United States Court of Appeals for the Federal Circuit

SSI TECHNOLOGIES, LLC,
Plaintiff-Appellant

v.

DONGGUAN ZHENGYANG ELECTRONIC MECHANICAL LTD.,
Defendant-Cross-Appellant

2021-2345, 2022-1039

Appeals from the United States District Court for the Western District of Wisconsin in No. 3:20-cv-00019-jdp, Judge James D. Peterson.

Decided: February 13, 2023

SHANE A. BRUNNER, Michael Best & Friedrich, LLP, Madison, WI, argued for plaintiff-appellant. Also represented by MICHAEL BESS, Chicago, IL; J. RYAN GRAY, Raleigh, NC; MELANIE J. REICHENBERGER, Milwaukee, WI; DEREK C. STETTNER, Menomonee Falls, WI.

JOSEPH KUO, Saul Ewing Arnstein & Lehr LLP, Chicago, IL, argued for defendant-cross-appellant. Also represented by ELIZABETH A. THOMPSON.

Before REYNA, BRYSON, and CUNNINGHAM, *Circuit Judges*.

BRYSON, *Circuit Judge*.

Appellant SSI Technologies, LLC, ("SSI") brought this action against appellee Dongguan Zhengyang Electronic Mechanical LTD ("DZEM"), alleging that DZEM infringes two of SSI's patents. DZEM asserted counterclaims for invalidity of the asserted patents and for tortious interference with prospective business relations. The district court granted summary judgment to DZEM on the infringement claims and dismissed DZEM's invalidity counterclaims. The court also granted summary judgment to SSI on the tortious interference counterclaim. We affirm in part, reverse in part, vacate in part, and remand.

I

A

SSI has asserted U.S. Patent Nos. 8,733,153 ("the '153 patent") and 9,535,038 ("the '038 patent") against DZEM in this case. The patents are generally directed to sensors for determining the characteristics of fluid in a container, such as a fuel tank. SSI's commercial embodiments of the asserted patents and DZEM's accused products are systems that determine the quality and volume of diesel exhaust fluid ("DEF") that is used in emission-reduction systems for diesel truck engines.

1

Claim 1 is generally representative of the five asserted claims of the '153 patent for purposes of this appeal. It recites:

> 1. A system for determining a quality of a fluid in a tank, the system comprising:
>
> a transducer configured to generate a sound wave and to detect an echo of the sound wave, the transducer positioned near the bottom of the tank such that the sound wave travels toward a fixed object,

> the fixed object positioned a known distance away from the transducer;
>
> a temperature sensor configured to detect a temperature of the fluid; and
>
> a controller configured to
>
> > produce a signal to drive the transducer to produce the sound wave,
> >
> > receive an indication of the detected echo from the transducer,
> >
> > receive an indication of the temperature of the fluid from the temperature sensor, and
> >
> > determine whether a contaminant exists in the fluid based on the temperature of the fluid, a time period from when the sound wave is produced to when the echo is detected, and at least one of the group of a) whether a measured volume is out of range and b) *a dilution of the fluid is detected while the measured volume of the fluid decreases*.

'153 patent, cl. 1 (emphasis on disputed limitation).

The specification of the '153 patent describes an exemplary sensor system containing two transducers, a "level" transducer and a "quality" transducer. *Id.* at col. 6, ll. 5–12. The level transducer is positioned at the bottom of the tank and emits ultrasonic sound waves upward toward the surface of the fluid. *Id.* at Fig. 3 & col. 6, ll. 10–12. The quality transducer is positioned at the bottom of the tank and emits ultrasonic sound waves toward a reflector that is also positioned at the bottom of the tank. *Id.* at Fig. 3 & col. 6, ll. 8–10. Based on the time of flight of the sound wave emitted from the level transducer to the surface of the fluid, the system can calculate the volume of the fluid in the tank. *Id.* at col. 10, line 40, through col. 11, line 9.

