

IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF WISCONSIN

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WISCONSIN ALUMNI RESEARCH  
FOUNDATION,

Plaintiff,

v.

APPLE, INC.,

Defendant.

OPINION AND ORDER

14-cv-062-wmc

15-cv-621-wmc

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In Case No. 14-cv-062 (the “062 case” or “*WARF I*”), the Wisconsin Alumni Research Foundation (“WARF”) asserted patent infringement claims against an “LSD Predictor” used in computer chips contained in various models of Apple, Inc.’s iPhones and iPads. While the jury found in favor of WARF on its infringement claim, and this court denied Apple’s post-judgment motions, the Federal Circuit reversed the jury’s finding of infringement on appeal. On remand from the appeal, plaintiff WARF now seeks to pursue the *same* infringement claim, except this time under the doctrine of equivalents. In a second follow-on lawsuit, Case No. 15-cv-621 (the “621 case” or “*WARF II*”), which was filed on the eve of the first trial, WARF seeks to challenge Apple products containing later chips, with the same alleged, LSD Predictor infringing technology at issue in *WARF I*. The court stayed *WARF II* pending resolution of *WARF I* on appeal from the original, final judgment. Following remand, WARF also seeks to pursue a doctrine of equivalents claim against the later products accused in *WARF II*. For the reasons that follow, in this consolidated opinion, the court denies plaintiff’s requests and will direct entry of final judgment in both cases.

## BACKGROUND

### A. Doctrine of Equivalents Infringement Claims

On January 31, 2014, WARF filed the '062 lawsuit against Apple, alleging infringement of U.S. Patent No. 5,781,752 (“the '752 patent”). In its original infringement contentions, WARF disclosed that “[t]o the extent Apple will contend that an element is not met literally, WARF will contend that each element of each identified claim is met under the doctrine of equivalents.” (Dkt. #49-4 at 2.)<sup>1</sup> WARF disclosed a similar theory of infringement under the doctrine of equivalents in its expert reports in *WARF I*. (Conte Rept. (dkt. #105) 508.)

With jury trial approaching in the '062 suit, WARF moved *in limine* to bar any evidence, testimony or argument concerning Apple’s own patent application on an LSD Predictor, which had just been allowed by the USPTO. (Pl.’s MIL No. 2 (dkt. #290).) Apple opposed that motion, in part arguing that because the accused technology used an LSD Predictor that had been found separately patentable over the '752 patent by the USPTO (a representation WARF disputed), that fact was relevant to its defense against WARF’s alternative theory of infringement based on the doctrine of equivalents. (Def.’s Opp’n (dkt. #398) 2-3, 6-8.) The court initially reserved on this motion and directed supplemental briefing. In response, WARF indicated that in exchange for excluding evidence of Apple’s patent, it would “drop doctrine of equivalents and make no doctrine of equivalents argument whatsoever at trial,” assuming the court were to “conclude that Apple has laid a proper foundation for the question of the impact of the allowance of the

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<sup>1</sup> Unless otherwise noted, the citations to the docket are to Case No. 14-cv-062.

'647 application on the doctrine of equivalents to be presented to the jury.” (Pl.’s Suppl. Br. (dkt. #512-1) 1.) In response, Apple then agreed not to offer evidence of approval of its own patent during the liability phase “if the doctrine of equivalents is not in issue.” (Def.’s Suppl. Br. (dkt. #513-1) 2.)

Although this court subsequently denied WARF’s motion *in limine*, ruling that Apple’s patent was admissible during the liability phase of trial (10/4/15 Order (dkt. #517) 1-2), it also recognized in the same ruling that the parties had reached an apparent compromise on the issue, and ordered that “[b]y agreement of the parties . . . neither side may introduce evidence or argument regarding the ’647 application, prosecution or issuance during the liability phase of trial.” (*Id.* at 6.) Moreover, in an October 5, 2015, email responding to Apple’s follow-up request for confirmation that “WARF will not raise the doctrine of equivalents at trial,” WARF memorialized the parties’ agreement: “WARF will not raise or mention doctrine of equivalents, and Apple will not raise or mention the ’647 application of the ’725 patent in the liability phase.” (Def.’s Mot. for Judgment as a Matter of Law, Ex. 1 (dkt. #555-1) 1.) Further, in its opinion, the Federal Circuit recognized that “WARF abandoned its theory of infringement under the doctrine of equivalents before trial, and has proceeded only on a theory of literal infringement.” *Wis. Alumni Research Foundation v. Apple, Inc.*, 905 F.3d 1341, 1347 n.5 (Fed. Cir. 2018).

