

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

TQ DELTA, LLC,

Plaintiff,

v.

ADTRAN, INC.,

Defendant.

Civil Action No. 14-954-RGA

ADTRAN, INC.,

Plaintiff and  
Counterclaim Defendant,

v.

TQ DELTA, LLC,

Defendant and  
Counterclaim Plaintiff.

Civil Action No. 15-121-RGA

MEMORANDUM OPINION

Brian E. Farnan and Michael J. Farnan, FARNAN LLP, Wilmington, DE; Peter J. McAndrews, Timothy J. Malloy, Thomas J. Wimbiscus, Sharon A. Hwang, Paul W. McAndrews, and Anna M. Targowska, MCANDREWS, HELD & MALLOY, LTD., Chicago, IL, attorneys for Plaintiff TQ Delta LLC.

Kenneth L. Dorsney, MORRIS JAMES LLP, Wilmington, DE; Garland Stephens, Melissa L. Hotze, Justin L. Constant and Rene E. Mai, WEIL, GOTSHAL & MANGES LLP, Houston, TX, attorneys for Defendant ADTRAN, Inc.

September: 12, 2019



**ANDREWS, U.S. DISTRICT JUDGE:**

Currently pending before the Court are the parties' various motions for summary judgment. (D.I. 635, 637, 647).<sup>1</sup> This opinion will address TQ Delta's Motion for Summary Judgment of No Invalidity of the Asserted Claims of U.S. Patent No. 8,595,577 (D.I. 647) and ADTRAN's Motion for Summary Judgment of Invalidity of U.S. Patent Nos. 8,595,577 (D.I. 635). The parties have fully briefed the issues. (D.I. 636, 648, 680, 682, 703, 705). After full consideration of the briefing, the motions are resolved as follows.

## **I. BACKGROUND**

Plaintiff TQ Delta filed this lawsuit against Defendant ADTRAN on July 17, 2014 asserting infringement of thirty-two patents. (D.I. 1). ADTRAN has countersued. (C.A. 15-121, D.I. 1). I have divided the case into separate trials based on families of patents. (D.I. 369). For the Family 9 trial, TQ Delta currently asserts claims 30, 53, and 55 of U.S. Patent No. 8,595,577 ("the '577 patent"), claim 31 of U.S. Patent No. 8,335,956 ("the '956 patent"), claim 10 of U.S. Patent No. 8,468,411 ("the '411 patent"), and claim 7 of U.S. Patent No. 8,645,784 ("the '784 patent"). The Accused Products are those products containing the BCM65300 chipset. (D.I. 644 at 1 n. 1).

The Family 9 patents are "directed to various aspects of packet retransmission and memory sharing in communications systems." (D.I. 447 at 1). The asserted claims of the '577 patent read as follows:

30. An apparatus comprising:

a multicarrier transceiver operable to receive at least one packet using deinterleaving, and transmit at least one message without using interleaving, wherein the at least one message includes information that indicates an acknowledgement (ACK) or a negative acknowledgement (NACK) of the at least

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<sup>1</sup> All docket item citations are to C.A. 14-954 unless otherwise noted.

one packet, wherein the at least one packet comprises one or more Reed-Solomon codewords.

53. An apparatus comprising:

a multicarrier transceiver operable to transmit at least one packet using interleaving, and receive at least one message without using interleaving, wherein the at least one message includes information that indicates an acknowledgement (ACK) or a negative acknowledgement (NACK) of the at least one packet, wherein the at least one packet comprises one or more Reed-Solomon codewords.

55. The apparatus of claim 53, wherein the transceiver is operable to retransmit at least one packet using interleaving.

('577 patent, cls. 30, 53, 55).

TQ Delta has filed a motion for summary judgment of no invalidity of the '577 patent. (D.I. 647). ADTRAN has filed a motion for summary judgment of invalidity of the '577 and '784 patents. (D.I. 635). TQ Delta requests that I grant summary judgment of no invalidity under 35 U.S.C. § 101, § 102, § 103, and § 112. (D.I. 648 at 20). ADTRAN has conceded that it is only asserting invalidity theories under § 103 for Family 9. (D.I. 684 at 2). Thus, I will grant summary judgment of no invalidity under § 101, § 102, and § 112. ADTRAN requests summary judgment of invalidity for obviousness under § 103. (D.I. 635).

ADTRAN has four combinations of prior art that it argues make the asserted claims of the '577 patent obvious under § 103. ADTRAN asserts that the '577 patent is obvious (1) in view of VDSL1, (2) over Yap in view of VDSL1, (3) over Chen in view of ADSL2, and (4) over Chen in view of Nadev. ADTRAN only requests summary judgment of invalidity under two of those combinations: (1) VDSL1 and (2) Chen in view of ADSL2. (D.I. 636 at 1).