Similarly, the system can determine the quality of the fluid (i.e., the concentration of the DEF) by using the time of flight of the sound wave, which is the elapsed time for the sound wave emitted from the quality transducer to travel to and back from the reflector. *Id.* at col. 9, ll. 17–50.

The '153 patent also discloses an error-detection mechanism by which the system can "detect failures of various components of the system." *Id.* at col. 12, ll. 38–40. First, the system can determine that an error exists "when it detects the concentration level of the [DEF] decreasing (i.e., becoming diluted) at the same time as the level of the [DEF] is decreasing." *Id.* at col. 12, ll. 40–43. Such conditions indicate an error "[b]ecause the [DEF] cannot become diluted when the level of the [DEF] is decreasing." *Id.* at col. 12, ll. 51–53. Second, the system can determine that an error exists when "the calculated level [of DEF] will exceed the known actual maximum level" of the tank.[1] *Id.* at col. 12, ll. 57–60.

2

Claim 9 of the '038 patent, the main claim of that patent that is at issue in this appeal, recites:

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[1] The specification of the '153 patent uses the terms "measured" and "calculated" interchangeably. At one point, the specification discloses that the controller can perform a "plausibility check" by "comparing the calculated level against the absolute physical capacity for the tank 110." '153 patent, col. 11, ll. 34–38. In the following sentence, the specification notes that "[t]he controller 400 generates a diagnostic output . . . whenever the measured level exceeds the capacity of the [DEF] tank." *Id.* at col. 11, ll. 39–41. Those two sentences describe the same functionality, and we therefore interpret the term "calculated," as used in the '153 patent, to be equivalent to the term "measured."

> 9. A sensor operable to sense a characteristic of a fluid, the sensor comprising:
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> a sensing area configured to contain the fluid;
>
> a chimney configured to exhaust entrapped air from the sensing area; and
>
> *a filter covering the sensing area*, the filter configured to
>
> > allow a liquid portion of the fluid to enter the sensing area, and
> >
> > substantially prohibit one or more gas bubbles of the fluid from entering the sensing area; and
>
> a transducer configured to
>
> > output a pulse of sound through the liquid portion of the fluid contained within the sensing area,
> >
> > receive the reflected pulse of sound, and
> >
> > output a characteristic of the fluid based on the received pulse of sound.

'038 patent, cl. 9 (emphasis on disputed limitation).

Like the system disclosed in the '153 patent, the sensor of the '038 patent operates by measuring the time of flight of an "ultrasonic pulse wave [that] travel[s] the distance of the sensing area and return[s] to the output point." *Id.* at col. 2, ll. 10–12. The invention of the '038 patent seeks to address the problem of "erratic measurement results" that may occur due to "air bubbles [that] are embedded in the fluid." *Id.* at col. 2, ll. 13–18. Accordingly, the specification of the '038 patent discloses a sensor having a filter that "blocks, or inhibits, air bubbles from entering a sensing area of the fluid sensor." *Id.* at col. 2, ll. 4–7.

B

1

The dispute in the district court regarding the '153 patent turned mainly on the limitation in claim 1 that recites a controller configured to

> determine whether a contaminant exists in the fluid based on the temperature of the fluid, a time period from when the sound wave is produced to when the echo is detected, and at least one of the group of a) whether a measured volume is out of range and b) a dilution of the fluid is detected while the measured volume of the fluid decreases.

'153 patent, cl. 1. The district court construed the second item of the Markush group in that limitation, "a dilution of the fluid is detected while the measured volume of the fluid decreases," to require that the contaminant determination actually consider the measured volume of the fluid. *SSI Techs., LLC v. Dongguan Zhengyang Elec. Mech. LTD*, 559 F. Supp. 3d 821, 829 (W.D. Wis. 2021).[2]

In support of its construction, the district court relied on the prosecution history of the '153 patent. As the court observed, the inventors amended claim 1 during prosecution to add the requirement that the controller base its contamination determination on "at least one of the group of a) whether a measured volume is out of range and b) a dilution of the fluid is detected while the measured volume of the fluid decreases." *Id.* at 829–30; J.A. 1093. The court concluded that the amendment to claim 1 was designed to

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[2] The parties agreed that the first item of the Markush group, "whether a measured volume is out of range," did not apply to DZEM's accused sensors. *SSI*, 559 F. Supp. 3d at 828.

