

O2 MICRO ISSUES AT THE FEDERAL CIRCUIT A DECADE LATER

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O2 MICRO ISSUES AT THE FEDERAL CIRCUIT A DECADE LATER

I. INTRODUCTION

Just over a decade ago—on April 3, 2008—the Federal Circuit issued its opinion in *O2 Micro International Ltd. v. Beyond Innovation Technology Co., Ltd.*, 521 F.3d 1351 (Fed. Cir. 2008). The Federal Circuit held that “[w]hen the parties raise an actual dispute regarding the proper scope of these claims, the court, not the jury, must resolve that dispute.” *O2 Micro*, 521 F.3d at 1360 (citing *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff’d* 517 U.S. 370 (1996)). Since *O2 Micro*, the Federal Circuit has continued to issue opinions examining when courts must construe claim terms, give them their plain and ordinary meaning, or submit factual disputes to juries.

This article has three parts. First, the article reviews the *O2 Micro* case itself, plus two of the cases that led to it. Second, the article examines Federal Circuit opinions applying *O2 Micro* and explaining its contours, including several dissenting opinions calling into question whether *O2 Micro* has been consistently applied. Third, the article provides guidance for practitioners in light of *O2 Micro* and the Federal Circuit cases that have followed.

A. *O2 Micro* and Its Precursors

1. Markman: Claim Construction “Is a Matter of Law Exclusively for the Court”

In 1995, an en banc Federal Circuit “settle[d] inconsistencies in [its] precedent” and held that “in a case tried to a jury, the court has the power and obligation to construe as a matter of law the meaning of language used in the patent claim.” *Markman*, 52 F.3d at 979. This holding, according to the court, was consistent with the Supreme Court, which “has repeatedly held that the construction of a patent claim is a matter of law exclusively for the court.” *Id.* at 977.

In reaching its holding, the Federal Circuit recounted its “inconsistent statements” regarding claim construction that came from “cases which have statements that claim construction may be a factual or mixed issue.” *Id.* at 976 (citing *Tol-O-Matic, Inc. v. Proma Produkt-Und Mktg. Gesellschaft m.b.H.*, 945 F.2d 1546, 1550-52 (Fed. Cir. 1991); *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 974 (Fed. Cir. 1985)). To begin, the Federal Circuit discussed how, “[a]t its inception, the Federal Circuit held that claim construction was a matter of law.” *Id.* (citing *SSIH Equip. S.A. v. United States Int’l Trade Comm’n*, 718 F.2d 365, 376 (Fed. Cir. 1983); *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 770-71 (Fed. Cir. 1983); *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1569-71 (Fed. Cir. 1983); *SRI Int’l v. Matsushita Elec. Corp. of America*, 775 F.2d 1107, 1118-22, 1138-40 (Fed. Cir. 1985) (en banc)).

The court then noted that *McGill Inc. v. John Zink Co.*, 736 F.2d 666 (Fed. Cir. 1984) was “[t]he first Federal Circuit case to deviate from this precedent and state that claim construction may have underlying factual inquiries that must be submitted to a jury.” *Id.* *McGill* led to “a significant line of cases . . . stating (although rarely holding) that there may be jury triable fact issues in claim construction, relying on *McGill*.” *Id.* at 977 (citing *Bio-Rad Labs, Inc. v. Nicolet Instrument Corp.*, 739 F.2d 604, 614 (Fed. Cir. 1984); *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 974 (Fed. Cir. 1985); *Moeller v. Ionetics, Inc.*, 794 F.2d 653, 657 (Fed. Cir. 1986); *H.H. Robertson Co. v. United Steel Deck, Inc.*, 820 F.2d 384, 389 (Fed. Cir. 1987); *Perini America, Inc. v. Paper Converting Machine Co.*, 832 F.2d 581, 584 (Fed. Cir. 1987); *Tol-O-Matic, Inc. v. Proma Produkt-Und Mktg. Gesellschaft m.b.H.*, 945 F.2d 1546, (Fed. Cir. 1991)).

Yet other “Federal Circuit opinions . . . continued to follow the earlier pronouncements that claim construction is strictly a question of law for the court.” *Id.* (citing *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 986 (Fed. Cir. 1988); *Senmed, Inc. v. Richard-Allan Medical Indus., Inc.*, 888 F.2d 815, 818-20 (Fed. Cir. 1989); *Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1561-63 (Fed. Cir. 1991); *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387-88 (Fed. Cir. 1992); *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 822-23 (Fed. Cir. 1992)).

In 1996, the Supreme Court affirmed the en banc Federal Circuit. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). Specifically, the Supreme Court was confronted with the question:

whether the interpretation of a so-called patent claim, the portion of the patent document that defines the scope of the patentee's rights, is a matter of law reserved entirely for the court, or subject to a Seventh Amendment guarantee that a jury will determine the meaning of any disputed term of art about which expert testimony is offered.

Id. at 372. The Supreme Court held “that the construction of a patent, including terms of art within its claim, is exclusively within the province of the court.” *Id.*

2. Phillips: Claim Terms “Generally Given Their Ordinary and Customary Meaning”

In 2005, an en banc Federal Circuit again addressed claim construction principles—this time in the context of the meaning of the term “baffles.” *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). A panel opinion, with one judge dissenting, preceding the en banc court’s decision held that although “baffles” was not a means-plus-function term, it should be construed in a restrictive manner due to embodiments in the specification. *Id.* at 1310. The en banc court held that “baffles” was not a means-plus-function term, that the panel was incorrect as to its restrictive construction in light of the breadth of the specification, and that the term should be given its “generic meaning”—“objects that check, impede, or obstruct the flow of something.” *Id.* at 1310-28.

