

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

TQ DELTA, LLC,

Plaintiff;

v.

Civil Action No. 13-1835-RGA

2WIRE, INC.,

Defendant.

MEMORANDUM OPINION

Brian E. Farnan, Michael J. Farnan, FARNAN LLP, Wilmington, DE; Peter J. McAndrews, Paul W. McAndrews, Rajendra A. Chiplunkar, Ashley M. Ratycz, MCANDREWS, HELD & MALLOY, LTD., Chicago, IL,

Attorneys for Plaintiff.

Jody C. Barillare, MORGAN LEWIS & BOCKIUS LLP, Wilmington, DE; Brett Schuman, Rachel M. Walsh, GOODWIN PROCTER LLP, San Francisco, CA; Douglas J. Kline, GOODWIN PROCTER LLP, Boston, MA; Andrew S. Ong, GOODWIN PROCTER LLP, Redwood City, CA; Cindy Chang, GOODWIN PROCTER LLP, New York, NY,

Attorneys for Defendant.

June 29, 2021

  
ANDREWS, U.S. DISTRICT JUDGE:

Before the Court is Plaintiff's Motion for Partial Summary Judgment of Collateral Estoppel as to 2Wire's Invalidity Defenses for U.S. Patent Nos. 8,090,008 and 8,073,041. (D.I. 1472). I have reviewed the parties' briefing. (D.I. 1473, 1515, 1538).

## I. BACKGROUND

Plaintiff TQ Delta filed suit against Defendant 2Wire alleging infringement of twenty-four patents that span six different patent families. (D.I. 6). The Court divided the case into separate trials based on the patent families. (D.I. 280). This motion concerns the Family 4 Patents, U.S. Patent Nos. 7,292,627 ("the '627 Patent"), 8,090,008 ("the '008 Patent"), and 8,073,041 ("the '041 Patent"). Plaintiff alleges infringement of Claim 26 of the '627 Patent, Claim 14 of the '008 Patent, and Claim 14 of the '041 Patent. The patents-at-issue are directed to a system and method for scrambling the phase characteristics of carrier signals.

Plaintiff moves for partial summary judgment of collateral estoppel to preclude Defendant from presenting invalidity defenses under 35 U.S.C. §§ 102 and 103 for Claim 14 of the '008 Patent and Claim 14 of the '041 Patent ("Asserted Claims"). (D.I. 1473 at 1). Plaintiff's motion is based on an inter partes review ("IPR") of Claim 15 of TQ Delta's U.S. Patent No. 8,718,158 ("the '158 Patent"). In that proceeding, Defendant's parent company, Ruckus Wireless, Inc. (previously known as ARRIS Group, Inc.) challenged the validity of the '158 Patent in front of the Patent Trial and Appeal Board ("PTAB").

The PTAB cancelled Claim 15 of the '158 Patent, determining it to be obvious over prior art references U.S. Patent No. 6,144,696 ("Shively") and U.S. Patent No. 6,625,219 ("Stopler"). (D.I. 1478-4, Exh. DD at 36 of 46). Plaintiff appealed and the Federal Circuit reversed, finding that PTAB's factfinding was based on conclusory testimony and that its "obviousness

determinations were not supported by substantial evidence.” *TQ Delta, LLC v. CISCO Sys., Inc.*, 942 F.3d 1352, 1357 (Fed. Cir. 2019). Based on the IPR and the Federal Circuit’s determination that obviousness was not supported by substantial evidence, Plaintiff seeks to preclude Defendant “from challenging *related* patent claims in litigation against TQ Delta where the claims are substantially similar in material respects to, *e.g.*, at least as narrow as, the claims 2Wire previously and unsuccessfully challenged.” (D.I. 1473 at 1).

## II. LEGAL STANDARD

“The court shall grant summary judgment 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). Material facts are those “that could affect the outcome” of the proceeding, and “a dispute about a material fact is ‘genuine’ if the evidence is sufficient to permit a reasonable jury to return a verdict for the nonmoving party.” *Lamont v. New Jersey*, 637 F.3d 177, 181 (3d Cir. 2011) (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986)).

In deciding a motion for summary judgment, the court must view the evidence in the light most favorable to the non-moving party and draw all reasonable inferences in that party’s favor. *Scott v. Harris*, 550 U.S. 372, 380 (2007); *Wishkin v. Potter*, 476 F.3d 180, 184 (3d Cir. 2007).

