

If I do say [a “node” is] “a pager that’s got this enhanced capability to do two-way data communication,” then I’m just kicking the can down the road and then we’re going to have a fight as to what a pager is . . . . So tell me, then what is a pager? How are we going to define that? Are we going to need to have a subsequent claim construction on that term?

J.A. 1569–70 (Markman Tr. 81:19–82:2). Apple responded that “I don’t think we’re setting up a situation where we construe the construction . . . because there’s more to [‘node’] than just a pager.” J.A. 1571 (Markman Tr. 83:15–18).

On August 13, 2013, the court issued a Markman order construing “node” as “pager with two-way data communications capability that transmits wireless data communications on a paging system that operates independently from a telephone network.” J.A. 74–75. It rejected GPNE’s position that “node” cannot be described as a “pager,” reasoning “while the Court agrees that the specification makes clear that the claimed invention is distinguishable from prior art pagers in that the claimed devices are capable of two-way communications, this does not support the conclusion that the claimed devices are not a type of pager.” J.A. 68.

The district court held a seven-day jury trial between October 6 and 21, 2014. True to the concerns expressed at

Markman, the parties spent time at trial discussing whether the accused iPhones and iPads could be “pagers.” Apple asked GPNE’s experts, its own experts, and several lay witnesses whether they thought an iPad or an iPhone was a pager. *E.g.*, J.A. 28119 (Dr. Dinan, GPNE’s technical expert), J.A. 28670–71 (Mr. Dansky, GPNE’s damages expert), J.A. 28805 (Mr. Casanova, Apple’s Senior Director of Product Marketing), J.A. 28861–900 (Dr. Wilson, Apple’s infringement expert), J.A. 29079–80 (Mr. Rysavy, Apple’s invalidity expert). Apple also contrasted the accused iPhones and iPads to characteristics of 1990s-era pagers during opening and closing arguments. *See, e.g.*, J.A. 6705–10, 29488. GPNE did not object to these questions or arguments. GPNE did, however, present rebuttal testimony from its expert, *see, e.g.*, J.A. 27970 (Dr. Dinan warning that Apple is “going to point you to the same little Motorola beeper that I used to carry on my belt” but that this is “not how we analyze patents”), and rebuttal argument, *see, e.g.*, J.A. 6676–78; Transcript of Jury Trial at 1696–99, *GPNE Corp. v. Apple Inc.*, No. 3:12-cv-02885-LHK (N.D. Cal. Jan. 22, 2015), ECF No. 590. It also cross-examined Apple’s expert, Dr. Wilson, on this point. *See, e.g.*, J.A. 28965.

During the second week of trial, GPNE requested an instruction on “pager,” which read:

As to [“pager” or “paging system that operates independently from a telephone network”], you should apply their plain and ordinary meaning to a person of skill in the art after reading the entire patent and file history. The court’s construction does not prohibit a “node” from being both a pager and a telephone. A pager could transmit certain communications on a paging system that operates independently from a telephone network while engaging in other types of communication on the telephone network.

J.A. 7128. The court denied this request and instructed the jury to apply plain and ordinary meaning for terms not otherwise construed. J.A. 26689.

On October 22, 2014, the jury issued a verdict finding that the '492 and '954 patents were not invalid, but not infringed. GPNE moved for JMOL, or, in the alternative, a new trial. The court denied these motions.

GPNE now appeals the denial of its post-trial motions. This court has jurisdiction under 28 U.S.C. § 1295(a)(1).

#### DISCUSSION

On appeal, GPNE argues that the district court's non-infringement judgment should be reversed because (1) it is based on an erroneous construction of "node," and (2) the court violated *O2 Micro International Ltd. v. Beyond Innovation Technology Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008), by allowing the jury to decide the meaning of "pager." Apple responds that the district court handled these issues correctly and also offers several alternative grounds to affirm the district court's non-infringement judgment.

#### I

We review a district court's claim construction under the standard set forth in *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

The district court construed "node" as "pager with two-way data communications capability that transmits wireless data communications on a paging system that operates independently from a telephone network." J.A. 74–75. GPNE takes issue with two aspects of this construction: "pager" and "operates independently of a telephone network."