In reaching its holding, the en banc Federal Circuit stated that “the words of a claim ‘are generally given their ordinary and customary meaning.’” *Id.* at 1313 (quoting *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996); citing *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1299 (Fed. Cir. 1999); *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998)). Consistent with this, the en banc court noted that “[i]n some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Id.* at 1314 (citing *Brown v. 3M*, 265 F.3d 1349, 1352 (Fed. Cir. 2001)). But, the en banc court noted, “[i]n many cases that give rise to litigation, . . . determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art.” *Id.*

3. O2 Micro: Courts Must Resolve Claim Meaning and Scope

The Federal Circuit’s *O2 Micro* opinion was the result of an appeal from a district court jury verdict and final judgment in favor of the patentee plaintiff. *O2 Micro*, 521 F.3d at 1354. The *O2 Micro* patents were “directed to DC-to-AC converter circuits, which convert low voltage direct current (‘DC’) into higher voltage alternating current (‘AC’).” *Id.* The claims required (in part) the following:

a DC/AC converter circuit comprising:

a feedback control loop circuit receiving a feedback signal indicative of power being supplied to said load, and adapted to generate a second signal pulse signal for controlling the conduction state of said second plurality of switches **only if** said feedback signal is above a predetermined threshold.

Id. at 1356 (emphasis added) (quoting U.S. Patent No. 6,259,615). The accused products included various inverter controllers and inverter modules with inverter controllers. *Id.* at 1356-57. The relevant dispute on appeal related to the district court’s construction of the “only if” limitation and whether it was satisfied by the accused products. *Id.* at 1357.

At the district court, two groups of defendants proposed their own, different constructions of “only if” while the patentee “maintained that no construction was necessary because the claim term ‘only if’ consists of two simple, plain English words.” *Id.* (internal quotations omitted). The district court held that no construction was necessary as the term “has a well-understood definition, capable of application by both the jury and this court in considering the evidence submitted in support of an infringement or invalidity case.” *Id.* (internal quotations omitted).

The Federal Circuit vacated and remanded. *Id.* 1358-63. Specifically, the Federal Circuit held that “the parties’ arguments regarding the meaning and legal significance of the ‘only if’ limitation were improperly submitted to the jury” and remanded the case to the district court for further proceedings. *Id.* at 1362-63.

In reaching its holding, the Federal Circuit reiterated several relevant claim construction principles that are to be applied in deciding whether claim terms need construction, and, if so, how to construe them:

- “The purpose of claim construction is to ‘determin[e] the meaning and scope of the patent claims asserted to be infringed.’ When the parties raise an actual dispute regarding the proper scope of these claims, the court, not the jury, must resolve that dispute.” 521 F.3d at 1360 (citing *Markman*, 52 F.3d at 976, 979).

- “Words of a claim are generally given their ordinary and customary meaning, which is the meaning a term would have to a person of ordinary skill in the art after reviewing the intrinsic record at the time of the invention.” *Id.* (citing *Phillips*, 415 F.3d at 1312-13).
- “In some cases, the ordinary meaning of claim language ... may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.’ However, in many cases, the meaning of a claim term as understood by persons of skill in the art is not readily apparent.” *Id.* (quoting and citing *Phillips*, 415 F.3d at 1314).
- “A determination that a claim term ‘needs no construction’ or has the ‘plain and ordinary meaning’ may be inadequate when a term has more than one ‘ordinary’ meaning or when reliance on a term’s ‘ordinary’ meaning does not resolve the parties’ dispute.” *Id.* at 1361.
- “[D]istrict courts are not (and should not be) required to construe *every* limitation present in a patent’s asserted claims. Rather, ‘[c]laim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement.’” *Id.* at 1362 (quoting *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997); citing *Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1349 (Fed. Cir. 2001)).

Id. at 1360-62. In the *O2 Micro* case, because the “[t]he parties presented a dispute to the district court regarding the scope of the asserted claims”—“whether or not the ‘only if’ limitation allows for exceptions”—“the ‘ordinary’ meaning of a term does not resolve the parties’ dispute, and claim construction requires the court to determine what claim scope is appropriate in the context of the patents-in-suit.” *Id.* at 1360-61.

B. Claim Construction at the Federal Circuit after *O2 Micro*

Since the *O2 Micro* decision, the Federal Circuit has issued several dozen opinions citing back to *O2 Micro*. These citing opinions have ranged from simple citations to *O2 Micro* to examination of the contours of the opinion to doubts about whether *O2 Micro* has been correctly applied. What follows is an overview of the opinions examining *O2 Micro*’s boundaries and the questions that have been raised about its application.

1. Courts Are Required to Resolve Disputes as to Meaning and Scope

As the Federal Circuit noted in *O2 Micro*, “[w]hen the parties raise an actual dispute regarding the proper scope of these claims, the court, not the jury, must resolve that dispute.” 521 F.3d at 1362 (citing *Markman*, 52 F.3d at 979). Consistent with this, many of the Federal Circuit’s post-*O2 Micro* opinions have either criticized district courts for failing to resolve disputes as to scope or affirmed district court opinions that resolved scope disputes (even if the Federal Circuit held that the adopted construction was in error).

