

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

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This case is set for a jury trial commencing October 5, 2015. Based on the parties' extensive brief and oral argument at the final pretrial conference, the court issues the following opinion and order on defendant Apple's numerous motions *in limine*, including several motions to strike expert testimony.

OPINION

**I. Apple's Motions in Limine**

**A. MIL 1: preclude WARF from seeking damages on non-U.S. sales (dkt. #338)**

In its first motion in limine, Apple seeks to limit the royalty base, arguing that WARF should be precluded from seeking damages on non-U.S. sales of the accused products. Specifically, Apple contends WARF "should not be permitted to try to recover damages at trial on accused products that were never made, used, sold or offered for sale in the United States, or imported into the United States." (Def.'s Mot. (dkt. #338) 4.) *See Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 455 (2007) (explaining that the Patent

Act “operate[s] only domestically and do[es] not extent to foreign activities”) (internal citation and quotation marks omitted)).

First, Apple challenges WARF’s claim to damages on processors that were made by Taiwan Semiconductor Manufacturing Company (“TSMC”) and Samsung entirely in Taiwan or Korea and never sold in or imported into the United States. In its response, WARF concedes that these damages are no longer available in light of the Federal Circuit’s recent decision in *Carnegie Mellon University v. Marvell Technology Group*, --- F.3d ---, No. 2014-1492, 2015 WL 4639309 (Fed. Cir. Aug. 4, 2015). As such, this part of the motion is GRANTED as unopposed.

Second, Apple challenges WARF’s position that it may seek damages on processors that were initially fabricated by Samsung in part in Texas but were completed overseas and never sold in or imported into the United States after completion. Apple reasons that these processors cannot “function” -- and therefore cannot infringe -- without the additional manufacturing steps that are performed in Korea. In response, WARF argues that evidence shows these processors are “capable of” performing claimed functions at the time they leave Texas, and therefore infringe before export, or at least there a jury could so find. (Pl.’s Opp’n (dkt. #439) 9-10 (discussing *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1204-05 (Fed. Cir. 2010)).) On the present record, it is unclear whether a reasonable jury *could* conclude that these processors manufactured in part in the United States are capable of infringing at the point of their manufacturing in Texas and therefore are properly considered in the damages calculation. Moreover, there appears to be a disagreement as to what proof is required to establish direct infringement

for these processors.<sup>1</sup> Accordingly, the court RESERVES on this motion pending a final articulation of jury instructions on damages and, if appropriate, a factual proffer from WARF after liability has been submitted to the jury.

**B. MIL 2: preclude reference to Apple’s total profits, revenues, net worth, etc. (dkt. #338)**

In this motion, Apple seeks an order precluding WARF “from referring at trial to the total profits, revenues or price of Apple products or Apple’s total net worth or stock value.” (Def.’s Mot. (dkt. #338) 11.) The court is somewhat perplexed by Apple’s motion in light of its opposition to WARF’s motion to exclude evidence and argument regarding the entire market value rule and its expert’s reliance on a \$1.7 trillion figure in calculating an effective royalty rate based on five Apple license agreements. Regardless, Apple argues that the “evidentiary principle” described by the Federal Circuit in *Ericsson, Inc. v. D-Link Systems, Inc.*, 773 F.3d 1201 (Fed. Cir 2014), precludes introduction of the value of the entire product. As the court explained:

The point of the evidentiary principle is to help our jury system reliably implement the substantive statutory requirement of apportionment of royalty damages to the invention’s value. The principle, applicable specifically to the choice of a royalty base, is that, where a multi-component product is at issue and the patented feature is not the item which imbues the combination of the other features with value, *care must be taken to avoid misleading the jury by placing undue emphasis on the value of the entire product*. It is not that an appropriately apportioned royalty award could never be fashioned by starting with the entire market value of a multi-component product—by, for instance, dramatically reducing

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<sup>1</sup> Indeed, the parties continue to brief this issue in supplemental filings. (See Dkt. ##458, 459.)

the royalty rate to be applied in those cases—it is that reliance on the entire market value might mislead the jury, who may be less equipped to understand the extent to which the royalty rate would need to do the work in such instances.

*Id.* at 1226-27 (emphasis added).

In response, WARF agrees that it will not refer to Apple’s total net worth or stock value, but argues that the other categories -- total profits, revenue and prices of the accused products -- should not be excluded because WARF’s experts rely on these figures as a “starting point for apportioning down a royalty base.” (Pl.’s Opp’n (dkt. #439) 16 (emphasis omitted).) In support, WARF cites to the district court’s discussions of the entire market value rule in *Ericsson*, which the Federal Circuit affirmed, in which the district court did not strike plaintiff’s expert’s use of the “value of end products” as a starting point, because the expert’s royalty base was not the market value of the full product, but rather the “market value of the contribution of the asserted patents to the end products.” *Ericsson, Inc. v. D-Link Sys., Inc.*, No. 6:10-CV-473, 2013 WL 4046225, at \*15 (E.D. Tex. Aug. 6, 2013), *aff’d in relevant part*, 773 F.3d 1201 (Fed. Cir. 2014). (*See also* Pl.’s Opp’n (dkt. #439) 19-20 (citing other cases where district courts have allowed figures representing the total value of the end product for purposes of establishing the starting point of an expert’s analysis).)