## III. PATENT CLAIMS AT ISSUE

Plaintiff moves to preclude Defendant from contesting the validity of the Asserted Claims based on prior litigation of invalidity of Claim 15 of the ’158 Patent.

Claim 15 of the ’158 Patent recites:

15. A multicarrier modulation system including a first transceiver in communication with a second transceiver using a transmission signal having a plurality of carrier signals for modulating a plurality of data bits, each carrier signal having a phase characteristic associated with the input bit stream, the first transceiver capable of transmitting to the second transceiver the plurality of bits and operable to:

associate a carrier signal with a value determined independently of any bit of the plurality of data bits carried by the carrier signal, the value associated with the carrier signal determined by a pseudo-random number generator;

determine a phase shift of the carrier signal at least based on the value associated with the carrier signal;

modulate at least one bit of the plurality of data bits on the carrier signal; and

modulate the at least one bit on a second carrier signal of the plurality of carrier signals.

'158 Patent at cols. 11:45-12:13.

Claim 14 of the '008 Patent recites:

14. A multicarrier system including a first transceiver that uses a plurality of carrier signals for modulating a bit stream, wherein each carrier signal has a phase characteristic associated with the bit stream, the transceiver capable of:

associating each carrier signal with a value determined independently of any bit value of the bit stream carried by that respective carrier signal, the value associated with each carrier signal determined using a pseudo-random number generator;

computing a phase shift for each carrier signal based on the value associated with that carrier signal; and

combining the phase shift computed for each respective carrier signal with the phase characteristic of that carrier signal to substantially scramble the phase characteristics of the plurality of carrier signals, wherein multiple carrier signals corresponding to the scrambled carrier signals are used by the first transceiver to modulate the same bit value.

'008 Patent at cols. 11:41-12:14.

Claim 14 of the '041 Patent recites:

14. A multicarrier system including a first transceiver that uses a plurality of carrier signals for receiving a bit stream, wherein each carrier signal has a phase characteristic associated with the bit stream, the transceiver capable of receiving the bit stream, wherein:

each carrier signal is associated with a value determined independently of any bit value of the bit stream carried by that respective carrier signal, the value

associated with each carrier signal determined by a pseudo-random number generator,

a phase shift for each carrier signal is based on:

the value associated with that respective carrier signal, and

the combining of a phase shift for each carrier signal with the phase characteristic of that respective carrier signal so as to substantially scramble the phase characteristics of the plurality of carrier signals

multiple carrier signals corresponding to the plurality of phase shifted and scrambled carrier signals are used by the first multicarrier transceiver to demodulate a same input bit value of the received bit stream.

'041 Patent at cols. 11:42-12:16.

#### IV. ANALYSIS

Collateral estoppel, also known as issue preclusion, bars parties from re-litigating matters that they previously had a full and fair opportunity to litigate. *Montana v. United States*, 440 U.S. 147, 153 (1979). This “protects their adversaries from the expense and vexation attending multiple lawsuits, conserves judicial resources, and fosters reliance on judicial action by minimizing the possibility of inconsistent decisions.” *Id.* at 153-54.

In a patent case, the law of the regional circuit applies to collateral estoppel generally and Federal Circuit precedent applies where the determination of collateral estoppel involves substantive issues of patent law. *Ohio Willow Wood Co. v. Alps South, LLC*, 735 F.3d 1333, 1342 (Fed. Cir. 2013). Thus, Third Circuit law generally applies here. The Third Circuit analyzes four requirements for the application of collateral estoppel: “(1) the identical issue was previously adjudicated; (2) the issue was actually litigated; (3) the previous determination was necessary to the decision; and (4) the party being precluded from relitigating the issue was fully represented in the prior action.” *Jean Alexander Cosmetics, Inc. v. L’Oreal USA, Inc.*, 458 F.3d 244, 249 (3d Cir. 2006) (citation omitted). Whether the “basic requirements for issue preclusion

are satisfied” is a question of law. *Id.* at 248; *see also Ohio Willow Wood*, 735 F.3d at 1341 (*de novo* review of application of collateral estoppel). The Third Circuit has “also considered whether the party being precluded ‘had a full and fair opportunity to litigate the issue in question in the prior action.’” *Jean Alexander Cosmetics*, 458 F.3d at 249 (quoting *Seborowski v. Pittsburgh Press Co.*, 188 F.3d 163, 169 (3d Cir. 1999)).