For instance, the Federal Circuit has held on several occasions that district courts erred by not resolving claim term scope disputes—though the cases are varied in terms of whether a vacatur and remand or reversal remedy was applied. Several cases have involved reversal, such as *Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314 (Fed. Cir. 2016). In *Eon*, the Federal Circuit acknowledged that there were limits to when claim term disputes would need to be resolved. *Id.* at 1318-19 (“Of course, a court need not attempt the impossible task of resolving all questions of meaning with absolute, univocal finality. Such 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.”). Nevertheless, the court noted that “a district court’s duty at the claim construction stage is, simply, the one that we described in *O2 Micro* and many times before: to resolve a dispute about claim scope that has been raised by the parties.” *Id.* at 1319. The court held that the district court erred by “instructing the jury that the claims should be given their plain and ordinary meaning” where “the parties actively disputed the scope of the ‘portable’ and ‘mobile’ terms.” *Id.* The court held that, under the proper construction of the terms, no reasonable jury could have found infringement and reversed. *Id.* at 1320; *but see id.* at 1329-30 (noting that “*O2 Micro* did not state” “the proposition that it was improper for the court to rely on the plain and ordinary meaning of . . . terms” “in such unqualified terms”; disagreeing that the district court left a dispute as to the terms unresolved; disagreeing that remedy of reversal was appropriate instead of new trial) (Bryson, J., dissenting).

In *Creative Internet Advertising Corp. v. Yahoo!, Inc.*, 476 Fed. Appx. 724 (Fed. Cir. 2011), the Federal Circuit held that the district court erred in its “refusal to instruct the jury on the question whether the claim required all three elements to operate on the same message had the effect of leaving a critical question of claim construction to the jury.” *Id.* at 728. Thus, the Federal Circuit held, “[t]he court erred in leaving a central question of claim construction

to the jury over Yahoo!'s objection." *Id.* The Federal Circuit then reversed the infringement finding "[b]ecause the evidence would not permit a reasonable jury to find that Yahoo! Messenger satisfied the second limitation of claim 45 as properly construed." *Id.* at 729

On other occasions, the Federal Circuit has simply remanded for further proceedings with a new construction. For instance, in *NobelBiz, Inc. v. Global Connect, L.L.C.*, 701 Fed. Appx. 994 (Fed. Cir. 2017), the Federal Circuit held that "the parties presented a clear dispute regarding the proper scope of the claims" during claim construction, and the district court erred by "[a]llowing the experts to make arguments to the jury about claim scope." *Id.* at 997; *but see id.* at 999-1000 ("There is no obligation for a district court to construe straightforward terms whose meaning and scope are readily understood. Infringement in this case is not a product of arcane claim language. . . . The decision of this case invokes the tension between deciding factual questions of infringement and converting such factual aspects into legal issues of claim construction.") (Newman, J., dissenting). The terms on appeal included "modifying caller identification data to the selected replacement telephone number" and "outbound call." *Id.* at 997, 998. The Federal Circuit went on to construe each of the terms. *Id.* at 997-98. However, unlike *Eon Corp*, the court remanded the case for a new trial using the Federal Circuit's constructions. *Id.* at 999.

In *Omega Patents, LLC v. CalAmp Corp.*, 920 F.3d 1337 (Fed. Cir. 2019), the Federal Circuit held that the district court erred by not construing a term where, in the district court's opinion, the appealing party's proposed construction of "vehicle device" came out of the patents' specification and was therefore unnecessary. *Id.* at 1346. Specifically, the Federal Circuit held that "[t]he court is not absolved of this duty to construe the actually disputed terms just because the specification of the patent defines the term. Even if the parties had agreed to the construction, the district court was still obligated to give that construction to the jury in its instructions." *Id.* at 1346-47. The court remanded for a new trial with its new construction. *Id.* at 1347-48.

In *Kaneka Corp. v. Xiamen Kingdomway Group Co.*, 790 F.3d 1298 (Fed. Cir. 2015), the Federal Circuit held that terms need not have "one plain and ordinary meaning that governs" and cited *O2 Micro* for the proposition that "[a]n adjective such as 'sealed' may have more than one plain and ordinary meaning." *Id.* 1304-05. The court held that the district court erred in adopting a plain and ordinary meaning of the term "sealed" that came from a dictionary. *Id.* The problem, according to the Federal Circuit, was that "the appropriate definition can be ascertained from the specification" and that definition was different than the district court's plain and ordinary meaning from the dictionary. *Id.* at 1305. The court reversed the grant of summary judgment and remanded the case back to the district court with its new construction. *Id.* at 1307.

Not every error in failing to resolve a scope dispute has led to vacatur and remand or reversal. In *Kinetic Concepts, Inc. v. Blue Sky Medical Group, Inc.*, 554 F.3d 1010 (Fed. Cir. 2009), the defendants argued "that the district court erred by vacating its construction of 'wound' when the term's meaning was critical to the obviousness inquiry." *Id.* at 1017. The Federal Circuit held "that the district court's failure to instruct the jury on the construction of 'wound' in this case was harmless." *Id.* at 1019 ("Because the jury's verdict is supported under the proper construction, and because we perceive no danger under the circumstances of this case that the jury may have used an incorrect construction of 'wound' that might have prejudiced Defendants, there is no need to remand for a new trial."). The court went on to note that "[w]hile [*O2 Micro*] permits a remand for further claim construction, it does not require one. Remanding is particularly unnecessary in this case, where claim construction was briefed before the district court and the disputed term was initially construed but later vacated because the parties did not use the construction in front of the jury." *Id.* at 1019 n.4.

In addition to finding error where a district court did not construe to resolve a dispute, the Federal Circuit has affirmed district courts that have attempted to resolve disputes. In *Howmedica Osteonics Corp. v. Zimmer, Inc.*, 822 F.3d 1312 (Fed. Cir. 2016), the Federal Circuit held that the district court properly construed "essentially midway" by "construing the unclear claim terms at issue in light of the written description explanation" instead of just holding that plain and ordinary meaning applied. *Id.* at 1320-23. Similarly, in *Clare v. Chrysler Group LLC*, 819 F.3d 1323 (Fed. Cir. 2016), the Federal Circuit held that the district court properly construed "external appearance" limitations despite the patentee plaintiff's objection "that the district court should not have construed the external appearance limitations because the words 'external' and 'appearance' are readily apparent to a layperson." *Id.* at 1329-32.

