

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

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September 13, 2019



ANDREWS, U.S. DISTRICT JUDGE:

Currently pending before the Court is TQ Delta's Motion for Summary Judgment of No Invalidity of the Asserted Claims of U.S. Patent Nos. 8,335,956, 8,468,411 and 8,645,784. (D.I. 637).¹ The parties have fully briefed the issues. (D.I. 638, 684, 706). After full consideration of the briefing, the motion is 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 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"). I have granted summary judgment of noninfringement as to claims 30, 53, and 55 of U.S. Patent No. 8,595,577. (D.I. 800; D.I. 801). 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 claim of the '956 patent reads as follows:

31. A system to share memory between a deinterleaving function and a packet retransmission function comprising:

a transceiver capable of:

transmitting to another transceiver or receiving from another transceiver a message indicating:

an amount of the memory is to be allocated to the deinterleaver function, and

an amount of the shared memory is to be allocated to the packet retransmission function;

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

allocating a first portion of the shared memory to the deinterleaving function; and allocating a second portion of the shared memory to the packet retransmission function, wherein the first allocated portion of the shared memory is no more than the amount of memory indicated in the message for the deinterleaving function and the second allocated portion of the shared memory is no more than the amount of memory indicated in the message for the retransmission function.

(’956 patent, cl. 31). The asserted claim of the ’411 patent reads as follows:

10. A transceiver capable of packet retransmission comprising:

a transmitter portion capable of: transmitting a plurality of packets, identifying at least one packet of the plurality of packets as a packet that should be retransmitted and allocating a memory between a retransmission function and an interleaving and/or deinterleaving function, wherein at least a portion of the memory may be allocated to the retransmission function or to the interleaving and/or deinterleaving function at any one particular time, and wherein a message transmitted during initialization indicates how the memory has been allocated between the retransmission function and the interleaving and/or deinterleaving function in the transceiver.

(’411 patent, cl. 10). The asserted claim of the ’784 patent reads as follows:

7. A multicarrier communications transceiver with a shared memory, the transceiver operable to:

share the memory between a packet retransmission function and one or more of interleaving and deinterleaving functions; and

transmit or receive a message indicating how the shared memory in the transceiver is to be allocated to the packet retransmission function and to the one or more of interleaving and deinterleaving functions.

(’784 patent, cl. 7).

TQ Delta has filed a motion for summary judgment of no invalidity of the ’956, ’411, and ’784 patents. (D.I. 637). TQ Delta requests that I grant summary judgment of no invalidity under 35 U.S.C. § 101, § 102, § 103, and § 112. (D.I. 638 at 2). 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 has put forward three combinations of prior art to prove the asserted claims of the ’956, ’411, and ’784 patents obvious under § 103. ADTRAN asserts that the asserted patents

are obvious (1) over VDSL1 in view of ADSL2, (2) over Aramvith in view of Aksu, and (3) over TR 25.896 and TS 25.401 in view of Eriksson.

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. Obviousness

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 in View of ADSL2

TQ Delta argues that the ’956, ’411, and ’784 patents cannot be found invalid as obvious over VDSL1 in view of ADSL2, because the combination does not disclose the “shared memory” limitation or the “a [single] message” limitation, and there is not a motivation to combine the references. (D.I. 638 at 10-12). ADTRAN asserts that there are genuine disputes of material fact that prevent summary judgment of no invalidity for this asserted combination. (D.I. 684 at 12-14).

1. “shared memory”

There are genuine disputes of material fact as to whether VDSL1 or ADSL2 discloses the “shared memory” limitation of the asserted claims. Dr. Wesel has stated that a person of ordinary skill in the art would understand that both VDSL1 and ADSL2 would typically be implemented

using shared memory consistent with the claim language. (D.I. 655, Ex. 21 at 482:1-23; D.I. 652, Ex. A at ¶¶ 471-80; D.I. 654, Ex. C ¶¶ 159-65). A reasonable jury could conclude from his opinions that a person of ordinary skill in the art would understand VDSL1 and ADSL2 to disclose shared memory.

2. “a [single] message”

TQ Delta alleges that Dr. Wesel’s invalidity opinions rely on the use of multiple messages in both VDSL1 and ADSL2, and therefore, cannot as a matter of law be sufficient to prove obviousness. (D.I. 638 at 10-11). ADTRAN argues that Dr. Wesel’s opinions are sufficient for a jury to conclude that “a [single] message” has been disclosed. (D.I. 684 at 12-13). Dr. Wesel has provided the following opinions:

- (1) “the R-MSG2 [as disclosed in VDSL1] conveys information [related] to memory for[] the interleaving/deinterleaving function” and “renders transmitting or receiving a message indicating how the shared memory in the transceiver is to be allocated to the one or more of interleaving or deinterleaving functions obvious” (D.I. 648, Ex. A at ¶ 508);
- (2) the ADSL2 standard discloses similar messages “conveying information” related to memory requirements for interleaving (*id.* ¶ 512);
- (3) the ADSL2 standard discloses messages conveying “information used to deduce the amount of the shared memory to support overhead channel retransmission” (*id.* ¶ 519);
- (4) a person of ordinary skill in the art “would have understood that it would be advantageous to remove the requirement to perform multiple arithmetic steps to learn the minimum amount of shared memory [that] should be allocated to the packet retransmission functions.” (*Id.*).