#### **A. Fully Represented**

The parties dispute whether Defendant was “fully represented” in the prior action. (D.I. 1515 at 15-16; D.I. 1538 at 3-4).

As a general principle, “one is not bound by a judgment in personam in a litigation in which he is not designated as a party.” *Hansberry v. Lee*, 311 U.S. 32, 40 (1940). This is because a nonparty to a suit usually has not had a “full and fair opportunity to litigate” the issues in the suit. *Taylor v. Sturgell*, 553 U.S. 880, 895 (2008). However, there are six recognized exceptions to this general rule, *id.* at 893, and Plaintiff has raised three of them: (1) when a party “agree[d] to be bound by the determination of issues in an action between others”; (2) when a party had a pre-existing “substantive legal relationship” with a party in the earlier action; and (3) when a party was “adequately represented by someone with the same interests” in the earlier action. *Id.* at 893-95; (D.I. 1538 at 3-4). I need only address the “adequately represented by someone with the same interests” exception.

Plaintiff argues that Defendant was fully represented in the IPR proceeding by its parent company, ARRIS Group. ARRIS petitioned for an IPR of the ’158 Patent and moved to voluntarily join Cisco’s IPR proceeding regarding the ’158 Patent. (D.I. 1473 at 1, 14). Plaintiff asserts that ARRIS agreed to be bound by the findings of the IPR. (D.I. 1538 at 3). Plaintiff also

contends that Defendant had a prior, existing “substantive legal relationship” with ARRIS, as Defendant “does not dispute that it is a predecessor-in-interest to ARRIS.” (*Id.* at 4).

Defendant counters that it was not fully represented in the prior IPR proceeding. Defendant argues that it did not have a full and fair opportunity to litigate the issue of invalidity of the Asserted Claims as it was not a party to the proceeding and its parent company, ARRIS, only had a limited role in the prior IPR. (D.I. 1515 at 14). Defendant contends that since ARRIS was not an active participant in the IPR proceeding, Defendant’s interests were not fully represented. (*Id.* at 15).

I agree with Plaintiff that Defendant was fully represented in the prior action as ARRIS was a petitioner and participant in the IPR proceeding.

Defendant does not dispute that it was a predecessor-in-interest to ARRIS. (D.I. 1515 at 3 n.1). ARRIS was a participant in the prior IPR proceeding of the ’158 Patent. (D.I. 1478-4 at 1). In moving to join Cisco’s IPR, ARRIS asserted that its “petition raises the same grounds for unpatentability as does Cisco’s petition.” (D.I. 1478-3, Exh. CC at 7 of 11). ARRIS’s petition for joinder further argued that its petition for an IPR had no new arguments and relied on the same exhibits and expert as the Cisco IPR. (*Id.* at 8 of 11). ARRIS agreed to “assume a limited ‘understudy’ role” and to “only take on an active role if Cisco were no longer a party to the IPR.” (*Id.* at 9 of 11).

While ARRIS assumed a “limited ‘understudy’ role,” that did not prevent it from adequately representing its (and Defendant’s) interests. ARRIS stated that its petition raised the “same grounds for unpatentability as does Cisco’s petition” and that it had no new arguments. (*See id.* at 8 of 11). Therefore, ARRIS agreed with the grounds Cisco asserted at the IPR proceeding and did not have any new arguments to add. Despite being an “understudy”

petitioner, ARRIS was adequately represented at the prior IPR proceeding, as Cisco raised the same grounds and arguments that ARRIS asserted in its IPR petition prior to joining Cisco's IPR. (*See id.* at 7 of 11). As ARRIS, Defendant's parent, was adequately represented at the prior IPR proceeding, Defendant was fully represented in the prior action as well.

### **B. Identical Issue Previously Adjudicated**

The parties dispute whether the identical issue of invalidity was adjudicated in the IPR of the '158 Patent. The parties agree that there are two differences between Claim 15 of the '158 Patent and the Asserted Claims. One difference is that the claims are directed to different "target systems." Claim 15 of the '158 Patent recites a first transceiver and a second transceiver, while the Asserted Claims recite only a first transceiver. (D.I. 1473 at 7-8; D.I. 1515 at 10-11). The other difference is the additional "combining" limitation in the Asserted Claims. (D.I. 1473 at 8; D.I. 1515 at 11). The parties disagree as to whether these differences present a non-identical issue of invalidity.