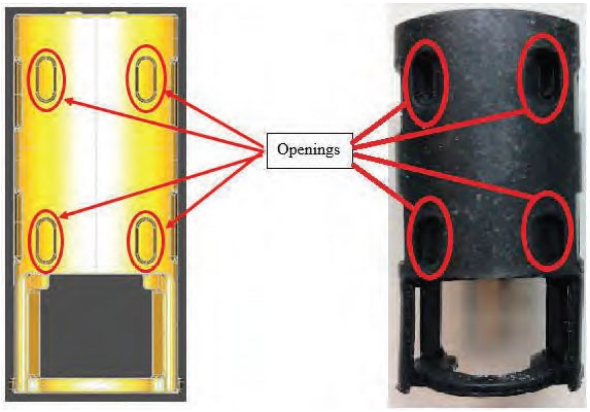
incorporate the error-detection capability recited in the specification. *SSI*, 559 F. Supp. 3d at 829–30.

In light of the court's construction and the parties' agreement that DZEM's accused sensor "doesn't base the contamination determination on any consideration of the measured volume of the fluid," the district court granted summary judgment that DZEM did not infringe the claims of the '153 patent. *Id.* at 830.

2

With respect to the '038 patent, the dispute in the district court turned mainly on the district court's construction of the term "filter" and its application of that construction in its infringement analysis. The district court adopted DZEM's proposed construction of "filter," construing the term to mean "a porous structure defining openings, and configured to remove impurities larger than said openings from a liquid or gas passing through the structure." *Id.* at 831–32.

DZEM's accused sensors include a rubber cover, which SSI argues is the filter recited in claim 9 of the '038 patent. The rubber cover, shown below, has four small openings on its underside, each measuring approximately 2 millimeters by 10 millimeters.



Id. at 833.

The district court held that DZEM did not infringe claim 9 because the rubber cover was not "porous" and therefore the accused sensors did not contain a "filter" as required by claim 9. *Id.* at 834. The court contrasted the openings in DZEM's rubber cover, which the court described as "relatively large," with the apertures disclosed in the '038 patent, which the court described as "tiny." *See id.* at 832, 834. The court also held that SSI had forfeited its argument that DZEM infringed claim 9 of the '038 patent under the doctrine of equivalents. *Id.* at 834.

C

DZEM's counterclaim for tortious interference is based on letters that SSI sent to several domestic and foreign companies advising them of SSI's lawsuit against DZEM. Some of the letters added that SSI was seeking German patent protection for its sensors. DZEM alleges that the companies that SSI contacted were customers of DZEM.

The district court granted summary judgment to SSI on the tortious interference counterclaim on the ground that "SSI's communications with companies in countries where SSI enjoys patent protection were protected" under the *Noerr-Pennington* doctrine, which "prohibits suits based on a defendant's petition to the government for redress of grievances." *SSI*, 559 F. Supp. 3d at 835–37. With respect to SSI's alleged communications with companies in other countries, the court granted summary judgment in favor of SSI because DZEM did not "adduce evidence that it had prospective contracts with those companies." *Id.* at 837.

In light of its decision to grant summary judgment of non-infringement of the '153 and '038 patents, the district court also dismissed without prejudice DZEM's counterclaims for invalidity of those patents. The court explained that "[n]othing in DZEM's complaint or any of the parties' briefing suggests that DZEM faces any risk of future prosecution under either of the patents-in-suit, so there is no

need for the court to determine whether the patents are invalid." *Id.* at 835. This appeal followed.

II

A

SSI argues that the district court erred in construing claim 1 of the '153 patent to require that the contaminant determination take into account the measured volume of the fluid. In so construing the claim, the district court relied on the prosecution history of the '153 patent. In particular, the court observed that the inventors amended claim 1 during prosecution to incorporate the error-detection capability described in the specification. *SSI*, 559 F. Supp. 3d at 829–30. We discern no error in the district court's analysis.