Separate from this general concern about not using the entire value of a product (whether measured in terms of price, profits or revenues) as the royalty base, the Federal Circuit has also expressed concern about the prejudicial effect of a large number being introduced to the jury even as a starting point in the expert’s analysis. Even in the face of a cross-examination and a curative instruction, the Federal Circuit vacated a damages

award in *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1320 (Fed. Cir. 2011), in part because of the plaintiff's reference to defendant Microsoft's total market value of Office and Windows of \$19 billion. The court explained, "The disclosure that a company has made \$19 billion dollars in revenue from an infringing product cannot help but skew the damages horizon for the jury, regardless of the contribution of the patented component to this revenue." *Id.* "The \$19 billion cat was never put back into bag even by Microsoft's cross-examination." *Id.*

Given the scale of Apple's total revenues or total profits (or even just those revenues and profits from the accused iPhones and iPads), Apple's concern of prejudice is, if anything, magnitudes greater than Microsoft.

In response, WARF nevertheless points to two particular aspects of its experts' testimony which may be implicated by Apple's motion. First, WARF's expert Cathy Lawton seeks to rely as an initial step in her analysis on the \$100 price premium of the accused iPhone 5s over the unaccused iPhone 5c. Lawton's use of the figure does not place "undue emphasis on the value of the entire product," *Ericsson*, 773 F.3d at 1226 -- indeed, it does not even disclose the full value. As such, the court will allow this testimony if only as a starting point. Second, WARF's expert Christopher Knittel "uses the end-user smartphone and tablet prices" as one input in his regression analysis. (Pl.'s Opp'n (dkt. #439) 19.) While this may be a closer call, the court similarly finds the disclosure of the price of one of the accused products does not place undue emphasis on the total value of the accused products. *See Fractus, S.A. v. Samsung Electronics, Co., Ltd.*, 876 F. Supp. 2d 802, 834-35 (E.D. Tex. 2012) (denying motion for judgment as a

matter of law, ruling that it was proper for plaintiff to present evidence of the average overall selling price of the accused cellphone with infringing internal antenna, then determining that the antenna comprised about 10% of the value of the cellphone, and apportioning the patented features from the unpatented features).

Perhaps the jury will have enough information to calculate total revenues or profits, but exclusion of this evidence on that basis is a stretch under current Federal Circuit case law. As such, this motion is GRANTED as unopposed as to Apple's total revenues, total profits, total net worth and stock value, but DENIED as to references to the price of Apple's products consistent with this opinion.

**C. MIL 3: preclude damages on sales of the accused products before the complaint was filed (dkt. #338)**

Apple moves to preclude WARF from seeking damages on sales of Apple's accused products before the complaint was filed.<sup>2</sup> In support of its motion, Apple argues that (1) WARF failed to provide Apple with any pre-suit notification of the '752 patent, pointing to two email communications which describe "patented technology" but do not mention the '752 patent or allege that Apple is infringing; and (2) Intel (the only entity practicing the invention) did not mark any of its products with the '752 patent after it obtained a license in 2009.

In response, WARF argues that Apple failed to demonstrate a "forfeiture of damages" under 35 U.S.C. § 287(a) because "there is simply no competent evidence that

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<sup>2</sup> Apple contends that the significance of this motion is that it would decrease WARF's maximum damages claim from \$862.4 million to \$674.2 million.

any processor made or sold in the United States by Intel following the 2009 WARF/Intel Settlement Agreement was a ‘patented article’ that practices the ’752 patent.” (Pl.’s Opp’n (dkt. #439) 22.) In other words, WARF argues (seemingly contrary to its infringement claim against Intel and \$110 million settlement) that there is no evidence that there are Intel products practicing the ’752 patent and, therefore, no evidence that there are products to mark.

In fairness, WARF also points to testimony during the course of the *Intel* lawsuit of Intel officers, stating that the alleged infringing feature of Intel’s product had been removed from the processor. (*Id.* at 23-24.) As such, WARF argues that Intel has failed to “establish Intel’s post-settlement processors practice any claim of the ’752 patent.” (*Id.* at 24.)

While the court agrees with Apple that WARF bears the burden of demonstrating marking, Apple has the initial burden to demonstrate that there are patented products that require marking in order to forfeit pre-lawsuit damages. (*Id.* at 27-28.) At least in its motion in limine, Apple has failed to make such a showing. Accordingly, this motion is DENIED, without prejudice to demonstrating at trial that Intel practiced the patent after the 2009 license and, therefore, WARF forfeited pre-lawsuit damages by failing to mark the patented products.

**D. MIL 4: preclude evidence or argument on this court’s and the *Intel* court’s summary judgment decisions (dkt. #338)**

Apple seeks an order precluding any reference to the court’s summary judgment decision in this case or Judge Crabb’s decision in the *Intel* case. Specifically, Apple argues

that WARF should not be permitted to: (1) tell the jury that the court and the *Intel* court adopted WARF's proposed construction of "prediction;" (2) refer to the court's summary judgment rulings rejecting Apple's arguments regarding anticipation by Steely and indefiniteness; and (3) refer to the court's rulings that certain of Apple's defenses were not objectively reasonable.