## **B. “Particular” Limitation**

While not a central part of Apple’s defense in *WARF I*, or at least not one raised in the parties’ summary judgment briefs, Apple also asserted that the LSD Predictor in the accused products used a “hashed” Load Tag, and therefore, associated predictions from

groups of load instructions, rather than a “particular” load instruction, as the ’752 patent requires. Specifically, Apple’s expert on non-infringement explained in his March 12, 2015, *WARF I* report that:

Accordingly, because each counter value in the LSD Predictor corresponds to a group of load instructions (all load instructions that have the same Load Tag as a given entry) rather than a “particular” load instruction, it is my opinion that the LSD Predictor in the Apple Accused Chips does not include “a prediction associated with the particular data consuming [load] instruction” as required in the ’752 patent.”

(August Rept. (dkt. #103) ¶ 252; *see also id.* ¶¶ 241-61.) However, neither party sought construction of the term “particular,” at least not as part of a formal motion for claims construction to be submitted at the same time with dispositive motions.

Instead, this issue came to a head at trial, with WARF seeking to exclude Apple asserting non-infringement based on a construction of “particular” inconsistent with its “plain and ordinary” meaning. (Pl.’s Mot. to Exclude (dkt. #550) 2.) However, because Apple’s non-infringement argument (and, specifically, the opinion of its expert) was consistent with the plain meaning of “particular” as contemplating association with a single load instruction, the court denied WARF’s last minute request to exclude this argument. (10/8/15 Order (dkt. #559) 3-4.) In turn, Apple then pressed the court to instruct the jury on the meaning of “particular” in light of WARF’s trial testimony, which Apple contended was itself contrary to the plain and ordinary meaning of “particular.” (Trial Tr. (dkt. #665) 158, 169.) Because Apple, too, “had failed to seek claims construction of the term, and, therefore, had waived any request to now insert a construction of the term in the closing jury instructions,” the court denied that request as well. (10/9/15 Text Order (dkt. #575).)

Rather, the court instructed the jury to apply the plain and ordinary meaning for claim terms, including “particular.” (Closing Instr. (dkt. #646) 5.)

After the jury found in favor of WARF, Apple then filed post-trial motions, in part seeking judgment as a matter of law because no reasonable jury could find literal infringement under the plain meaning of “particular.” (Def.’s Rule 50(a) Mot. (dkt. #555) 5-7; Def.’s Rule 50(b) Mot. (dkt. #678) 9-13.) Although this court denied that motion, the Federal Circuit reversed on appeal, concluding that “the plain meaning of ‘particular,’ as understood by a person of ordinary skill in the art after reading the ’752 patent, require[d] the prediction to be associated with a single load instruction.” *Wis. Alumni Research Foundation v. Apple, Inc.*, 905 F.3d 1341, 1348 (Fed. Cir. 2018). As such, the court of appeals reasoned that “[a] prediction that is associated with more than one load instruction does not meet this limitation,” and no reasonable jury could find this limitation met in light of undisputed evidence that each load tag is associated with a *group* of load instructions in the LSD Predictor in the accused products, rather than a particular or single one as called for in the ’752 patent. *Id.* Accordingly, the Federal Circuit reversed the infringement judgment without remand for further proceedings regarding infringement. *Id.* at 1343, 1353. Indeed, in its petition for panel rehearing and rehearing *en banc*, WARF specifically requested without success that the Federal Circuit remand for, among other things, further proceedings on WARF’s theory of infringement under the doctrine of equivalents. (Danford Decl., Ex. 2 (dkt. #795-2) 2, 7, 19.) The Federal Circuit denied that petition outright. (Dkt. #787.) The mandate followed. (Dkt. #788.)