## **II. LEGAL STANDARD**

### **A. Summary Judgment**

“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). The moving party has the initial burden of proving the absence of a genuinely disputed material fact relative to the claims in question. *Celotex Corp. v. Catrett*, 477 U.S. 317, 330 (1986). 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)). When determining whether a genuine issue of material fact exists, 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).

### **B. 35 U.S.C. § 103**

A patent claim is invalid as obvious under 35 U.S.C. § 103 “if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103; *see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406-07 (2007). “Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.” *KSR*, 550 U.S. at 406 (internal citation and quotation marks omitted).

A court is required to consider secondary considerations, or objective indicia of nonobviousness, before reaching an obviousness determination, as a “check against hindsight bias.” *See In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1078-79 (Fed. Cir. 2012). “Such secondary considerations as commercial success,

long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). Where “the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate.” *KSR*, 550 U.S. at 427.

### **III. DISCUSSION**

#### **A. VDSL1**

The parties have both moved for summary judgment on ADTRAN’s claim of obviousness over VDSL1. TQ Delta asserts that there is no dispute that:

[The VDSL1 standard] does not disclose a multicarrier transceiver operable to receive at least one packet using deinterleaving and transmit at least one message without using interleaving wherein the at least one message includes information that indicates an acknowledgment (ACK) or a negative acknowledgement (NACK) of the at least one packet wherein the at least one packet comprises one or more Reed Solomon codewords.

(D.I. 648 at 7-8). More specifically, TQ Delta argues that Dr. Wesel has failed to “tie any particular non-interleaved ACK or NACK message to any particular deinterleaved packet” as required by the claim language. (D.I. 648 at 8). ADTRAN responds that there is no dispute that each individual limitation is present in VDSL1 and that a person of ordinary skill in the art would have been motivated “to use the concept of retransmission and the associated ACK/NACK messaging used in initialization in VDSL1 to provide further protection from those noise sources.” (D.I. 636 at 8). In other words, ADTRAN asserts that a person of ordinary skill in the art would have the knowledge to rearrange the limitations present in VDSL1 to arrive at the arrangement claimed in the ’577 patent.

It appears from the parties' briefing that there is no genuine dispute that VDSL1 discloses the various elements of the claims, but in a different arrangement than that claimed. (D.I. 636 at 6-11; D.I. 648 at 8 (acknowledging that VDSL1 contains ACK/NACK messages, uses interleaving/deinterleaving, and transmits/receives messages)). There are, however, two genuine disputes of material fact that prevent summary judgment in favor of either party. First, there is a genuine dispute of material fact as to whether the knowledge of a person of ordinary skill in the art would permit the person to create the claimed relationship between the various claim elements. (*Id.*; D.I. 680 at 6-7, 9). Second, there is a genuine dispute of material fact as to whether a person of ordinary skill in the art would have had the motivation to alter the elements of the VDSL1 reference to create the claimed apparatus. (D.I. 636 at 7-8; D.I. 648 at 8-9). Taking the evidence in the light most favorable to ADTRAN, a reasonable jury could determine that the claims are obvious—Dr. Wesel has stated that the VDSL1 reference contains each and every claim limitation, and that a person of ordinary skill in the art would have the knowledge to alter the arrangement of the claim elements, and the motivation to combine the claim elements in the manner claimed with a reasonable expectation of success. (D.I. 652, Ex. A at ¶¶ 398-405, 416-17, 429-31, 444-50; D.I. 651-1 at ¶¶ 132-35). Taking the evidence in the light most favorable to TQ Delta, a reasonable jury could determine that the claims are not invalid in view of VDSL1. Dr. Cooklev has stated that a person of ordinary skill in the art would not have been motivated to make this combination due to different data rates, the use of primitive parameters, and that VDSL1 does not embody the claimed relationship between elements. (D.I. 634-1, Ex. 4 at ¶¶ 70, 80, 83, 85-86.) Thus, summary judgment is not appropriate on the VDSL1 reference.

## **B. Yap in View of VDSL1**

TQ Delta asserts that Yap does not disclose the “transmit at least one message without using interleaving” element of claim 30 and the “receive at least one message without using interleaving” element of claim 53 (and thereby dependent claim 55). (D.I. 648 at 16).

Specifically, TQ Delta points to Dr. Cooklev’s opinion that in Yap the ACK/NACKs, which Dr. Wesel has identified as the claimed message element, are interleaved. (D.I. 648 at 10). Dr. Cooklev opined that not interleaving the ACK/NACKs in Yap would break the operation by Yap. (D.I. 648 at 11). TQ Delta asserts that Dr. Wesel never rebutted this opinion. (*Id.*). TQ Delta also asserts that Dr. Wesel has not explained why a person of ordinary skill in the art would be motivated to combine Yap and VDSL1. (D.I. 648 at 13).

