United States Court of Appeals for the Federal Circuit

BRILLIANT INSTRUMENTS, INC.,
Plaintiff-Appellee,

v.

GUIDETECH, LLC,
Defendant-Appellant.

2012-1018

Appeal from the United States District Court for the Northern District of California in No. 09-CV-5517, Judge Claudia Wilken.

Decided: February 20, 2013

THOMAS W. LATHRAM, Silicon Edge Law Group LLP, of Pleasanton, California argued for plaintiff-appellee. With him on the brief were MARK P. GUIDOTTI and ARTHUR J. BEHEIL. Of counsel on the brief were MARK S. DAVIES and ROSS C. PAOLINO, Orrick Herrington & Sutcliffe, LLP, of Washington, DC.

EINAV COHEN, Attorney at Law, Sunnyvale, California, argued for defendant-appellant. Of counsel was JEFFREY W. GLUCK, Connolly Bove Lodge & Hutz LLP, of Washington, DC.

Before DYK, MOORE, and REYNA, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* MOORE.
Opinion concurring-in-part and dissenting-in-part filed by *Circuit Judge* DYK.

MOORE, *Circuit Judge*.

GuideTech, LLC (GuideTech) appeals from the district court's grant of summary judgment that Brilliant Instruments, Inc. (Brilliant) did not infringe three related GuideTech patents: U.S. Patent Nos. 6,226,231 ('231 patent), 6,091,671 ('671 patent), and 6,181,649 ('649 patent). *See Brilliant Instruments, Inc. v. GuideTech, Inc.*, No. C. 09-5517 SW, 2011 WL 3515904 (N.D. Cal. Aug. 11, 2011) (*Summary Judgment Order*). Because the court erred in granting summary judgment, we *reverse* and *remand*.

BACKGROUND

This appeal arises from a declaratory judgment action that Brilliant filed after the inventor of the patents-in-suit left GuideTech to found Brilliant. GuideTech's patents generally relate to circuits that measure the timing errors of digital signals in high-speed microprocessors. These circuits, which are referred to as time interval analyzers, detect timing errors by analyzing a digital circuit's clock signal and output signals.

The patents share a common specification and claim different aspects of the time interval measuring circuit. The '231 patent claims the circuit at a high level, reciting that the circuit comprises a "signal channel," a "plurality of measurement circuits defined within said signal channel," and a "processor circuit." Claim 1 is representative of the claims at issue:

> A time interval analyzer for measuring time intervals between signal events, said analyzer comprising:
>
> a signal channel that receives an input signal;
>
> *a plurality of measurement circuits defined within said signal channel in parallel with each other*, . . . ; and
>
> a processor circuit in communication with said signal channel . . . .

'231 patent claim 1 (emphasis added). The issue on appeal with regard to the '231 patent is whether Brilliant's time interval analyzers have "a plurality of measurement circuits defined within said signal channel." For purposes of this appeal, the parties agree that Brilliant's accused BI200 and BI220 products operate identically. Both products employ a "One-Channel-Two-Edge" mode in which they operate using "a single channel" and use two measurement circuits. J.A. 776.

The '671 and '649 patent claims are directed to internal circuitry of a measurement circuit. Claim 1 of the '671 patent is representative:

> A time interval analyzer for measuring time intervals between events in an input signal, said analyzer comprising:
>
> . . . a first current circuit having a constant current source or a constant current sink . . .;
>
> a second current circuit . . . ;
>
> a capacitor; [and] a shunt,
>
> *wherein said shunt and said capacitor are operatively disposed in parallel with respect to said first current circuit*,

> wherein said shunt is disposed between said first current circuit and said second current circuit . . . .

'671 patent claim 1 (emphasis added). The issue on appeal regarding the '671 and '649 patents is whether the measurement circuits in the BI200 and BI220 contain a capacitor "operatively disposed in parallel" with respect to a first current circuit. In its infringement allegations, GuideTech identified a capacitor that is part of the alleged "first current circuit."