The Federal Circuit has also affirmed a district court's construction of another construction where there continued to be a dispute as to meaning of the other construction. For instance, in *Every Penny Counts, Inc. v. American Express Co.*, 563 F.3d 1378 (Fed. Cir. 2009), the Federal Circuit affirmed the district court's construction of the term "sales price" that was part of the construction for the term "excess cash." *Id.* at 1381-84; *see also id.* at 1383 ("In the light of this acknowledged disagreement over the meaning of 'sales price,' the fact that EPC [the patentee] would both propose to define its patent claims in terms of this phrase and then fault the court for attempting to clarify the phrase's meaning is at best ironic and at worst disingenuous.").

Even a mid-trial construction of a term can be acceptable where a dispute as to scope arises. In *Pressure Products Medical Supplies, Inc. v. Greatbatch Ltd.*, 599 F.3d 1308 (Fed. Cir. 2010), the district court further defined

“score line,” which was previously-construed by the magistrate, as it became apparent there was a dispute as to the scope of the term. *Id.* at 1315-16. The Federal Circuit acknowledged “[w]hile recognizing the potential for surprise and prejudice in a late adjustment to the meaning of claim terms, this court also acknowledges that the trial court is in the best position to prevent gamesmanship and unfair advantage during trial.” *Id.* at 1315. Further, the Federal Circuit refused to “substitute its judgment for that of the district judge, who understood the entire context far beyond the limitations of the written record on review” where “the district court made the adjustment early enough in the trial to give [the plaintiff/defendant] an opportunity to consider the new construction and adjust its arguments to account for the change.” *Id.* at 1315-16. Yet the Federal Circuit disagreed with the specific construction adopted by the district court and remanded the case to the district court with a new construction. *Id.* at 1317-18.

While it may be appropriate for a district court to resolve late-arising claim scope disputes, doing so without input from the parties has been held to be error. *TNS Media Research, LLC v. TiVo Research & Analytics, Inc.*, 692 Fed. Appx. 916, 938 (Fed. Cir. 2015) (“In order to resolve Kantar’s summary judgment motion, the district court decided to further construe the parties’ stipulated construction. It then applied this second construction to the disputed [...] products, without further input from the parties. We find this procedure improper.”).

2. Courts Are Not Required to Construe Terms Beyond Their Plain and Ordinary Meaning if There is No Dispute as to Scope or if a Narrower Construction is Rejected in Favor of Plain and Ordinary Meaning

As the Federal Circuit noted in *O2 Micro*, not all cases will require construction, including beyond plain and ordinary meaning. 521 F.3d at 1362 (quoting *Phillips*, 415 F.3d at 1314). Disputes over facts related to application of a claim construction also do not require further construction. *Id.* at 1363 (“We, however, recognize that district courts are not (and should not be) required to construe *every* limitation present in a patent’s asserted claims.” (emphasis original) (citing *Biotec*, 249 F.3d at 1349; *U.S. Surgical*, 103 F.3d at 1568)). Consistent with this guidance, many of the Federal Circuit’s post-*O2 Micro* opinions have held no construction was necessary.

The Federal Circuit has held it is not error for a district court to refuse to construe a term where expert testimony shows that the “term was not fundamentally in dispute.” In *Silicon Graphics, Inc. v. ATI Technologies, Inc.*, 607 F.3d 784 (Fed. Cir. 2010), the alleged dispute was related to an “argument [that] contradicts the ordinary meaning of ‘operating directly on the data in floating point format’” premised on one party’s expert’s testimony that was inconsistent with the remainder of their own testimony and the other party’s expert. *Id.* at 798. Thus, the Federal Circuit affirmed the district court’s decision to not construe “operating directly on” as “[t]he testimony of both sides’ experts at trial indicates that that term was not fundamentally in dispute.” *Id.*

On several occasions, the Federal Circuit has affirmed district courts’ adoptions of plain and ordinary meaning in favor of competing, generally narrower constructions. In *Summit 6, LLC v. Samsung Electronics Co., Ltd.*, 802 F.3d 1283 (Fed. Cir. 2015), the Federal Circuit affirmed the district court’s rejection of the defendant’s proposed construction of “being provided to” in favor of the patentee’s plain and ordinary meaning proposal. *Id.* at 1289-92; *see also id.* at 1291 (“‘Being provided to’ is comprised of commonly used terms; each is used in common parlance and has no special meaning in the art. Because the plain and ordinary meaning of the disputed claim language is clear, the district court did not err by declining to construe the claim term.”). Similarly, in *ActiveVideo Networks, Inc. v. Verizon Communications, Inc.*, 694 F.3d 1312 (Fed. Cir. 2012), the Federal Circuit held that “[t]he district court did not err in concluding that [‘superimposing the first indication over the display of the first anchor channel’ and ‘including with the first indication a second indication’] have plain meanings that do not require additional construction.” *Id.* at 1324-26. The Federal Circuit held that the “proposed construction erroneously reads limitations into the claims and the district court properly rejected that construction and resolved the dispute between the parties.” *Id.* at 1326. And in *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197 (Fed. Cir. 2010), the Federal Circuit disagreed with the defendant that “the district court shirked its responsibility to construe a disputed claim term by adopting ‘plain and ordinary meaning.’” *Id.* at 1206-07. As the Federal Circuit noted, “the district court rejected Defendants’ construction” of “addressed to a client” and “prevented the jury from reconstructing the term by stopping Defendants’ expert, Dr. Dan Wallach, from repeating to the jury that the asserted claims require an IP address.” *Id.* at 1207.