ADTRAN responds that there are genuine disputes of material fact that preclude summary judgment of no invalidity on this combination. ADTRAN points to Dr. Wesel’s explanation that “nothing in Yap states that the ACK/NACK messages are interleaved” and that Yap discloses a receiver that “transmits an ACK/NACK message over a ‘fast ARQ feedback channel’ to the transmitter of the packet.” (D.I. 680 at 15). Dr. Wesel explained in his expert report that a person of ordinary skill in the art would understand that the “fast ARQ feedback channel” operates such that the ACK/NACK messages are not interleaved when sent. (*Id.* at 15 (citing D.I. 652, Ex. A at ¶ 414; D.I. 651-1 at ¶¶ 111-15)).

ADTRAN also asserts that there is a genuine dispute of material fact as to whether a person of ordinary skill in the art would have been motivated to combine Yap with VDSL1. ADTRAN argues that Dr. Wesel’s opinion establishes both the “similarity of the problems confronted by the [prior art] and evidence that [certain features] were known.” (D.I. 680 at 18 (quoting *ArcelorMittal France v. AK Steel Corp.*, 700 F.3d 1314, 1324 (Fed. Cir. 2012))). Dr.

Wesel has stated, “[B]oth Yap and VDSL1 use interleaving and error correction coding to protect transmitted data, that retransmission was nothing more than a well-known technique to a [person of ordinary skill in the art], that VDSL1 already taught the use of retransmission during initialization, and that Yap teaches applying retransmission to Showtime communications.” (D.I. 651-1 at ¶ 50, D.I. 652, Ex. A at 344-45). ADTRAN asserts that this evidence, combined with testimony regarding the knowledge of the person of ordinary skill in the art and expectation of success is sufficient to establish a motivation to combine. (D.I. 680 at 18).

Taking the evidence in the light most favorable to ADTRAN, as I am required to do, a reasonable jury could find that Yap contains the disputed claim element and that a person of ordinary skill in the art had a motivation to combine the references. Thus, a reasonable juror could find the ’577 patent obvious over Yap in view of VDSL1. I will therefore deny TQ Delta’s motion for summary judgment of no obviousness based on the combination of Yap in view of VDSL1.

### **C. Chen in View of ADSL2**

The parties have both moved for summary judgment on the combination of Chen in view of ADSL2. TQ Delta asserts that the ’577 patent is not obvious over Chen in view of ADSL2 because (1) “a [person of ordinary skill in the art] would not be motivated to combine Chen with ADSL2; and (2) neither Chen nor ADSL2 disclose a message transmitted without interleaving including information indicating an ACK or a NACK of the claimed packet received using deinterleaving.” (D.I. 648 at 14). ADTRAN argues that the ’577 patent is obvious because Chen and ADSL2 disclose every limitation of claims 30, 53 and 55 of the ’577 patent and a person of ordinary skill in the art would have been motivated to combine the references. (D.I. 636 at 13-20).



There are genuine disputes of material fact between the parties as to (1) whether a person of ordinary skill in the art would be motivated to combine Chen with ADSL2 and (2) whether either Chen or ADSL2 discloses a transceiver operable to “transmit at least one message without using interleaving” and “receive at least one message without using interleaving.” Dr. Wesel has stated that Chen teaches a format for NAK messages that does not include interleaving. (D.I. 636 at 15 (citing D.I. 652, Ex. A at ¶ 407; D.I. 651-1 at ¶¶ 97-101). He has also stated that a person of ordinary skill in the art would be motivated to combine Chen with ADSL2 because ADSL2 was one of a small number of technologies that could be used to implement Chen. (D.I. 652, Ex. A at 334-38). In contrast, Dr. Cooklev has testified that: (1) Chen does not explicitly disclose a format for NAK messages without interleaving; and (2) a person of ordinary skill in the art would not be motivated to combine Chen with ADSL2 as the combination would necessarily result in a system that uses interleaving when transmitting and receiving the ACK and NACK messages. (D.I. 634-1, Ex. 4 at ¶¶ 115-17). Taking this evidence in the light most favorable to ADTRAN, a reasonable jury could find the asserted claims of the ’577 patent obvious over Chen in view of ADSL2. Taking this evidence in the light most favorable to TQ Delta, however, a reasonable jury could find the asserted claims to be valid. Thus, summary judgment is inappropriate for the combination of Chen and ADSL2.

#### **D. Chen in View of Nadev**

TQ Delta states that the arguments for finding this combination to be not invalid for obviousness related to Chen and ADSL2 are “equally applicable to the combination of Chen with Nadev.” (D.I. 648 at 19). As summary judgment of no invalidity was not appropriate for Chen in view of ADSL2, it is thus not appropriate for this combination either.

#### **IV. CONCLUSION**

For the foregoing reasons, ADTRAN's motion for summary judgment of invalidity is denied and TQ Delta's motion for summary judgment of no invalidity is granted as to § 101, § 102, and § 112, and denied as to § 103.

An accompanying order will be entered.