The district court construed the disputed claim terms and entered summary judgment of noninfringement in favor of Brilliant for all three patents. GuideTech appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

I. STANDARD OF REVIEW

We review summary judgment decisions under regional circuit law. *Lexion Med., LLC v. Northgate Techs., Inc.*, 641 F.3d 1352, 1358 (Fed. Cir. 2011). The Ninth Circuit reviews the grant of summary judgment *de novo*. *Greater Yellowstone Coalition v. Lewis*, 628 F.3d 1143, 1148 (9th Cir. 2010). Summary judgment is appropriate 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). At the summary judgment stage, we credit all of the nonmovant's evidence and draw all justifiable inferences in its favor. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986).

Infringement, either literal or under the doctrine of equivalents, is a question of fact. *Crown Packaging Tech., Inc. v. Rexam Beverage Can Co.*, 559 F.3d 1308, 1312 (Fed. Cir. 2009). "Thus, on appeal from a grant of summary judgment of noninfringement, we must determine whether, after resolving reasonable factual inferences in

favor of the patentee, the district court correctly concluded that no reasonable jury could find infringement." *Id.* (quoting *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1429 (Fed. Cir. 2000)).

II. INFRINGEMENT OF THE '231 PATENT

GuideTech challenges the district court's grant of summary judgment of noninfringement of the '231 patent. At summary judgment, the court construed the "defined within said signal channel" limitation as "contained within a signal channel." *Summary Judgment Order*, 2011 WL 3515904, at *3–4. It further defined a "signal channel" as "an electrical circuit that includes a signal path for transmitting electrical signals." *Id.* at *3. Neither party challenges these constructions.

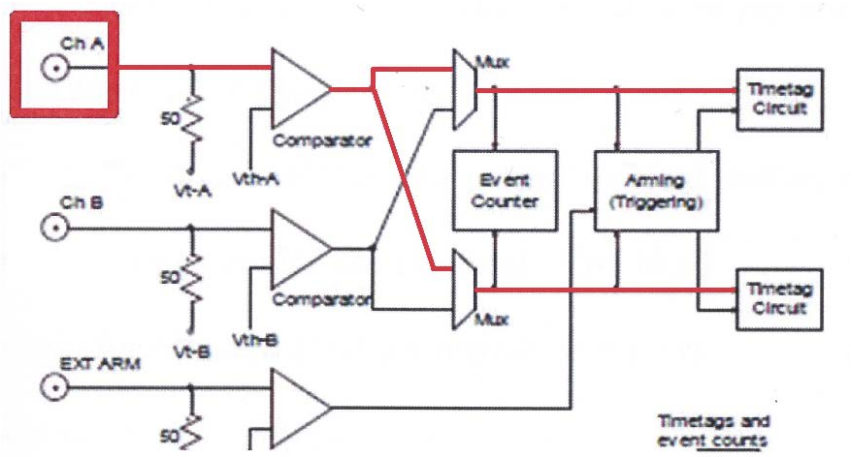
The district court concluded that GuideTech failed to present sufficient evidence that the BI200 and BI220 have multiple measurement circuits contained within a signal channel. *Id.* at *8–9. The court held that, although the accused products require the use of two measurement circuits, "it does not follow that both circuits are contained in a single channel." *Id.* at *8. The court concluded that the testimony of GuideTech's expert, Dr. West, failed to show that the measurement circuits were "contained" in the same channel. *Id.*

GuideTech argues that the district court erred in concluding that there was no genuine issue of material fact. GuideTech points to Dr. West's expert report, arguing that it shows that the BI200 and BI220 employ two circuits contained within a single channel when operating in the One-Channel-Two-Edge mode. GuideTech also argues that Brilliant's datasheets show that the accused products operate on a single channel and use two measurement circuits.

Brilliant argues that the district court properly granted summary judgment. Brilliant argues that it cannot

infringe because the district court, as a matter of claim construction, rejected GuideTech's argument that "defined within" allowed a measurement circuit to be present in more than one channel. Brilliant argues that the BI200 and BI220 do not infringe because each signal channel contains only one measurement circuit and simply borrows a second measurement circuit during One-Channel-Two-Edge mode.