## A

We begin with “pager.” GPNE argues that the district court erred in classifying a “node” as a “pager” because nothing in the claims requires that a “node” must be a “pager.” GPNE concedes that the specification consistently refers to “nodes” as “pgers”, but emphasizes that the specification also contains evidence that “node” should be construed more broadly. As examples, GPNE points to how the specification describes “nodes” as devices that operate on a sophisticated data network and contain complex features like image displays and a writing pad. GPNE also argues that claim differentiation counsels against construing a “node” as a “pager” because the parent patent to the ’492 and ’954 patents, U.S. Patent No. 5,542,115 (“115 patent”), specifically uses the terms “paging system” and “paging unit” in its claims.

The words of a claim are generally given their ordinary and customary meaning, which is the meaning that the term would have to a person of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). “Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.* at 1313. Accordingly, “the only meaning that matters in claim construction is the meaning in the context of the patent.” *Trs. of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1363 (Fed. Cir. 2016).

We have recognized that when a patent “repeatedly and consistently” characterizes a claim term in a particular way, it is proper to construe the claim term in accordance with that characterization. *See, e.g., VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1318 (Fed. Cir. 2014); *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1374–75 (Fed. Cir. 2009). Here, the words “pager” and “pager”

units” appear in the specification over 200 times, and, apart from the Abstract, the specification repeatedly and exclusively uses these words to refer to the devices in the patented system. Although GPNE is correct that the specification discloses information about the features the devices have and the network they operate on, none of this is inconsistent with characterizing the devices as a type of pager. The prosecution history also supports construing “node” as a type of “pager” because the inventor’s Rule 131 declaration consistently and exclusively describes the invention as a system of pagers. J.A. 657–83. In light of this consistent disclosure, the district court did not err in characterizing a “node” as a “pager.”

GPNE’s claim differentiation argument does not alter this conclusion. Claim differentiation is “not a hard and fast rule,” but rather a presumption that will be overcome when the specification or prosecution history dictates a contrary construction. *Seachange Int’l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1369 (Fed. Cir. 2005). Because the specification and the prosecution history so consistently describe “nodes” as “pagers,” such is the case here. In addition, the claims that GPNE contrasts differ in more ways than just their use of “node” or “pager,” so the inference that “different words or phrases used in separate claims . . . indicate that the claims have different meanings and scope,” *id.* at 1368, is weak at best. Accordingly, we agree with the district court that “node” is properly characterized as a “pager.”

## B

Turning to “operates independently of a telephone network,” GPNE argues that this limitation is improper because it is based on what it contends is a “single summation sentence” from the specification. Appellant’s Br. 30. This sentence reads: “Thus, the invention provides a two-way paging system which *operates independently from a telephone system* for wireless data communication

between users.” ’492 patent col. 14 ll. 14–16 (emphasis added).

We agree with GPNE that the phrase “operates independently from the telephone system” appears in only one sentence of the Detailed Description section, but disagree that it was improper for the district court to limit the claims in this way. “When a patent . . . describes the features of the ‘present invention’ as a whole, this description limits the scope of the invention,” *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007). As GPNE recognizes, this is a *summation* sentence which describes “the invention” as a whole. This characterization is bolstered by the prosecution history, as the inventor’s Rule 131 declaration several times states that the invention operates independently of a telephone network. J.A. 657, 666. Accordingly, it was proper for the district court to conclude that a “node” should have the capability to “operate[] independently from a telephone network.”

## II

GPNE argues that even if we agree with the district court’s construction, the district court nonetheless committed reversible error because it failed to provide a construction for “pager,” which left an issue of claim construction for the jury. *See O2 Micro*, 521 F.3d at 1362 (“When the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to construe it.”).

The potential for “pager” to create difficulties for the jury is something that both parties and the district court had been aware of from the outset of claim construction. GPNE raised the concern in both its Markman briefing and at the Markman hearing that using the word “pager” would lead to fights about what “pager” meant. *See* J.A. 510, 1568. However, after the district court issued its Markman order, GPNE did not make a formal request for

clarification until the second week at trial, when it requested a jury instruction on “pager.” J.A. 7128.