The specification of the '153 patent discloses two types of errors that the system may detect: (1) whether the measured volume exceeds the maximum volume of the tank; and (2) whether the system detects the DEF being diluted at the same time that the level of the fluid is decreasing. '153 patent, col. 11, ll. 35–42; *id.* at col. 12, ll. 38–60. Those two potential errors correspond closely to the two alternative limitations added to amended claim 1, which are "a) whether a measured volume is out of range and b) a dilution of the fluid is detected while the measured volume of the fluid decreases." *See* J.A. 1093. Those two potential errors also appear in dependent claims 30 and 31, respectively, although the patent uses slightly different language in those claims. Nonetheless, in view of the parallelism between the amendment to claim 1 and the error-detection capabilities disclosed elsewhere in the '153 patent, we agree with the district court that the amendment to claim 1 was intended to capture the error-detection capability of the controller.

To determine whether one of the two errors described above has occurred, the controller must necessarily compare its measured volume either to the actual capacity of

the tank or to a previous volume measurement. That fact strongly supports the district court's construction of the claim, which requires the contamination determination to be based in part on whether an error has occurred—a determination that is itself based on the measured volume of the fluid.

The district court's construction is further supported by the use of the phrase "measured volume" in claim 1. SSI's position is that the "dilution" limitation of claim 1 is satisfied so long as the volume of the liquid in the tank is decreasing, which is true any time the engine of the vehicle is running. *See* J.A. 208. However, if that were true, the word "measured" would be superfluous, as the word "volume" alone would be sufficient to give the claim the scope that DZEM proposes. The use of the term "measured volume" therefore indicates that claim 1 requires that the volume of the liquid in the tank must be determined and considered as part of the contamination analysis recited in claim 1. *See Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) ("A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.").

Having discerned no error in the district court's construction of claim 1, we agree with the district court that there is no genuine dispute of material fact regarding infringement of that claim. SSI has pointed to evidence that DZEM's accused sensors are capable of measuring the volume of the fluid in the tank. *See, e.g.*, J.A. 208, 787. However, SSI has offered no evidence that DZEM's accused sensors base their contaminant determinations on that volume measurement. Because the claim requires the controller to be "configured to consider whether the fluid volume is decreasing in making the contamination determination," *see SSI*, 559 F. Supp. 3d at 829, SSI's evidence is insufficient to create a triable issue regarding infringement. We therefore affirm the district court's grant of summary judgment of non-infringement of the '153 patent.

B

SSI next argues that the district court erred in granting summary judgment of non-infringement of the '038 patent because the court applied an impermissibly narrow construction of the term "filter." SSI also argues that the district court erred in concluding that SSI forfeited its claim of infringement under the doctrine of equivalents. We agree with SSI on both points.

1

Adopting DZEM's proposed construction of "filter," the district court construed that term to mean "a porous structure defining openings[] and configured to remove impurities larger than said openings from a liquid or gas passing through the structure." *SSI*, 559 F. Supp. 3d at 831–32. SSI proposed to the district court and maintains here that the term "filter" should be construed to mean "a device containing openings through which liquid is passed that blocks and separates out matter, such as air bubbles." Appellant's Br. 19. On their face, those constructions do not appear to differ significantly. However, the district court's application of DZEM's construction makes clear that there is a substantial difference between the two constructions.

In explaining its construction, the district court stated that DZEM's construction was persuasive in part because the discussion in the specification regarding filters indicated that "the effective aperture size is tiny—100 microns." *SSI*, 559 F. Supp. 3d at 832; *see also* '038 patent, col. 5, ll. 13–17 ("It has been found through empirical testing . . . that an aperture size of 100 microns reduces the quantity of gas bubbles within a sensing area sufficiently enough to enable continuous measurements . . . ."). The court held that DZEM's filters, by contrast, are not covered by claim 9 because the four openings in those filters are "relatively large." *SSI*, 559 F. Supp. 3d at 834. According to the court, DZEM's accused sensor "deflects larger bubbles, and . . . admits fluid with smaller bubbles into the

sensing area through four openings and then ventilates the smaller bubbles from four side slits." *Id.* As a result, the court stated, DZEM's sensor "does not have a filter that excludes bubbles by straining fluid through a porous surface." *Id.* It is clear from that analysis that the district court understood the word "porous" to require that the filter openings be smaller than a certain unspecified maximum size.