We agree with GuideTech that the district court erred when it granted summary judgment. A genuine issue of material fact exists as to whether the BI200 and BI220, when operating in One-Channel-Two-Edge mode, have two measurement circuits contained within a signal channel, *i.e.*, an electrical circuit that includes a signal path for transmitting electrical signals. Dr. West explained how the BI200 and BI220 meet the asserted claims when operating in One-Channel-Two-Edge mode. J.A. 968–69, 1005–06, 1062. Brilliant's schematics also show that, during operation in One-Channel-Two-Edge mode, the only active signal path flows from the input to two measurement circuits:



J.A. 1263 (color modified). In the above schematic, a user sets the circuit to One-Channel-Two Edge Mode with

Channel A as the input. The signal path during operation in this mode is highlighted in the above schematic. Once received, the signal first flows through a comparator. The signal then flows into two multiplexers. The outputs of the multiplexers are then input into two measurement circuits (the timetag circuits).

This schematic and Dr. West's testimony, viewed in GuideTech's favor, shows that the only signal channel operative during One-Channel-Two-Edge mode contains two measurement circuits. This evidence raises a genuine issue of material fact as to whether Brilliant's products literally infringe the '231 patent claims. Accordingly, the district court erred when it granted Brilliant's motion for summary judgment, and we reverse and remand for further proceedings.

III. INFRINGEMENT OF THE '671 AND '649 PATENTS

GuideTech also challenges the district court's grant of summary judgment that Brilliant's accused products do not infringe the '671 and '649 patents. The district court construed the term "operatively disposed in parallel" to mean "arranged in a manner capable of forming alternative paths of current such that current can flow across one or the other path." *Summary Judgment Order*, 2011 WL 3515904, at *5–6. The parties do not challenge that construction on appeal.

The district court concluded that Brilliant was entitled to summary judgment because Dr. West conceded that the capacitor in Brilliant's products is "part of the first current circuit." Id. at *9. The court concluded that Dr. West's testimony indicated "that the capacitor is not on an alternative path on which current flows from the first current circuit." *Id.* Because it was undisputed that the capacitor in the accused products was part of the first current circuit and not arranged in parallel with the first current circuit, the court concluded that the accused products do not infringe the '671 and '649 patents, either

literally or under the doctrine of equivalents. *Id.* at *9–10.

GuideTech argues that nothing in the claims precludes the capacitor from being part of the first current circuit and, at the same time, operatively disposed in parallel with the shunt. It points to Dr. West's expert report, arguing that he opined that the measurement capacitor and the shunt are arranged to form alternate current paths during operation. Finally, GuideTech argues that Dr. West explained how the operation of the accused products was equivalent to operatively disposing the shunt and capacitor in parallel with respect to the first current circuit.

Brilliant responds that its products cannot literally infringe because it was undisputed that the accused capacitor is part of the first current circuit, not disposed in parallel with respect to it. Brilliant argues that GuideTech's infringement theory under the doctrine of equivalents fails because it would vitiate the requirement that the claimed "first current circuit" and the "capacitor" are separate elements.

We agree with Brilliant that the district court properly granted summary judgment that Brilliant's accused products do not literally infringe. The claims recite "said shunt and said capacitor are operatively disposed in parallel with respect to said first current circuit." It is undisputed that in Brilliant's accused product the capacitor is part of the first current circuit. Because, according to the undisputed facts, GuideTech cannot establish literal infringement, summary judgment of no literal infringement was appropriately granted.

We agree with GuideTech, however, that the district court erred when it granted summary judgment that Brilliant does not infringe under the doctrine of equivalents. To find infringement under the doctrine of equivalents, any differences between the claimed invention and

the accused product must be insubstantial. *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608 (1950). One way of proving infringement under the doctrine of equivalents is to show, for each claim limitation, that the accused product "performs substantially the same function in substantially the same way with substantially the same result as each claim limitation of the patented product." *Crown Packaging Tech., Inc. v. Rexam Beverage Can Co.*, 559 F.3d 1308, 1312 (Fed. Cir. 2009). This is a question of fact. *Id.*; *Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1313 (Fed. Cir. 2003).