The Third Circuit instructs that issues are identical where "the same general legal rules govern both cases" and where "the facts of both cases are indistinguishable as measured by those rules." *Suppan v. Dadonna*, 203 F.3d 228, 233 (3d Cir. 2000) (quoting 18 Charles Alan Wright, Arthur R. Miller & Edward H. Cooper, Federal Practice & Procedure § 4425 (1981)<sup>1</sup>). In the context of patent law, collateral estoppel is not limited to patent claims that are identical. *Ohio Willow Wood*, 735 F.3d at 1342. "Rather, it is the identity of the *issues* that were litigated that determines whether collateral estoppel should apply." *Id.* In other words, collateral estoppel is

---

<sup>1</sup> Despite the forty-year difference between the cited edition and the most current edition, Federal Practice & Procedure still states the same parameters for identical issues. *See* 18 Charles Alan Wright, Arthur R. Miller & Edward H. Cooper, Federal Practice & Procedure § 4425 (3d ed. 2020).



“applicable to unadjudicated claims where it was shown that the adjudicated and unadjudicated claims presented identical issues.” *Bourns, Inc. v. United States*, 537 F.2d 486, 492 (Ct. Cl. 1976). This is the case even where the actions involve different patents. “Collateral estoppel also applies to common issues in actions involving different but related patents.” *Mycogen Plant Sci., Inc. v. Monsanto Co.*, 252 F.3d 1306, 1310 (Fed. Cir. 2001), *vacated on other grounds*, 353 U.S. 1109 (2002).

In the invalidity context, “If the differences between the unadjudicated patent claims and adjudicated patent claims do not materially alter the question of invalidity, collateral estoppel applies.” *Ohio Willow Wood*, 735 F.3d at 1342 (internal citations omitted). To determine whether the question of invalidity is materially altered, the court must determine whether the invalidated patent claims are “substantially similar” to the unadjudicated patent claims. *Id.* In *Ohio Willow Wood*, the Federal Circuit, after determining that the mere use of different words did not create a new issue of invalidity, affirmed the grant of collateral estoppel as the opposing party had not “explained how any other alleged differences in claim scope alter the invalidity determination.” *Id.* at 1343. The Court concluded that since the opposing party “failed to explain how the... limitation changes the invalidity analysis,” it had not met its burden of opposing summary judgment. *Id.*

Plaintiff argues that the question of validity of Claim 15 of the '158 Patent is substantially similar to the questions of validity presented by the Asserted Claims. (D.I. 1473 at 5). Plaintiff therefore contends that the identical issue of invalidity has been previously adjudicated. (*Id.*). Plaintiff asserts that while there are “slight variations of certain claim limitations, the claims[] are substantially similar in structure and language to one another and do not call for a materially different analysis with respect to invalidity.” (*Id.* at 6). Plaintiff

maintains that Claim 15 of the '158 Patent is an “end-to-end system claim,” Claim 14 of the '008 Patent is a “transmitter claim,” and Claim 14 of the '041 Patent is a “receiver claim.” But, Plaintiff argues, these differences in the claims do not make for a difference in the invalidity analysis. Plaintiff asserts that a POSITA would have recognized that a transmitter and a receiver operate as a pair, so the techniques used for transmission are the same as those used for receiving. (*Id.* at 7-8). Further, Plaintiff argues that the Asserted Claims each have an additional “combining” limitation, which makes those claims narrower and even more difficult to invalidate than Claim 15 of the '158 Patent. (*Id.* at 8). Plaintiff contends that these differences were not material to the Federal Circuit’s decision to uphold the validity of Claim 15 of the '158 Patent and that the differences do not impact the invalidity analysis. (*Id.* at 8-9).