### C. Second Lawsuit

On September 25, 2015, approximately ten days before the start of trial in *WARF I*, WARF filed a second lawsuit claiming that Apple's iPhone and iPads containing the new A9 and A9X chips also infringed the '752 patent ('621 dkt. #1), and it later amended that complaint to add infringement claims against Apple products containing the A10 chip ('621 dkt. #39). There is no dispute that the LSD Predictor technology at issue in this second lawsuit, *WARF II*, is the same as that at issue in *WARF I*, at least as material to plaintiff's renewed infringement claims under the '752 patent. (Kanapathipillai Decl. (dkt. #796) ¶¶ 4-12; Pl.'s Infringement Contentions (dkt. #49-5) (expressly including the A9 and A10 processors in its list of accused processors in *WARF I*); Pl.'s Mot. to Compel (dkt. #59) 14 (asserting that the A9, A9X and A10 chips also infringed the '752 patent because they "operate in a manner reasonably similar" to the A7 chip at issue in *WARF I*); *see also* Def.'s Opp'n (dkt. #794) 21 (detailing WARF's statements made in post-trial briefing seeking equitable relief against the A9 chips, because it has the "same infringing design" as the A7 and A8 chips).) In other words, all of the chips at issue in these two cases contain the same accused feature -- the LSD Predictor using hashed load tags.

Further, in post-trial proceedings in *WARF I*, Apple proposed to incorporate the A9, A9X and A10 chips into that case to eliminate the need to press forward separately in *WARF II*. At that time, the court also indicated that it was inclined to include the sales of products including these newer chips in calculating a supplemental damages award and in setting the ongoing royalty rate; thus, it ordered supplemental briefing on this issue and the production of relevant sales information. (6/6/17 Op. & Order (dkt. #757) 34-36.)

Finally, in response, WARF itself proposed that “the most efficient path forward” would be to keep *WARF II* separate and postpone an accounting until after the appeal of *WARF I* was decided by the Federal Circuit, representing that “should Apple prevail on appeal, there may be no need for such calculations.” (Pl.’s Resp. (dkt. #761) 2; *id.* at 10-11.)

Accordingly, while Apple continued to seek incorporating sales of the A9, A9X and A10 chips into the judgment in *WARF I* (Def.’s Resp. (dkt. #765) 1), the court opted to defer any accounting until after the *WARF I* appeal (7/10/17 Order (dkt. #767).) Similarly, the court stayed all proceedings in *WARF II* pending the outcome of the *WARF I* appeal, noting that “a final judgment in *WARF I* will likely have a preclusive effect” in *WARF II*. (2/5/16 Order (’621 dkt. #36) (original order staying case); 7/10/17 Text Order (’621 dkt. #56) (continuing stay pending resolution of *WARF I* appeal).) Consistent with their positions outlined above, neither side objected to this approach.

## OPINION

### **I. Request to Reopen Doctrine of Equivalents Infringement Claim in *WARF I***

In support of plaintiff’s argument that the court should reopen its claim of infringement under the doctrine of equivalents in *WARF I*, plaintiff largely ignores the procedural history outlined above and instead, principally relies on the Federal Circuit’s decision in *Exxon Chemical Patents, Inc. v. Lubrizol Corporation*, 137 F.3d 1475 (Fed. Cir. 1998). In *Exxon*, the court of appeals reversed a district court’s denial of the plaintiff’s motion for a new trial on infringement under the doctrine of equivalents in light of the Federal Circuit’s new claims construction on appeal from the jury’s finding on the literal

infringement claim. *Id.* at 1478-79. In particular, in reversing the district court, the Federal Circuit explained in *Exxon* that “an appellate mandate governs only that which was actually decided, [so] the district court was therefore free to consider Exxon’s motion for a new trial,” and because the Federal Circuit’s earlier “opinion referred only to the issue of literal infringement,” the court of appeal’s mandate left the district court the “authority to consider Exxon’s motion for a new trial” under the doctrine of equivalents. *Id.* at 1478-79.