In this case, GuideTech submitted an expert report by Dr. West that detailed its doctrine of equivalents theory under the function-way-result test. J.A. 1027. Brilliant does not contest Dr. West's recitations of the function, way, and result of the asserted claims or the accused products. Nor does Brilliant provide any contrary evidence. Instead, it argues that GuideTech's doctrine of equivalents infringement theory vitiates the requirement that the claimed "first current circuit" and the "capacitor" are separate claim elements.

Brilliant's vitiation argument fails. As we recently explained in *Deere & Co. v. Bush Hog, LLC*, _ F.3d _, Nos. 2011-1629, -1630, -1631, 2012 WL 6013405 (Fed. Cir. Dec. 4, 2012):

> "Vitiation" is not an exception to the doctrine of equivalents, but instead a legal determination that "the evidence is such that no reasonable jury could determine two elements to be equivalent." The proper inquiry for the court is to apply the doctrine of equivalents, asking whether an asserted equivalent represents an "insubstantial difference" from the claimed element, or "whether the substitute element matches the function, way, and result of the claimed element." If no reasonable

> jury could find equivalence, then the court must grant summary judgment of no infringement under the doctrine of equivalents.

Id. at *5 (citations omitted). The vitiation concept has its clearest application "where the accused device contain[s] the antithesis of the claimed structure." *Planet Bingo, LLC v. Game Tech Int'l, Inc.* 472 F.3d 1338, 1345 (Fed. Cir. 2006). This makes sense; two elements likely are not insubstantially different when they are polar opposites. As we explained in *Deere*, "[c]ourts should be cautious not to shortcut this inquiry by identifying a 'binary' choice in which an element is either present or 'not present.' Stated otherwise, the vitiation test cannot be satisfied by simply noting that an element is missing from the claimed structure or process because the doctrine of equivalents, by definition, recognizes that an element is missing that must be supplied by the equivalent substitute." *Deere*, _ F.3d at _, 2012 WL 6013405, at *5. The vitiation test cannot be satisfied merely by noting that the equivalent substitute is outside the claimed limitation's literal scope. Rather, vitiation applies when one of skill in the art would understand that the literal and substitute limitations are not interchangeable, not insubstantially different, and when they do not perform substantially the same function in substantially the same way, to accomplish substantially the same result. In short, saying that a claim element would be vitiated is akin to saying that there is no equivalent to the claim element in the accused device based on the well-established "function-way-result" or "insubstantial differences" tests.

To succeed on a doctrine of equivalents theory, the patentee must demonstrate equivalence under one of these two tests. This will be more difficult when the accused structure has an element that is the opposite of the claimed element, especially where the specification or prosecution history highlights the differences. If the claimed and accused elements are recognized by those of

skill in the art to be opposing ways of doing something, they are likely not insubstantially different. The concept of vitiation is an acknowledgement that each element in the claim must be present in the accused device either literally or equivalently. And we have applied this concept to cases where we have recognized that two alternatives exist that are very different from each other and therefore cannot be equivalents for infringement purposes. *See, e.g.*, *Planet Bingo*, 472 F.3d at 1345 (concluding that determining a winning combination *after* a game starts was not equivalent to determining a winning combination *before* the game starts); *Moore U.S.A., Inc. v. Std. Register Co.*, 229 F.3d 1091, 1106 (Fed. Cir. 2000) ("[I]t would defy logic to conclude that a minority—the very antithesis of a majority—could be insubstantially different from a claim limitation requiring a majority, and no reasonable juror could find otherwise.").