The Federal Circuit has even vacated a district court’s summary judgment of non-infringement where the district court misconstrued a term that should have been given its plain and ordinary meaning. In *TecSec, Inc. v. Adobe Systems Incorporated*, 658 Fed. Appx. 570 (Fed. Cir. 2016), the district court construed the term “selecting a label for the object” where it perceived a dispute in the summary judgment of non-infringement context despite the parties not proposing constructions and declining to brief the issue. *Id.* at 574. The Federal Circuit vacated the district court’s grant of summary judgment, holding that the term should have been given its plain and ordinary meaning. *Id.* at 576-78, 587.

The Federal Circuit has also suggested that over-reliance on plain and ordinary meaning may be relevant to claims of litigation misconduct. In *Eon-Net LP v. Flagstar Bancorp*, 653 F.3d 1314, 1324-26 (Fed. Cir. 2011), the Federal Circuit did not set aside the district court’s finding that the plaintiff committed litigation misconduct when it relied on plain and ordinary meaning for all claim terms, in part. *Id.* (“Eon-Net argues that it was not improper to argue that no claim terms of the asserted patents required construction because the district court was not obligated to construe every recited claim term. While it is certainly true that a district court is not obligated to construe every claim term, Eon-Net ignores the district court’s analysis, which is grounded on Eon-Net’s failure to engage the claim construction process in good faith, including Eon-Net’s submission of incomplete and misleading extrinsic evidence.”)

According to the Federal Circuit, district courts need not construe terms where the parties merely have a factual—rather than legal—dispute as to a claim term. This applies to infringement-related arguments, like those made in *Prism Technologies LLC v. Sprint Spectrum L.P.*, 849 F.3d 1360 (Fed. Cir. 2017). There, the Federal Circuit rejected the defendants’ contention that the district court “neglected its duty to resolve the parties’ dispute over the scope of ‘Internet Protocol network’ by allowing the jury to decide whether Sprint’s backhaul networks are sufficiently controlled to constitute an ‘Internet Protocol network.’” *Id.* at 1366-67. In fact, the district court “resolved the issue” in its “determination that Mr. Minor correctly interpreted the scope of the claims, *i.e.*, that ‘Internet Protocol network’ could indeed encompass networks that ‘in the aggregate’ have ‘no controlling organization.’” *Id.* at 1367. The Federal Circuit held, the dispute “was a question of fact, which the court properly reserved for the jury.” *Id.*

Similarly, in *GPNE Corp. v. Apple Inc.*, 830 F.3d 1365 (Fed. Cir. 2016), the Federal Circuit affirmed the district court’s construction of “node” to include a “pager” despite the defendant “devot[ing] a substantial amount of time at trial to comparing the accused iPhones and iPads to 1990s-era legacy pagers.” *Id.* at 1370-74. The district court acted appropriately, according to the Federal Circuit, because “the district court’s construction was sufficient to resolve the parties’ dispute over the scope of ‘node,’” and the defendants’ arguments were factual and related to non-infringement. *Id.* at 1373.

Lazare Kaplan International, Inc. v. Photoscribe Technologies, Inc., 628 F.3d 1369 (Fed. Cir. 2010) involved a call for “a new trial . . . because the district court erred by failing to further construe the ‘positional accuracy of placement’ limitation.” *Id.* at 1375. But, like in *Prism* and *GPNE*, the Federal Circuit rejected the complaint—“the parties’ dispute concerns factual questions relating to the test for infringement and not the legal inquiry of the appropriate scope of the ‘positional accuracy’ limitation.” *Id.* at 1376 (internal citations omitted).

Arguments about non-infringement during closing arguments have also been held to not implicate *O2 Micro*. In *Verizon Services Corp. v. Cox Fibernet Virginia, Inc.*, 602 F.3d 1325 (Fed. Cir. 2010), “Verizon characterize[d] Cox’s closing argument as creating an actual dispute regarding whether the patent claims were limited to communications over the Internet and/or the particular problems the inventors were trying to solve and requir[ing] reversal under *O2 Micro*.” *Id.* at 1334 (internal quotations omitted). The Federal Circuit disagreed. *Id.* Rather, “the allegedly improper arguments [Verizon] complains that Cox made do not relate to any particular misconstrued term,” but instead relate to non-infringement arguments. *Id.*

This factual versus legal dispute distinction also applies to invalidity-related arguments. In *re CSB-System International, Inc.*, 832 F.3d 1335 (Fed. Cir. 2016) There, the Federal Circuit held that the PTAB “erred in using the BRI standard,” but that “[e]ven under the *Phillips* standard, there is no basis for limiting the claims as narrowly as” the patentee argued. *Id.* at 1342-43. Specifically, the Federal Circuit held that “LAN Server” needed no further construction where the dispute was limited to the application of prior art to the claims and there was no fundamental dispute as to claim scope. *Id.*

The Federal Circuit has also rejected suggestions that the appropriateness of arguments in front of a jury implicates *O2 Micro*. In *Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310 (Fed. Cir. 2013), the Federal Circuit rejected the argument that there were claim-scope disputes. *Id.* at 1324-27. Rather, according to the court, the dispute was over whether certain arguments related to “creation,” “processing,” and “selection” terms were appropriately made in front of the jury. *Id.* at 1326. The court held that, “this issue in this case is whether there were improper arguments, not whether questions of claim scope were submitted to the jury,” and “the jury was explicitly told by the court to use only the court’s claim constructions.” *Id.* In *Function*, the party complaining on appeal “never objected to any supposed improper argument or testimony” during trial. *Id.* at 1327; *see also Verizon*, 602 F.3d at 1334-35 (“Verizon never identified at any time during the proceedings before the district court any specific claim term that was misconstrued or that needed further construction. . . . On this record, we are not persuaded that the district court abused its discretion by refusing to order a new trial on the basis of Cox’s arguments to the jury. . . . The district court specifically instructed the jury that counsel’s arguments and statements were not evidence. During closing, along with the allegedly improper arguments, Cox properly described the specific claim limitations that were missing from the accused system.”).