Given that the Federal Circuit arguably only addressed literal infringement in its *WARF I* opinion as well, the court agrees that *Exxon* allows an opening for a claim of infringement under the doctrine of equivalents’ upon remand from an appeal reversing a finding of literal infringement. However, *Exxon* did *not* dictate the result, *id.* at 1484, and plaintiff’s attempts to argue that its situation is on all fours with the procedural posture of *Exxon* falls flat. *First*, the plaintiff in *Exxon* abandoned its doctrine of equivalents theory of infringement after the district court adopted a claim construction that effectively mooted any further claim of infringement under the doctrine of equivalents. *Id.* at 1479 (explaining that the doctrine of equivalents infringement claim “became moot” by virtue of the district court’s decision). As a result, the Federal Circuit explained that “[t]he question whether there could be doctrine-of-equivalents infringement under the claim construction adopted by this court became a critical issue in the case *only after* this court’s decision on appeal.” *Id.* at 1497 (emphasis added). Here, however, plaintiff abandoned its doctrine of equivalents theory in response to Apple’s agreement not to introduce its newly-acquired patent on a LSD Predictor despite the patent-in-suit to demonstrate that the accused

technology was separately patentable and, therefore, *not* equivalent. In other words, unlike the plaintiff in *Exxon*, WARF made the decision to abandon its doctrine of equivalents infringement claim neither because the district court adopted an unfavorable claims construction to its doctrine of equivalence contention nor favorable to its claim of literal infringement.

Perhaps if a dispute had arisen over the meaning of “particular” at claims construction or at some other point before plaintiff abandoned its doctrine of equivalents claim for reasons wholly apart from that construction, plaintiff may have an argument, but this is the very nature of complex litigation, where moving parts require parties to make decisions based on what was known at that time. Where, as was the case in *Exxon*, a party makes a decision clearly traceable to a district court decision that is reversed on appeal, then the wronged party has a strong case for the district court to exercise its discretion to revisit the issue on remand. Here, however, WARF’s decision to abandon its doctrine of equivalents claim cannot be traced to any decision by this court found to be in error on appeal. On the contrary, as outlined above, this court adopted a plain meaning of the word “particular” advocated by plaintiff *and* did not preclude plaintiff from pursuing a doctrine of equivalence claim. As the court previously explained, *both* parties were at fault for not bringing the “particular” construction to a head earlier in the litigation. (10/8/15 Order (dkt. #559) 1-2.) Regardless, as already quoted above, the Federal Circuit concluded that *WARF* abandoned its theory of infringement under the doctrine of equivalents infringement before trial, and has proceeded only on a theory of literal infringement, which is now the law of the case.

Second, even if the Federal Circuit’s finding of error in this court’s treatment of the term “particular” as the parties requested somehow allowed for the possibility of a do-over under *Exxon*, the Federal Circuit’s own conclusion -- that the “plain meaning of ‘particular’ as understood by a person of ordinary skill in the art after reading the ‘752 patent requires” an LSD Predictor “to be associated with a single load instruction” -- precludes as a matter of law of the case WARF’s argument now that this limitation allows for an equivalence infringement based on the prediction being associated with a group of load instructions, something it is undisputed each load tag in the accused LSD Predictor depends upon. *See Olaf Soot Design, LLC v. Daktronics, Inc.*, 839 F. App’x 505, 511 (Fed. Cir. 2021) (where relevant claim language properly construed requires a limitation not present in the accused product “a finding of infringement under the doctrine of equivalence would impermissibly eliminate the requirement”); *see also Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997) (“[T]he application of the doctrine [of equivalents], even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety.”); *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 843 F.3d 1315, 1344–45 (Fed. Cir. 2016) (rejecting a theory of infringement under the doctrine of equivalents that would vitiate a claim limitation by rendering it meaningless). In this way, the situation here is the exact opposite of that in *Exxon*. In that case, the Federal Circuit reopened a claim of infringement under the doctrine of equivalence by accepting plaintiff’s claim construction upon which it depended after that construction had been rejected by the district court below. In contrast, the Federal Circuit adopted in *WARF I* a claim construction that expressly reads out of the reach of the claims of the ‘752 patent any

argument that a LSD Predictor using a group of load instructions is equivalent of one using a single load instructor.

Accordingly, the Federal Circuit's *WARF I* leaves no room for WARF to revisit the doctrine of equivalence claim it voluntarily abandoned.