Applying these concepts to the facts of this case, we conclude that summary judgment must be reversed. The element at issue is: "wherein said shunt and said capacitor are *operatively disposed in parallel* with respect to said first current circuit." Dr. West, GuideTech's expert, agreed that in the accused device, the measurement capacitor is a component of the first current circuit. While this disposes of literal infringement, the doctrine of equivalents inquiry is: did GuideTech create a genuine issue of material fact regarding whether Brilliant's capacitor, located within the first current circuit, performs substantially the same function in substantially the same way to achieve substantially the same result as the claimed capacitor, which is operatively disposed in parallel to the shunt? Everyone agrees that the capacitor in the accused device is not located in exactly the same place as the claimed capacitor, but is the change in location an insubstantial difference? We conclude that, viewing all factual inferences in favor of GuideTech, it has created a

genuine issue of material fact which precludes summary judgment. Dr. West explained:

> The electrical disposition of the shunt and the capacitor with respect to the first current circuit of the BI200 and BI220 is equivalent to the electrical disposition of the shunt and the capacitor with respect to the first current circuit of this claim limitation because it performs substantially the same function (allowing the shunt to control the path of current flow to or from the first current circuit) in substantially the same way (wherein an electrical path from the first current circuit can be traced to either the capacitor or the shunt) to achieve substantially the same result (providing an electrical relationship wherein, e.g., the shunt can direct current to flow from the first current circuit to the second current circuit or from the first current circuit to the capacitor).

J.A. 1027. This detailed application of the function-way-result test to the claim element and the allegedly equivalent feature of the accused product is sufficient to create a genuine issue of material fact for the jury to resolve. The main difference between the accused circuit and the claimed circuit is that the capacitor in the accused circuit aids in delivering power and is thus part of the first current circuit. There is, however, no evidence suggesting that this added advantage of the accused design alters Dr. West's function-way-result analysis. On this record, GuideTech has created a genuine issue of material fact which precludes summary judgment of noninfringement under the doctrine of equivalents.

CONCLUSION

We have considered the parties' remaining arguments and conclude that they are without merit. For the foregoing reasons, the judgment of the district court is

REVERSED AND REMANDED.

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Decided: February 20, 2013

DYK, *Circuit Judge*, concurring in part and dissenting in part.

I agree with the majority with respect to the '231 patent, and with its holding that there is no literal infringement of the '671 patent and '649 patent. However, I disagree with the majority that a genuine issue of material fact remains as to infringement of the '671 and '649 patents under the doctrine of equivalents.

The only relevant claim limitation at issue with respect to the '671 and '649 patents requires that the "shunt

and . . . capacitor [be] operatively disposed in parallel with respect to [the] first current circuit." J.A. 61 ('671 Patent col.16 ll.63-65). The district court construed the "operatively disposed in parallel" portion of this limitation to mean "arranged in a manner capable of forming alternative paths of current such that current can flow across one or the other path." *See Brilliant Instruments, Inc. v. GuideTech, Inc.*, 2011 WL 3515904, at *5-6, 9 (N.D. Cal. Aug. 11, 2011) ("*Summary Judgment Order*"). It also implicitly recognized, however, that the remaining portion of this limitation required that this current flow be "with respect to" the first current circuit. *See id.* at *9.

There is no dispute in this case that the capacitor in the accused device was part of the first current circuit and therefore inside of that circuit. *Id.* Thus, the capacitor could not possibly be disposed in parallel "with respect to" something of which it is already a part. The district court, in rendering a judgment of noninfringement for Brilliant, therefore emphasized that "the capacitor is not on an alternative path on which current flows *from* the first current circuit." *Id.* (emphasis added). The majority acknowledges that "in Brilliant's accused product the capacitor is part of the first current circuit," and holds that "GuideTech cannot establish literal infringement" of either the '671 or the '649 patent. Maj. Op. at 8. However, the majority rejects the district court's conclusion that this fact "preclude[d] a finding of infringement . . . under the doctrine of equivalents." *Summary Judgment Order*, 2011 WL 3515904, at *9. In so doing, it relied on GuideTech's expert report from Dr. West as raising a genuine issue of material fact. *See* J.A. 1027; Maj. Op. at 9.