Defendant counters that the Asserted Claims present different invalidity issues than did Claim 15 of the '158 Patent. (D.I. 1515 at 10). Defendant asserts that the claims differ due to different “target systems” being at issue. (*Id.*). Specifically, Defendant contends that Claim 15 of the '158 Patent requires both first and second transceivers, while the Asserted Claims “are more specific and read on the individual transceivers responsible for receiving and transmitting the phase-shifted bits.” (*Id.* at 11 (internal citations omitted)). Defendant also argues that the additional “combining” limitation in Asserted Claims changes “the operation of the claims’ transceivers, as well as the scope of the claims,” which also changes “the analysis of whether a [POSITA] would be motivated to combine prior art references.” (*Id.*). Defendant argues that the Asserted Claims “require modulation of an entire bit stream with each bit value identified through the corresponding scrambled carrier signals as opposed to the unspecified modulation of a single bit as claimed in the '158 patent.” (*Id.*). In sum, Defendant argues that these differences make the Asserted Claims materially different from Claim 15 of the '158 Patent and that such

differences would change the invalidity analysis, at least for motivation to combine prior art references. (*Id.* at 12).

I agree with Defendant. Defendant has explained how the differences between the Asserted Claims and Claim 15 of the '158 Patent alter the invalidity analysis. Defendant's expert, Dr. Leonard J. Cimini, Jr., states, "these claims differ in the scope of the invention claimed." (D.I. 1475-3, Exh. C at 104). Dr. Cimini explains, "Specifically, while all of these claims describe 'determining,' 'computing,' or otherwise identifying a 'phase shift,' Claim 15 of the '158 Patent does not require combining that phase shift with the phase characteristic of a carrier signal 'to substantially scramble the phase characteristics of the plurality of carrier signals.'" (*Id.*). Dr. Cimini opines that the difference in the language between the claims "is more than a narrowing of claim breadth" and that "this language changes the operation of the claimed transceivers and scope of the claims, and changes the analysis of how and whether a [POSITA] would be motivated to combine prior art references to achieve the claimed invention." (*Id.*).

Dr. Cimini also states that Claim 15 of the '158 Patent involves both a first transceiver and a second transceiver, which "narrows the scope of this claim to systems involving both ends of a network." (*Id.*). Dr. Cimini opines, "One of ordinary skill in the art would understand that, though some functionality would be common in between the two kinds of claims, that different prior art may be considered by one of ordinary skill in the art when looking at [C]laim 15 of the '158 patent." (*Id.* at 104-05).

Dr. Cimini's report explains how there is a difference in claim scope between the Asserted Claims and Claim 15 of the '158 Patent. (*Id.*). He opines that this difference would change the analysis of a POSITA's motivation to combine prior art. (*Id.* at 104). With this evidence, Defendant has shown that the differences between the Asserted Claims and Claim 15

of the '158 Patent materially alter the invalidity analysis. The IPR at issue here was reversed on appeal when the Federal Circuit concluded that no reasonable factfinder could find that a POSITA would have had motivation to combine the prior art references at the time of the invention. *TQ Delta, LLC*, 942 F.3d at 1361-62. As the reversal of the IPR was premised on this issue, it follows that a difference in the claims that would alter a POSITA's motivation to combine prior art references would be material to the invalidity analysis. *See id.*

Unlike *Ohio Willow Wood*, here, Defendant has explained how the additional limitations would change an invalidity analysis. *Ohio Willow Wood*, 735 F.3d at 1342; (D.I. 1475-3, Exh. C at 104-05). For this reason, Defendant has met its burden in opposing summary judgment. As the collateral estoppel requirement that the identical issue be previously adjudicated is not met, Plaintiff's motion for partial summary judgment of collateral estoppel is denied.<sup>2</sup>

## V. CONCLUSION

For these reasons, Plaintiff's motion for partial summary judgment of collateral estoppel as to 2Wire's invalidity defenses for Claim 14 of the '008 Patent and Claim 14 of the '041 Patent is denied.

A separate order will be entered.

---

<sup>2</sup> As summary judgment of collateral estoppel is denied on this ground, I will not further evaluate the parties' arguments as to whether the issue was actually litigated and necessary to the judgment.

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

TQ DELTA, LLC,

Plaintiff;

v.

Civil Action No. 13-1835-RGA

2WIRE, INC.,

Defendant.

ORDER

For the reasons stated in the accompanying memorandum opinion, Plaintiff's Motion for Partial Summary Judgment of Collateral Estoppel as to 2Wire's Invalidity Defenses for U.S. Patent Nos. 8,090,008 and 8,073,041 (D.I. 1472) is **DENIED**.

IT IS SO ORDERED this 29<sup>th</sup> day of June 2021.

/s/ Richard G. Andrews  
United States District Judge