Taking this evidence in the light most favorable to ADTRAN, I determine that a reasonable jury could conclude that the messages in VDSL1 and ADSL2 would have disclosed the “a [single] message” limitation to a person of ordinary skill in the art.

3. Motivation to Combine

TQ Delta argues that “Dr. Wesel’s motivation to combine VDSL1 and ADSL2 is insufficient” because “[s]howing that references relate to similar concepts is insufficient to show motivation to combine specific references.” (D.I. 638 at 11). To the extent that Dr. Wesel has provided further opinions regarding motivation to combine, TQ Delta asserts that its own expert, Dr. Cooklev, has explained that Dr. Wesel’s proposed combination would be impermissibly redundant. (*Id.*). ADTRAN responds that (1) TQ Delta relies on a case that is inapposite, and (2) Dr. Wesel’s opinions are sufficient to create a material dispute of fact on the motivation to combine.

I agree with ADTRAN that *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1369 (Fed. Cir. 2012)) is inapposite. In that case, “[t]he record [was] devoid of any reason someone would combine [the] references” and there was “significant evidence of teaching away” in the prior art references. *Id.* Here, Dr. Wesel has offered opinions that a person of ordinary skill in the art would have been motivated to combine the references because (1) VDSL1 and ADSL2 use the same type of transceiver and similar types of interleaving to protect transmitted data from errors, and (2) modification of the VDSL1 overhead channel to utilize retransmission the way the ADSL2 overhead channel does would enable the channel to “be used to control more functions.” (D.I. 652, Ex. A at ¶¶ 346-49; D.I. 654, Ex. C at ¶¶ 54-57). Taking this evidence in the light most favorable to ADTRAN, a reasonable jury could conclude that a person of ordinary skill in the art would have been motivated to combine the references.

Therefore, taking the entirety of evidence regarding the combination of VDSL1 with ADSL2 in the light most favorable to ADTRAN, as I am required to do, I determine that a reasonable jury could determine that the asserted claims are obvious. Thus, I will deny TQ Delta's motion for summary judgment of no invalidity as to the VDSL1/ADSL2 combination.

B. Aramvith in view of Aksu

TQ Delta argues that the '956, '411, and '784 patents cannot be found invalid as obvious over Aramvith in view of Aksu because the combination does not disclose (1) the "shared memory" limitation, (2) the "wherein the first allocated portion of the shared memory is no more than the amount of memory indicated in the message for the interleaving/deinterleaving function" limitation, (3) the "a message" limitation, or (4) the "a [single] message" limitation. (D.I. 638 at 12-18). ADTRAN asserts that there are genuine disputes of material fact that prevent summary judgment of no invalidity for this asserted combination. (D.I. 684 at 14-18).

TQ Delta argues that Dr. Wesel improperly relies on Aramvith for the disclosure of "shared memory" because, in Aramvith, the purported shared memory operates contrary to the claim construction. (D.I. 638 at 12-13). TQ Delta also asserts that Aksu does not disclose the "shared memory" limitation. (*Id.* at 14-15). ADTRAN responds that TQ Delta is offering a new interpretation of my claim construction and ignores the majority of Dr. Wesel's opinions. (D.I. 684 at 14-15).

I construed the term "the [shared] memory" to mean "common memory used by at least two functions, where a portion of the memory can be used by either one of the functions." (D.I. 390 at 13; D.I. 396 at 1). I do not understand TQ Delta to be offering a new interpretation of my claim construction. There does not appear to be a dispute between the parties that Aramvith permits the purported shared memory to be used by the encoder alone, but does not permit it to be

used by the interleaver function alone as the only time the interleaver uses the memory is when it is being used by the encoder as well. (D.I. 638 at 13; D.I. 684 at 14). As I stated when construing this claim, “for these patents, at any one time, a certain part of the memory can be used by one function or the other, but not both.” (D.I. 390 at 15). Thus, a reference with a memory system that allows portions of the memory to be used by both functions at the same time does not disclose the “shared memory” limitation of the asserted claims.

Neither do Dr. Wesel’s opinions on Aksu appear to offer an opinion that Aksu discloses “shared memory” as construed. Nowhere in Dr. Wesel’s opinions or ADTRAN’s briefing are the “at least two functions” using the memory in Aksu identified. (D.I. 652, Ex. A at ¶ 486).

Even taking this evidence in the light most favorable to ADTRAN, a reasonable jury could not find by clear and convincing evidence that a person of ordinary skill in the art would understand either Aramvith or Aksu to disclose the “shared memory” limitation. Because this limitation is not found in either reference, I need not examine the other disputed limitations. I will grant summary judgment of no obviousness in view of the Aramvith/Aksu combination.