3. O2 Micro Applies at the Motion to Dismiss Stage and Outside Article III Proceedings

Although the majority of appeals implicating *O2 Micro* have been appeals from Article III summary or final judgments, the Federal Circuit has not limited its application of *O2 Micro* to certain case stages (such as at a *Markman* hearing or later) or even to Article III courts. In *Natural Alternatives Internation, Inc. v. Creative Compounds, LLC*, 918 F.3d 1338 (Fed. Cir. 2019), the Federal Circuit vacated the district court’s judgment on the pleadings under § 101 where, under the patentee’s proposed claim constructions, no § 101 exceptions were implicated. *Id.* at 1342-47, 1349. And in *Homeland Housewares, LLC v. Whirlpool Corp.*, 865 F.3d 1375 (Fed. Cir. 2017), the Federal Circuit held that “[j]ust as district courts must, when the parties raise an actual dispute regarding the proper scope of claims, resolve that dispute, the Board also must resolve such disputes in the context of IPRs.” *Id.* at 1375 (internal quotations and citations omitted); *see also id.* at 1376-78 (adopting a construction consistent with plain and ordinary meaning and specification, and holding that claims were anticipated under that construction); *see also In re CSB*, 832 F.3d at 1342-43 (applying *O2 Micro* in ex parte reexamination context).

4. O2 Micro Challenges are Waived if Not Timely Brought

Of all the *O2 Micro* issues to reach the Federal Circuit, waiver has been by far the most prevalent. A number of post-*O2 Micro* decisions have held that *O2 Micro* challenges were waived after not being timely raised. This waiver has happened, for instance, when *O2 Micro* issues were first raised after trial or too close to trial. For instance, in *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683 (Fed. Cir. 2008), the Federal Circuit rejected a complaint “that the district court erroneously failed to construe the term ‘networks’ and thus left an issue of claim construction to the jury.” 543 F.3d at 694. To the contrary, the Federal Circuit held that the complaining party “cannot be allowed to create a new claim construction dispute following the close of the jury trial.” *Id.* The court further held that:

Qualcomm’s reliance on our recent holding in *O2 Micro* is misplaced. Unlike in *O2 Micro*, where the parties disputed the proper construction of a term at a pre-trial *Markman* hearing, 521 F.3d at 1362, Qualcomm here has failed to offer its proposed construction of “networks” at or prior to trial, and we reject such arguments raised for the first time after the jury verdict.

Id. Numerous other Federal Circuit cases have similarly held that prolonged delay in raising alleged disputes about claim scope results in waiver. *See, e.g., Power Integrations, Inc. v. Fairchild Semiconductor International, Inc.*, 904 F.3d 965, 972-74 (Fed. Cir. 2018) (holding *O2 Micro* waiver where issue raised for first time on appeal); *Bettcher Industries, Inc. Bunzl USA, Inc.*, 661 F.3d 629 (Fed. Cir. 2011) (holding waiver where “Bunzl had ample opportunity to seek construction of the “bearing face” limitation. Here, the parties agreed to a schedule of disclosures. The district court issued a *Markman* order premised on the express belief that there were no other claim construction disputes. Bunzl said nothing. And then, a year after the *Markman* hearing, after submitting a new joint schedule that contained nothing about claim construction, Bunzl asked for a new construction.” (emphasis original)); *LifeNet Health v. LifeCell Corporation*, 837 F.3d 1316, 1322-25 (“Here, in light of LifeCell’s failure to sufficiently request further construction of the relevant limitation leading up to and during trial, we find that it fails to properly raise an *O2 Micro* issue.”); *TVIIM, LLC v. McAfee, Inc.*, 851 F.3d 1356, 1362-63 (Fed. Cir. 2017) (“We note that TVIIM did not seek construction of any of the three terms at trial. . . . [I]t has waived any new construction.”); *Lazare*, 628 F.3d at 1376 (“Lazare waived this argument by not raising it before the district court. . . . Lazare first asserted the claim construction argument it presses on appeal in a post-trial motion”); *see also Core Wireless Licensing S.A.R.L. v. Apple Inc.*, 899 F.3d 1356, 1363 n.1 (Fed. Cir. 2018) (refusing to address possible *O2 Micro* issues where “[n]either party raised th[e] issue on appeal”)

Similarly, the Federal Circuit has refused to find an *O2 Micro* error where a party has prevailed at claim construction, failed to timely articulate a dispute to the district court, and then complained about an alleged scope dispute well into a litigation. In *Polara Engineering Inc. v. Campbell Company*, 894 F.3d 1339 (Fed. Cir. 2018), the party whose proposed construction for “digital data signals” was adopted complained after trial that the district court committed error by not instructing the jury “regarding the court’s implicit prior construction of” the term and “not resolving the parties’ dispute regarding the construction” of the term. *Id.* at 1351. The Federal Circuit disagreed. *Id.* at 1351-52. Not only did the party “fail[]to show that the court’s instructions permitted the jury to apply a different claim construction at trial from the one that the court applied on summary judgment,” but the court found the argument “disingenuous” after the party had won at claim construction to begin with. *Id.* Judicial estoppel may have even applied. *Id.*