The specification of the '038 patent, however, contains no requirement regarding the size of the filter openings. Although it is true that each embodiment disclosed in the '038 patent contains a mesh filter, which has very small openings, the scope of a claim is not ordinarily limited to preferred embodiments or specific examples in the specification. *See Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1328 (Fed. Cir. 2002). And while the specific embodiments of the filters disclosed in the '038 patent specification contain small holes, the general references to a "filter" in the specification are quite broad and do not reflect an intent to limit the term "filter" to the disclosed embodiments:

- "The filter blocks, or inhibits, air bubbles from entering a sensing area of the fluid sensor." '038 patent, col. 2, ll. 6–7.
- "FIG. 5 illustrates a filter, or filter shroud, 250 for prohibiting, or inhibiting, the flow of gas, such as but not limited to, gas bubbles (i.e., gas trapped in a liquid). *In some embodiments*, the filter 250 includes mesh, or one or more, mesh screens, 255 and a frame 260." *Id.* at col. 4, ll. 49–53 (emphasis added).
- "Thus, the invention provides, among other things, a sensor system including a filter for preventing gas bubbles from entering the sensor system." *Id.* at col. 6, ll. 7–9.

In view of those statements in the specification, we do not construe the term "filter" to require openings that are

smaller than a particular size. Rather, a filter need only perform the function set forth in claim 9 of the patent: to "substantially prohibit one or more gas bubbles of the fluid from entering the sensing area."

Like the claim language, the specification makes clear that the filter of the '038 patent is not required to screen all bubbles from the sensing area of the sensor system, but only to "reduce[] the quantity of gas bubbles within a sensing area sufficiently enough to enable continuous measurements" by the sensors. '038 patent, col. 5, ll. 14–17. Gas bubbles that "have a diameter smaller than the aperture size of the mesh screens" will pass through the filter. *Id.* at col. 5, ll. 10–12. In other words, as long as the openings in the filter are small enough to prevent at least some gas bubbles from entering the sensing area, the openings need not be smaller than any particular maximum size.

Because the construction adopted by the district court could give rise to further disputes regarding the meaning of the word "porous"—a term that does not appear in the '038 patent—we adopt SSI's construction of the term "filter." That is, we hold that the term "filter" is properly construed to mean "a device containing openings through which liquid is passed that blocks and separates out matter, such as air bubbles." In light of our disposition of that issue, we vacate the district court's grant of summary judgment with respect to the '038 patent in its entirety, and remand for further proceedings consistent with this opinion.

2

In granting summary judgment of non-infringement of the '038 patent, the district court concluded that SSI had failed to develop its argument that DZEM's accused sensors infringed under the doctrine of equivalents and therefore had forfeited it. *Id.* The district court added that SSI's equivalents argument also failed on the merits because "no reasonable jury could find that [the] DZEM sensor's way of

achieving the function [excluding gas particles] is substantially the same as that claimed in the '038 patent." *Id.*

We disagree with the district court's conclusion that SSI forfeited its doctrine-of-equivalents infringement theory. SSI's summary judgment brief contained a two-page argument on the doctrine of equivalents, to which DZEM responded in its reply brief. J.A. 1167–69 (SSI brief); *SSI Techs., LLC v. Dongguan Zhengyang Elec. Mech. LTD*, No. 20-cv-19, Dkt. No. 130 at 33–34 (W.D. Wis. May 27, 2021) (DZEM reply). The discussion in SSI's brief cited a portion of SSI's expert's report, which set forth the function, way, and result of the operation of DZEM's accused products. J.A. 1168. SSI contended that the expert's analysis established the basis for SSI's claim of equivalence. *Id.* SSI's discussion of the doctrine of equivalents in its briefing and its evidence in support of that discussion, although relatively limited, was sufficient to preserve that theory of infringement. Accordingly, SSI will not be precluded from arguing on remand that DZEM's accused sensors infringe under the doctrine of equivalents.