On appeal, Apple argues that GPNE waived its ability to raise an *O2 Micro* challenge because it never requested a construction for “pager” and the concerns it expressed at Markman were insufficient to put this issue in dispute.

We disagree. In general, “litigants waive their right to present new claim construction disputes if they are raised for the first time after trial.” *Lazare Kaplan Int’l, Inc. v. Photoscribe Techs., Inc.*, 628 F.3d 1359, 1376 (Fed. Cir. 2010) (internal quotation marks omitted); *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 694 (Fed. Cir. 2008) (finding waiver where parties did not propose that a term be construed at Markman and plaintiff argued for a construction in its post-trial motions). As just noted, that is not what happened here. And when GPNE sought a clarifying instruction on “node” before the case went to the jury, it was hardly reversing course on a point it had “implicitly conceded” earlier. *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1360 (Fed. Cir. 2004) (finding implicit concession on need for construction by failure to seek any construction before evidence closed). To the contrary, at Markman, the parties disputed the construction of “node,” including whether “pager” would be an appropriate word to help define the scope of “node.” The parties presented opposing views on this point: GPNE argued that the parties would “get into the definition of, what is a pager?,” while Apple responded that the parties were not “setting up a situation where we construe the construction.” J.A. 1568, 1571. The district court was aware of this dispute, as it itself pressed Apple on this point. J.A. 1569–70. In these circumstances, we find no waiver by GPNE of the objections it raised to the construction of “node” before the case went to the jury.

Finding no waiver, we turn to the merits of GPNE’s *O2 Micro* challenge. GPNE argues that Apple devoted a

substantial amount of time at trial to comparing the accused iPhones and iPads to 1990s-era legacy pagers, effectively “using [legacy pagers] to define the terms ‘pager’ and ‘paging systems.’” Appellant’s Br. 42. According to GPNE, because the district court allowed these arguments, the jury was left to determine the meaning of “pager,” which violated *O2 Micro*.

We disagree. In *O2 Micro*, we held that “[w]hen the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it.” 521 F.3d at 1362. This is because “the ultimate question of construction [is] a legal question,” which “is for the judge and not the jury.” *Teva Pharm. USA, Inc.*, 135 S. Ct. at 838, 842. This duty, however, is not without limit. Where a district court has resolved the questions about claim scope that were raised by the parties, it is under no obligation to address other potential ambiguities that have no bearing on the operative scope of the claim. *Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1318 (Fed. Cir. 2016) (“[A] court need not attempt the impossible task of resolving all questions of meaning with absolute, univocal finality.”); *see also Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1326 (Fed. Cir. 2013) (“Nearly every patent case will involve some amount of ‘word games,’ because claims and claim constructions are, after all, just words.”); *Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 806 (Fed. Cir. 2007) (“[A] sound claim construction need not always purge every shred of ambiguity.”); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”). This is because “[s]uch an endeavor could proceed ad infinitum, as every word—whether a claim term itself, or the words a court uses to construe a claim term—is susceptible to further definition, elucidation, and explanation.” *Eon Corp. IP Holdings*, 815 F.3d at 1318.

Here, the district court’s construction was sufficient to resolve the parties’ dispute over the scope of “node.” Its construction specifies that “node” is not simply any “pager,” but one that must be capable of “two-way communications,” “transmit[ting] wireless data communications on a paging system,” and functioning on a “paging system that operates independently from a telephone network.” J.A. 74–75. These requirements were sufficient to clarify that the type of “pager” a “node” must be is not a 1990s-era legacy pager, which is the post-hoc *O2 Micro* challenge that GPNE raises here.

At bottom, then, GPNE’s complaint rests not with the district court’s failure to define claim scope, but with its allowing Apple to make certain arguments to the jury. The focus of GPNE’s argument is that Apple allegedly devoted a substantial amount of time at trial to comparing the accused iPhones and iPads to 1990s-era legacy pagers. Accurately characterized, this is an argument about whether Apple’s arguments to the jury were improper by “offering the jury appealingly simplifying ways to determine . . . infringement thus inviting the jury to shirk its key factfinding function.” *Verizon Servs. Corp. v. Cox Fibernet Va., Inc.*, 602 F.3d 1325, 1334 (Fed. Cir. 2010) (internal quotation marks omitted).