Waiver situations similar to *Polara* were present in *Nuance Communications, Inc. v. ABBYY USA Software House, Inc.*, 813 F.3d 1368 (Fed. Cir. 2016) and *Akamai Technologies, Inc. v. Limelights Networks, Inc.*, 805 F.3d

1368 (Fed. Cir. 2016). In *Nuance*, “the district court found in Nuance’s favor by adopting the plain and ordinary meaning of the term ‘identifying.’” 813 F.3d at 1373. The Federal Circuit held that no “O2 Micro violation” existed where “shortly before trial Nuance became dissatisfied with its own proposed construction and sought a new one.” *Id.* In *Akamai*, the Federal Circuit rejected a party’s O2 Micro complaint related to the term “tagging” where the construction was stipulated. 805 F.3d at 1376 (“Here, the parties *agreed* in the stipulation as to both the meaning and the scope of the term during claim construction”). The Federal Circuit held that the party could not “argue at the jury instruction stage—after the bulk of the trial was framed and directed by the *Markman* construction to which it agreed—that the construction was somehow too broad.” *Id.*

On the other hand, a number of post-O2 Micro decisions have held that O2 Micro challenges were not waived when raised at an appropriate time. For instance, the Federal Circuit has held in a number of cases that O2 Micro challenges were not waived when raised and rejected at *Markman* stage. *See, e.g., GPNE*, 830 F.3d at 1371-72 (rejecting a waiver argument where a party “raised the concern in both its *Markman* briefing and at the *Markman* hearing” as well as during trial); *Lighting Ballast Control LLC v. Philips Electronics North America Corp.*, 498 Fed. Appx. 986, 989 (Fed. Cir. 2013) (“Once [the defendant’s] position regarding the ‘voltage source means’ was made clear to the district court, [the defendant] was not required to renew its arguments during jury instructions.”); *Lighting Ballast Control LLC v. Philips Electronics North America Corp.*, 790 F.3d 1329, 1337 (Fed. Cir. 2015) (similar); *SanDisk Corp. v. Kingston Technology Co., Inc.*, 695 F.3d 1348, 1355 (Fed. Cir. 2012) (“Nor was SanDisk required to repeat its unsuccessful construction arguments to the district court during summary judgment to preserve the issue for appeal.”); *Smith & Nephew, Inc. v. Arthrex, Inc.*, 355 Fed. Appx. 384, 386 n.2 (Fed. Cir. 2009) (“Arthrex argued in favor of that claim construction at the *Markman* hearing, but the district court rejected it. When a party argues for a claim construction position at a *Markman* hearing and loses, we have held that, in general, the party is not required to continue to assert that claim construction in order to preserve its position for appeal”); *see also Transperfect Global, Inc. v. Matal*, 703 Fed. Appx. 953, 957 n.2 (Fed. Cir. 2017) (“Although TransPerfect also argues waiver, we decline to find waiver because the [USPTO] Director [Matal] did not change the scope of [the petitioner’s] claim construction position.”).

The appropriate time for resolution of O2 Micro disputes can extend all of the way into trial. For instance, in *Function*, the Federal Circuit held no waiver where “the dispute was brought to the district court’s attention during trial and the court heard arguments from both sides.” 708 F.3d at 1325. Another district court properly held an O2 Micro hearing during trial. *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc.*, 880 F.3d 1356, 1360 (Fed. Cir. 2018) (“The case proceeded to trial, and the district court, after hearing initial testimony, determined ‘an O2 Micro situation’ existed with respect to the claim terms ‘un-launched state’ and ‘reached directly,’ and afforded both sides an opportunity to argue constructions of these terms.”). The Federal Circuit has even advised that O2 Micro situations may arise on remand after reversals of claims constructions. *In re Papst Licensing Digital Camera Patent Litigation*, 778 F.3d 1255, 1261 (Fed. Cir. 2015) (“On remand, this case will proceed in light of our claim-construction reversals. For that reason, it is worth reiterating that a district court may (and sometimes must) revisit, alter, or supplement its claim constructions (subject to controlling appellate mandates) to the extent necessary to ensure that final constructions serve their purpose of genuinely clarifying the scope of claims for the finder of fact.”).

5. Some Federal Circuit Judges Question O2 Micro’s Application

Over the years, a number of Federal Circuit judges have written in dissent questioning the application of O2 Micro. Most recently, Judge O’Malley dissented in *E.I. du Pont De Nemours & Company v. Unifrax I LLC*, 921 F.3d 1060 (Fed. Cir. 2019). In that case, which affirmed the district court’s construction of “100% by weight” to mean “[t]here is no carrier material such as resin, adhesive, cloth, or paper in addition to the inorganic platelets. There may be some residual dispersant arising from incomplete drying of the platelet dispersion,” Judge O’Malley lamented “the O2 Micro trap” that district courts face “when ambiguous claims terms are left unconstrued, while simultaneously managing their patent cases to ensure efficient and orderly resolution and to deter belated claim construction proposals.” *Id.* at 1083, 1083 n.5. Judge O’Malley continued, noting that although the Federal Circuit “should generally defer to district court judges on such matters,” “the district court’s construction created ambiguity where there should have been none. In such instances, district courts must be vigilant to resolve such ambiguities.” *Id.* 1083 n.5. Instead, Judge O’Malley would have adopted the term’s plain meaning. *Id.* at 1083.

This was not the first time Judge O’Malley criticized an O2 Micro application. In a dissent to denial of en banc rehearing, Judge O’Malley issued an opinion joined by Judges Newman and Reyna. *NobelBiz, Inc. v. Global Connect, L.L.C.*, 876 F.3d 1326, 1326-30 (Fed. Cir. 2017) (O’Malley, J., dissenting from denial of petition for rehearing en banc). The panel in *NobelBiz* held that “the parties presented a clear dispute regarding the proper scope of the claims,” including the terms “modifying caller identification data to the selected replacement telephone number” and “outbound call” and construed each of the terms. 701 Fed. Appx. at 997-98.