I disagree. The function-way-result test for equivalents requires "*showing on a limitation by limitation basis* that the accused product performs substantially the same function in substantially the same way with substantially the same result." *Crown Packaging Tech., Inc. v. Rexam*

Beverage Can Co., 559 F.3d 1308, 1312 (Fed. Cir. 2009) (emphasis added). Similarly, we have recently reiterated that "[r]egardless [of] how the equivalence test is articulated, 'the doctrine of equivalents must be applied to *individual limitations of the claim, not to the invention as a whole*.'" *Mirror Worlds, LLC v. Apple Inc.*, 692 F.3d 1351, 1357 (Fed. Cir. 2012) (quoting *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997) (emphasis added)). This guidance to consider each claim limitation under the doctrine of equivalents flows from the principles of claim vitiation, which require a determination of whether there is a substantial difference or a difference in kind between each individual claim limitation and the accused product. *See Trading Techs. Int'l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1355 (Fed. Cir. 2010).

While Dr. West purports to follow this guidance, in fact Dr. West's report is inconsistent with the approach articulated in the cases. It applies the equivalent to the invention as a whole rather than to the particular claim limitation at issue. The Dr. West expert report, in reciting the function-way-result of the claimed invention, states:

> [T]he electrical disposition of the shunt and the capacitor with respect to the first current circuit of the BI200 and BI220 is equivalent to the electrical disposition of the shunt and the capacitor with respect to the first current circuit of this claim limitation because it performs substantially the *same function (allowing the shunt to control the path of current flowing to or from the first current circuit)* in substantially the *same way (wherein an electrical path from the first current circuit can be traced to either the capacitor or the shunt)* to achieve substantially the *same result (providing an electrical relationship wherein, e.g., the shunt can direct current to flow from the first current cir-*

> *cuit to the second current circuit or from the first current circuit to the capacitor).*

J.A. 1027 (emphasis added). As the majority properly asks, "[e]veryone agrees that the capacitor in the accused device is not located [such that it is operatively disposed in parallel with respect to the first current circuit], but is the change in location an insubstantial difference?" Maj. Op. at 11. Dr. West's report fails to even address this question.

The "same result" Dr. West contends is achieved by the accused device is a result where "the shunt can direct current to flow from the first current circuit to the second current circuit or *from the first current circuit to the capacitor*." J.A. 1027 (emphasis added). But this "same result" cannot occur in the accused device, as it is undisputed that, because the capacitor is inside the first current circuit, current cannot flow *from* the first current circuit to the capacitor. An appropriate doctrine of equivalents analysis would have identified an identical result that was achieved in both the claimed invention and the accused invention, thereby demonstrating that the difference between the two was insubstantial. But there is no evidence in the record—from Dr. West or elsewhere—explaining why the difference between the claimed invention and the accused device (i.e., that the capacitor in the accused device is located inside, as opposed to outside, the first current circuit) is insubstantial or how the function-way-result test is satisfied as to this limitation.

Once Brilliant brought forth expert evidence that its devices were outside the scope of the claim limitations under a doctrine of equivalents analysis, the burden fell on "the nonmoving party [in this case, Guidetech] to set forth specific facts showing that there is a genuine dispute for trial." *Minkin v. Gibbons, P.C.*, 680 F.3d 1341, 1349 (Fed. Cir. 2012); *Shum v. Intel Corp.*, 633 F.3d 1067, 1076 (Fed. Cir. 2010). This Guidetech did not do. Indeed, given

that no evidence exists showing that Brilliant's accused products met the "with respect to" portion of the relevant limitation under the doctrine of equivalents, Brilliant merely needed to point out, as it did, "that there is an absence of evidence to support [Guidetech's infringement] case." *Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986).

Accordingly, I respectfully dissent as to this aspect of the majority's opinion, and I would affirm the district court's judgment of noninfringement as to the '671 and '649 patents under the doctrine of equivalents.