C

DZEM argues that the district court erred in granting summary judgment in favor of SSI on DZEM's tortious interference counterclaim. Specifically, DZEM argues that SSI's communications with DZEM's customers are not protected under the *Noerr-Pennington* doctrine. Even if the *Noerr-Pennington* doctrine is applicable, DZEM argues, the "sham litigation" exception to that doctrine applies to this case and renders SSI's communications actionable.

When a plaintiff brings a state-law tort claim that arises out of "a patentholder's good faith conduct in communications asserting infringement of its patent and warning about potential litigation," we have held that "federal patent law preempts state-law tort liability." *Globetrotter Software, Inc. v. Elan Comput. Grp., Inc.*, 362 F.3d 1367, 1374 (Fed. Cir. 2004). In *Globetrotter*, we adopted the

standard of objective baselessness from *Noerr* as part of the test for determining whether pre-litigation communications regarding patent infringement are unprotected. *See id.* at 1375–77 (citing *E. R. R. Presidents Conf. v. Noerr Motor Freight, Inc.*, 365 U.S. 127 (1961), and *Pro. Real Est. Invs., Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49 (1993)). Thus, in order to assert a claim "that a patent holder has engaged in wrongful conduct by asserting claims of patent infringement," the plaintiff "must establish that the claims of infringement were objectively baseless." *Id.* at 1377. Objective baselessness must be established before the court may consider the subjective motivations of the patentee. *See id.* at 1375–76 & n.8; *GP Indus., Inc. v. Eran Indus., Inc.*, 500 F.3d 1369, 1375 (Fed. Cir. 2007).

The district court held that SSI's infringement claims were not objectively baseless, and we discern no error in that conclusion. In particular, the district court pointed to SSI's expert report regarding infringement as evidence that the suit was not objectively baseless. *SSI*, 559 F. Supp. 3d at 836. We have held that the existence of an expert opinion can be evidence that a party's position is not unreasonable, even if there is conflicting expert testimony in the record. *800 Adept, Inc. v. Murex Sec., Ltd.*, 539 F.3d 1354, 1371 (Fed. Cir. 2008). DZEM was required to establish by clear and convincing evidence that SSI's infringement suit was objectively baseless, but it failed to introduce any evidence of objective baselessness. *See Dominant Semiconductors Sdn. Bhd. v. OSRAM GmbH*, 524 F.3d 1254, 1263–64 (Fed. Cir. 2008). In view of SSI's expert report and DZEM's failure to adduce evidence of objective baselessness, the district court properly granted summary judgment that SSI's communications to outside parties, including those DZEM claimed to be its customers or prospective customers, were protected.

DZEM separately argues that SSI's communications to DZEM's foreign customers are not protected because "SSI

could not obtain [government] action where it has no rights to do so [i.e., no patent protection]." Cross-Appellant's Br. 55. We disagree that those communications were not protected. Each letter sent by SSI, on its face, refers only to alleged infringement of a United States patent. *See, e.g.*, J.A. 2102–03, 2111–13. Foreign entities can infringe a United States patent if they make, use, or sell an infringing product in the United States, or import an infringing product into the United States. *See* 35 U.S.C. § 271(a). The argument that SSI could not obtain government action against the foreign entities to which it sent letters is therefore unpersuasive.

Accordingly, we affirm the district court's grant of summary judgment to SSI on the tortious interference counterclaim.

D

DZEM also argues that the district court erred in dismissing DZEM's invalidity counterclaims without prejudice in light of the court's grant of summary judgment of non-infringement. We review a district court's decision to dismiss an invalidity counterclaim without prejudice for an abuse of discretion. *Flexuspine, Inc. v. Globus Med., Inc.*, 879 F.3d 1369, 1375–76 (Fed. Cir. 2018).