C. TR 25.896 and TS 25.401 in View of Eriksson

TQ Delta argues that the ’956, ’411, and ’784 patents cannot be found invalid as obvious over TR 25.896 and TS 25.401 in view of Eriksson because the combination does not disclose (1) the “shared memory” limitation, (2) the “wherein the first allocated portion of the shared memory is no more than the amount of memory indicated in the message for the interleaving/deinterleaving function” limitation, (3) the “a message” limitation, or (4) the “a [single] message” limitation. (D.I. 638 at 18-20). ADTRAN asserts that there are genuine disputes of material fact that prevent summary judgment of no invalidity for this asserted combination. (D.I. 684 at 18-20).

1. “shared memory”

Dr. Wesel’s opinions create a material dispute of fact as to whether this combination discloses “shared memory.” TQ Delta alleges that no reference discloses a “shared memory” for interleaving. (D.I. 638 at 18). I note that my construction of “shared memory” only requires that “at least two functions” share the memory. It does not require specific functions. Dr. Wesel has offered an opinion that TR 25.896 discloses a shared memory supporting retransmission and that it uses “a combined buffer (which a [person of ordinary skill in the art would understand to be within a shared memory) to store the already-interleaved data.” (D.I. 648 at ¶¶ 492-493). Taking this evidence in the light most favorable to ADTRAN, a reasonable juror could conclude that these references disclose the “shared memory” limitation of the asserted claims.

2. “a message”

Dr. Wesel’s opinions create a material dispute of fact as to whether this combination discloses the “a message” limitation in the asserted claims. Dr. Wesel has provided opinions that TR 25.896 has “[m]essages conveying parameters” transmitted between two parts of the transceiver and that “[i]t would be obvious to include a ceiling on the allocated memory in these messages.” (D.I. 648, Ex. A at ¶ 538). He has also provided an opinion that “Eriksson further suggests sending messages indicating the amount of memory available for use.” (*Id.* at ¶ 539). Dr. Wesel’s opinions on the message limitation do not appear to be relying on references other than the TR 25.896, TS 25.401 and Eriksson. (*Id.* at ¶¶ 531-41; D.I. 654, Ex. C at ¶¶ 232-41). Taking this evidence in the light most favorable to ADTRAN, a reasonable jury could determine that a person of ordinary skill in the art would understand this combination to disclose the “a message” limitation of the asserted claims.

3. “a [single] message”

The parties’ arguments regarding the “a [single] message” limitation under the combination of TR 25.896, TS 25.401, and Eriksson mirror the arguments made for the VDSL1/ADSL2 combination. (D.I. 638 at 20; D.I. 684 at 19). Dr. Wesel has provided opinions from which a reasonable jury could conclude that a person of ordinary skill in the art would understand from TR 25.896 discloses transmission of a message. (D.I. 652, Ex. A at ¶¶ 531, 540-41; D.I. 654, Ex. C at ¶ 241).

4. “wherein the first allocated portion of the shared memory is no more than the amount of memory indicated in the message for the interleaving/deinterleaving function”

TQ Delta argues that Dr. Wesel’s opinions are insufficient to render this claim limitation obvious. (D.I. 638 at 19). Specifically, TQ Delta alleges that Dr. Wesel opines that the minimum amount of memory for retransmission and interleaving must be known, which is inconsistent with Dr. Wesel’s opinion that it would be obvious to a person of ordinary skill in the art to change the indication of minimum memory to maximum memory. (*Id.* at 19-20). Finally, TQ Delta alleges that Dr. Wesel’s theoretical system “renders . . . the alleged prior art system inoperable for its intended purpose.” (*Id.* at 20). ADTRAN responds that TQ Delta mischaracterizes Dr. Wesel’s opinions and that Dr. Wesel’s opinions create a genuine dispute of material fact. (D.I. 684 at 19-20).

I agree with ADTRAN that Dr. Wesel’s opinions create a genuine dispute of material fact as to whether this combination renders the claim limitation obvious. Dr. Wesel’s opinion is that it would have been obvious to *add* an indication of maximum amount of memory to be allocated to each function to a message conveying parameters to support retransmission and interleaving, not to replace another indication. (D.I. 652, Ex. A at ¶¶ 531-41). Taking this evidence in the light

most favorable to ADTRAN, a reasonable jury could conclude that the combination of TR 25.896 and TS 25.401 in view of Eriksson makes this claim limitation obvious.

Thus, a reasonable jury could conclude that the asserted claims are rendered obvious under the combination of TR 25.896 and TS 25.401 in view of Eriksson. I will therefore deny TQ Delta's motion for summary judgment of no invalidity as to this combination.

IV. CONCLUSION

For the foregoing reasons, I will grant TQ Delta's motion for summary judgment of no invalidity under § 101, § 102, and § 112. I will grant summary judgment of no obviousness for the Aramvith/Aksu combination and deny summary judgment as to the other two combinations.

An accompanying order will be entered.