## **II. Preclusion of Doctrine of Equivalence Claim in *WARF II***

Plaintiff also seeks to pursue a doctrine of equivalents theory of infringement in *WARF II* against Apple's products now using the A9, A9X and A10 chips. In response, defendant contends that the Federal Circuit's decision in *WARF I* also precludes a finding that LSD Predictor -- which is the same feature in all of the accused chips -- infringes the '752 patent under that doctrine. In support, defendant directs the court to *Nystrom v. Trex Co.*, 580 F.3d 1281 (Fed. Cir. 2009), in which the Federal Circuit -- after having already affirmed a non-infringement judgment and the district court's finding of waiver of the doctrine of equivalents claim -- determined that the assertion of patent infringement in a new lawsuit against second-generation products released during the pendency of the first suite was barred by preclusion principals. *Id.* at 1286. Specifically, the Federal Circuit held that since the court "ha[d] already determined in the earlier case that Trex I Boards [the first generation product] do not infringe the patent," that judgment would preclude Nystrom from proceeding against the second generation products under a theory of "both literal infringement, and as a result of Nystrom's waiver, infringement by equivalents." *Id.* at 1285. Of course, the Federal Circuit's holding in *Nystrom* rested on the fact that the products accused in the second case "remain[ed] unchanged with respect to the corresponding claim limitations at issue in the first suit," meaning that the plaintiff had

“no remaining avenue to pursue his claims now.” *Id.*

Here, too, the Federal Circuit’s holding in *WARF I* applies with equal force to the accused products (namely iPhones and iPads with chips still using the same LSD Predictor found not to have infringed the ’752 patent in *WARF I*). Similarly, plaintiff WARF not only waived any doctrine of equivalents claim in *WARF I*, but the Federal Circuit’s opinion precludes any arguable claim to equivalence, both as explained already. Therefore, WARF is barred from pursuing such a claim not only in *WARF I* but in this new case, procedurally and on the merits. Finally, as detailed above, WARF concedes -- or, at minimum, it is now estopped from disputing -- the LSD Predictor in the A9, A9X and A10 chips that are the subject of *WARF II* are the same as the chips at issue in *WARF I*, at least for purposes of plaintiff’s infringement claims under the ’752 patent.

Plaintiff’s response to this seemingly obvious conclusion is scattershot at best, positing a number of technical arguments, including that there can be no claim preclusion because a judgment reflecting the Federal Circuit’s decision has yet to be entered, claim preclusion cannot apply because at least some of the products at issue in *WARF II* were not on the market at the time WARF filed its first lawsuit, or claim preclusion cannot apply because the doctrine of equivalents theory was not actually decided in *WARF I*. (Pl.’s Reply (dkt. #798) 56-75.) The court’s entry of an amended judgment in *WARF I* consistent with this opinion and order addresses the first argument. Moreover, whether viewed as claim or issue preclusion, the procedural posture of this case is the same as that presented in the *Nystrom* case, and the Federal Circuit had *no* trouble concluding, as the court does here, that the plaintiff in that case was barred from revisiting a doctrine of

equivalents theory of infringement based on waiver of that doctrine in past litigation over materially similar, earlier generation of the same products despite later generations being produced during and after the course of the first litigation. Finally, as already explained above, WARF no longer has any viable doctrine of equivalence infringement claim on the merits in light of the Federal Circuit's limitation resulting from the '752 patent's use of "particular" within the plain meaning to one of ordinary skill in the art as explained in *WARF I*.

#### ORDER

IT IS ORDERED that:

- 1) Plaintiff's request to reopen Case No. 14-cv-062 and allow it to pursue a doctrine of equivalents infringement theory is DENIED.
- 2) The clerk's office is directed to enter an amended final judgment in favor of defendant Apple, Inc., reflecting the Federal Circuit's decision of non-infringement of the '752 patent.
- 3) The clerk's office is also directed to enter final judgment in favor of defendant Apple, Inc., on the claims asserted in Case No. 15-cv-621, finding them barred by the judgment in Case No. 14-cv-062.
- 4) Plaintiff's motions for a status conference ('062 dkt. #803; '621 dkt. #82) are DENIED AS MOOT.

Entered this 10th day of May, 2022.

BY THE COURT:

/s/

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WILLIAM M. CONLEY  
District Judge