A district court lacks jurisdiction over a declaratory judgment counterclaim if that claim does not present a justiciable case or controversy under Article III of the Constitution. *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118, 126–27 (2007). In general, a determination of non-infringement does not moot a counterclaim of invalidity such that there is no Article III case or controversy. *Fort James Corp. v. Solo Cup Co.*, 412 F.3d 1340, 1348–49 (Fed. Cir. 2005); *Korszun v. Pub. Techs. Multimedia, Inc.*, 96 F. App'x 699, 700 (Fed. Cir. 2004); *see generally Cardinal Chem. Co. v. Morton Int'l, Inc.*, 508 U.S. 83 (1993). Moreover, once the case-or-controversy requirement has been satisfied, jurisdiction continues "absent further information." *Benitec*

Australia, Ltd. v. Nucleonics, Inc., 495 F.3d 1340, 1344–45 (Fed. Cir. 2007) (emphasis omitted). DZEM's invalidity counterclaims therefore likely satisfied the case-or-controversy requirement even after the district court granted summary judgment of non-infringement.

However, even in cases in which a district court has jurisdiction to hear a declaratory judgment claim, the Declaratory Judgment Act permits the court to decline to exercise jurisdiction over the claim as a matter of discretion. *Wilton v. Seven Falls Co.*, 515 U.S. 277, 286–87 (1995). Consistent with that principle, we have repeatedly held that a district court "faced with an invalidity counterclaim challenging a patent that it concludes was not infringed may either hear the claim or dismiss it without prejudice." *Liquid Dynamics Corp. v. Vaughan Co.*, 355 F.3d 1361, 1371 (Fed. Cir. 2004); *Flexuspine*, 879 F.3d at 1376; *Phonometrics, Inc. v. N. Telecom Inc.*, 133 F.3d 1459, 1468 (Fed. Cir. 1998); *Nystrom v. TREX Co.*, 339 F.3d 1347, 1351 & n.* (Fed. Cir. 2003); *Benitec*, 495 F.3d at 1353 & n.4 (Dyk, J., dissenting); *AstraZeneca LP v. Breath Ltd.*, 542 F. App'x 971, 981–82 (Fed. Cir. 2013), *as amended* (Dec. 12, 2013).

In this case, the district court dismissed the invalidity counterclaims without prejudice because "[n]othing in DZEM's complaint or any of the parties' briefing suggests that DZEM faces any risk of future prosecution under either of the patents-in-suit, so there is no need for the court to determine whether the patents are invalid." *SSI*, F. Supp. 3d at 834–35. We discern no abuse of discretion in the district court's decision to dismiss the counterclaims on that basis. *See AstraZeneca*, 542 F. App'x at 982 (affirming dismissal of invalidity counterclaim in light of the district court's observation that "the non-infringement judgment firmly and clearly resolves the case, and [the defendant] has not shown how a judgment of invalidity would provide any additional benefit" (citation omitted)).

Because we vacate the district court's summary judgment decision with respect to the '038 patent, we also

vacate the dismissal of the invalidity counterclaim regarding the '038 patent. As to the '153 patent, however, the district court permissibly exercised its discretion in dismissing the invalidity counterclaims in light of the absence of any apparent risk of future actions against DZEM. We therefore affirm the dismissal of the invalidity counterclaim regarding the '153 patent.

* * *

In summary, we reverse the district court's construction of the term "filter" as used in the claims of the '038 patent and vacate the district court's grant of summary judgment with respect to the '038 patent. We affirm the district court's grant of summary judgment with respect to the '153 patent and DZEM's counterclaim for tortious interference. We vacate the dismissal of the invalidity counterclaim regarding the '038 patent but affirm the dismissal of the invalidity counterclaim regarding the '153 patent.

No costs.

AFFIRMED-IN-PART, REVERSED-IN-PART, VACATED-IN-PART, AND REMANDED