For this issue, we turn to the law of the regional circuit. *See id.* In the Ninth Circuit, “[a] federal judge has broad discretion in supervising a trial, and his or her behavior during trial justifies reversal only if it abuses that discretion.” *United States v. Laurins*, 857 F.2d 529, 537 (9th Cir. 1988). This discretion extends to the supervision of attorney arguments; the Ninth Circuit “will not reverse a judgment because of statements made in the arguments of counsel unless they were so prejudicial that a failure to declare a mistrial was an abuse of discretion.” *Guam v. Ignacio*, 852 F.2d 459, 462 (9th Cir. 1988).

On the record before us, we conclude that the district court did not abuse its discretion when it found that Apple's arguments did not require a new trial. Whether Apple's accused iPhones and iPads could be "pagers" was extensively debated at trial. GPNE had ample opportunities to present rebuttal testimony and argument that the iPhones and iPads were "pagers," and it took advantage of these opportunities on a number of occasions. For example, GPNE had its expert, Dr. Dinan, warn the jury during his direct examination that Apple is "going to point you to the same little Motorola beeper that I used to carry on my belt" and explain that this was a red herring because this is "not how we analyze patents." J.A. 27970. GPNE also cross-examined Apple's expert, Dr. Wilson, on this point, *see, e.g.*, J.A. 28965, and addressed whether iPhones and iPads could be "pagers" in both its opening statement and closing argument. *See, e.g.*, J.A. 6676–78; Transcript of Jury Trial at 1696–99, *GPNE Corp. v. Apple Inc.*, No. 3:12-cv-02885-LHK (N.D. Cal. Jan. 22, 2015), ECF No. 590. Given this counter-balancing testimony and argument, it was within the district court's discretion to conclude that the jury was not misguided in carrying out its role as infringement factfinder and that a new trial was not warranted.

One final aspect of the district court's conduct at trial which GPNE's arguments call into question is its refusal to issue a clarifying instruction on "pager." As discussed above, in the second week of trial, GPNE requested that the jury be instructed:

As to ["pager" or "paging system that operates independently from a telephone network"], you should apply their plain and ordinary meaning to a person of skill in the art after reading the entire patent and file history. The court's construction does not prohibit a "node" from being both a pager and a telephone. A pager could transmit certain communications on a paging system that operates

independently from a telephone network while engaging in other types of communication on the telephone network.

J.A. 7128. The district court did not abuse its discretion in refusing to give this instruction. The plain words of the district court's construction direct that "operat[ing] independently from a telephone network" is a "capability." GPNE's proposed instruction merely restates this point, although in more words and with language that directly draws from non-infringement arguments made at trial. In light of this, the district court was entitled to conclude that its given construction sufficiently clarified this point and no further explanation was needed.

In sum, none of the arguments that GPNE raises with respect to claim scope compel us to remand for a new trial. The district court correctly construed the terms and instructed the jury to apply its constructions. It also sufficiently resolved questions regarding the scope of "node" such that no *O2 Micro* problems are present here. We also discern no abuse of discretion in the district court's rejection of GPNE's proposed jury instruction or refusal to grant a new trial on the basis of Apple's pager-based arguments; thus, the district court properly rejected GPNE's request for a new trial on these grounds.

### III

GPNE does not appear to articulate an infringement position under the district court's construction of "node."<sup>1</sup>

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<sup>1</sup> In particular, GPNE has not developed any argument for why the following evidence fails to support the jury's non-infringement verdict. All of the accused devices operate on either the GPRS or LTE networks. At trial, GPNE's expert conceded that both of these networks become inoperable without GSM resources, J.A. 28417, and that the GSM system is a "telephone network." J.A.

Accordingly, because we affirm the district court's construction and find no basis under which GPNE is entitled to a new trial, we affirm the district court's judgment of non-infringement. We need not reach Apple's alternative grounds for affirmance, and provide no opinion on these issues.

**AFFIRMED**

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28413. Apple's expert testified to the same. *See* J.A. 28901–03, 28906. Linking these statements together yields the conclusion that the accused devices do not "operate independently of a telephone network."