In her dissent from the denial of rehearing en banc, Judge O'Malley took issue with the majority "by turning what is fundamentally a factual question for the jury regarding whether the accused systems and features infringe the patent claims into a legal one for the court." 876 F.3d at 1326-27. She went on to criticize the "stretch[ing]" of *O2 Micro*:

In the nearly ten years since *O2 Micro* issued, this court has stretched its holding well beyond the factual circumstances at issue there. In so doing, we have caused unnecessary difficulties for district courts, which must manage these already difficult-enough cases, and have intruded on the jury's fact-finding role. It is time we provide much-needed guidance en banc about *O2 Micro*'s reach.

Id. at 1327.

After noting the "simpler" technology at issue in *NobelBiz*, Judge O'Malley stated a number of problems with the Federal Circuit's application of *O2 Micro*, including at least the following:

- "*O2 Micro*'s general rule is easy enough to state in the abstract," but the Federal Circuit has "not articulated, however, what constitutes an 'actual dispute' in this context." *Id.* at 1327-28.
- "While we expect district courts to distinguish *bona fide* infringement arguments from those masquerading as claim construction disputes, we have not provided the lower courts with effective guidance to do so. As a result, courts have struggled to strike the delicate balance between ensuring that they do not permit the jury to determine claim scope, on the one hand, and ensuring that they do not encroach upon the constitutionally man-dated function of the jury to find facts, on the other." *Id.* at 1328.
- At least one district court had labeled *O2 Micro* a trap. *Id.* (citing *Huawei Techs. Co. v. T-Mobile US, Inc.*, No. 2:16-CV-00052-JRG-RSP, 2017 WL 4070592, at *1 (E.D. Tex. Aug. 29, 2017) (Payne, M.J.), *adopted*, 2017 WL 4049251 (E.D. Tex. Sept. 13, 2017) (Gilstrap, J.)).
- The Federal Circuit's "case law has applied *O2 Micro* inconsistently." *Id.* at 1328-29.
- The Federal Circuit's "lack of clarity about the reach of *O2 Micro* has also led courts to stray from general principles of orderly case management, making patent litigation needlessly more expensive and inefficient." *Id.* at 1329; *see also id.* ("[E]ven though district courts maintain broad discretion to manage their dockets, many courts apparently feel compelled by *O2 Micro* to resolve such disputes, no matter how late they are raised and no matter how simple the question posed for consideration by the jury might seem.").

Therefore, Judge O'Malley called for the Federal Circuit to "clarify the scope of *O2 Micro*'s reach, and, at the very least, clarify under what circumstances a plain-and-ordinary-meaning dispute is an 'actual' one within the meaning of *O2 Micro*. The fact that parties' experts might proffer differing definitions of a term's plain and ordinary meaning to a jury should not be enough to justify removing that question from the jury's consideration." *Id.* at 1330.

Just one year before Judge O'Malley's *NobelBiz* dissent, Judge Bryson offered his own dissent in the *Eon* case. 815 F.3d at 1323-31. The panel in *Eon* held that the district court erred by "instructing the jury that the claims should be given their plain and ordinary meaning" where "the parties actively disputed the scope of the 'portable' and 'mobile' terms." *Id.* at 1319. Judge Bryson did "not agree that the specifications of the two patents support[ed]" the majority's "restrictive definition" and instead, conclude[d] that the district court properly determined that the terms 'portable' and 'mobile' were used in their ordinary sense in the patent, and that the court properly instructed the jury to give those terms their ordinary meaning." *Id.* at 1323-24. Judge Bryson also noted that "*O2 Micro* did not state" "the proposition that it was improper for the court to rely on the plain and ordinary meaning of . . . terms" "in such unqualified terms." *Id.* at 1329. To the contrary, he suggested that *Eon* was similar to *Summit 6* in that the district court could resolve the claim scope dispute by rejecting a construction in favor of plain and ordinary meaning. *Id.* at 1329-30.

C. Guidance on *O2 Micro* for Practitioners

Several practice points are in order given the abundance of guidance from the Federal Circuit on the contours of *O2 Micro*. Note that these suggestions apply no matter the forum (including both Article III and Article I tribunals) or stage of the case (from the initial pleadings through the trial).

Avoid waiver. Practitioners should remain cognizant of claim construction disputes from the outset in their cases. These disputes may arise in the context of either the meaning or the scope of claims terms. Disputes will ideally be brought to the district court's attention at the *Markman* stage. But if disputes do not crystallize until later in

a case—including once trial begins—practitioners should still bring the issue to the court’s attention as soon as it arises, even if trial has already begun.

Frame disputes as legal or factual. When claim construction disputes arise, practitioners should raise their arguments in the light that best advances their position. For instance, a party wanting a district court to construe a term (or further construe a term) pursuant to *O2 Micro* should frame its argument as a disagreement as to claim meaning or claim scope, which is a legal dispute. On the other hand, a party that sees a dispute as one of mere application of accused products or prior art to a claim term should frame its argument as a factual dispute to the district court. These factual disputes are not for the district court to resolve through claim construction, but are instead for the jury to consider in its deliberation. Practitioners, however, should be careful not to over-rely on plain and ordinary meaning or no construction proposals during claim construction.

Know the *O2 Micro* landscape. Practitioners should be aware of the brewing and varied *O2 Micro* viewpoints. Specifically, several dissenting Federal Circuit judges appear less likely to find claim scope disputes. These judges may be more receptive to arguments that a dispute is factual for the jury, not the court, to decide.