WARF interposes an unqualified opposition to this motion with respect to the willful infringement phase of trial. WARF also opposes the motion for the liability phase of trial with respect to: (1) the court's finding that Steely does not anticipate the '752 patent; and (2) any expert testimony that is contrary to the court's construction of "prediction." (Pl.'s Opp'n (dkt. #439) 31-32.)

Taking each challenge separately, the court agrees with Apple that the jury need not know that the court rejected Apple's construction of the term "prediction" during the liability or damages phases of the trial.<sup>3</sup> Instead, the court will simply instruct the jury on the meaning of that term, without reference to which party proposed that construction. If one of Apple's experts attempts to offer testimony based on the meaning of the word "prediction" which runs counter to the court's interpretation, then WARF should object, but neither WARF nor the court need anticipate that testimony by informing the jury that the court adopted WARF's construction of "prediction" at summary judgment. As for the willful infringement phase, Judge Crabb's construction of

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<sup>3</sup> As discussed during the final pretrial conference and again below, *see infra Opinion* § I.U, the court intends to try the subjective prong of WARF's willfulness claim (assuming the court does not find that Apple's defenses were objectively reasonable) *after* the jury decides both liability (phase I) and damages (phase II).



the '752 patent in *Intel* may be relevant to Apple's subjective intent. As such, the court will reserve on whether WARF may introduce the *Intel* construction during the willful infringement phase of trial.

Next, the parties disagree as to whether the jury needs to know that the court already determined that Steely does not anticipate the '752 patent. In the jury instructions, the court will inform the jury as to what prior art references they may consider in determining whether a specific prior art reference anticipates the '752 patent. Again, the court need not inform the jury that it has already rejected Apple's anticipation claim based on Steely. To the extent Apple's experts attempt to opine that the '752 patent is anticipated by Steely, then WARF should again object. Of course, Apple should ensure that its experts are aware of the court's prior rulings and do not testify in a manner contrary to those rulings.

Finally, with respect to the court's summary judgment rulings on the objective prong of the willful infringement claim, the court will inform the jury of that as part of its willfulness instructions, if it finds that Apple's defenses were not objectively reasonable. The jury need not know, however, about *any* findings on the objective prong of the willful infringement -- indeed, they need not know *anything* about willful infringement -- until the third phase of the trial. Accordingly, Apple's motion in limine is GRANTED IN PART, RESERVED IN PART AND DENIED IN PART as described above.

**E. MIL 5: preclude evidence or argument on IPR proceedings for the '752 patent (dkt. #338)**

On Federal Rule of Evidence 403 grounds, Apple moves to preclude WARF from offering evidence or argument regarding the Patent Office's *Inter Partes* review (IPR) of the '752 patent. Apple initiated the IPR proceedings on September 20, 2014, seeking review of the '752 patent on the grounds that two prior art references -- Hesson and Steely -- rendered the claims of the '752 patent obvious and unpatentable. Apple relied on a declaration of Dr. Robert Colwell, Apple's validity expert in this lawsuit, which made several of the same arguments regarding the Steely and Hesson patents that Apple intends to present to the jury in support of its invalidity defense in this case. (Colwell Decl. (dkt. #52-2) ¶ 25.)

The Patent Office's Patent Trial and Appeal Board (PTAB) denied Apple's petition on April 15, 2015, concluding in a 27-page decision that Apple "has not shown, under 35 U.S.C. § 314(a), that there is a reasonable likelihood that it will prevail with respect to at least one of the challenged claims." (Abernethy Decl., Ex. A (dkt. #151-1) 3.) On August 19, 2015, PTAB denied Apple's request for rehearing, ending that IPR proceeding.

Apple argues that WARF should be precluded from offering evidence or argument regarding the IPR proceeding given its minimal probative value, risk of causing unfair prejudice, and possibility of misleading and confusing the jury. Naturally, WARF opposes the motion, arguing that PTAB's decision is highly probative of validity of the '752 patent, particularly where Apple intends to present many of the same arguments.

There appears to be no controlling Federal Circuit law on the admissibility of evidence from an IPR proceeding. As WARF points out, the Federal Circuit has held that the Patent Office's consideration of a prior art reference during prosecution of the patent may affect the weight given to that prior art during a subsequent invalidity challenge in court. *See, e.g., Sciele Pharma Inc. v. Lupin Ltd.*, 684 F.3d 1253, 1260-61 (Fed. Cir. 2012) (“While the ultimate burden of proof [of proving invalidity] does not change, new evidence not considered by the PTO may carry more weight . . . than evidence previously considered by the PTO, and may go further toward sustaining the attacker's unchanging burden.”) (citation and internal quotation marks omitted).

This argument makes sense as far as it goes. After all, this would be true if prior art was presented to and reviewed by a patent examiner during prosecution who determined that it does not bar issuance of the patent as interpreted and approved by the examiner.

However, an IPR proceeding is different. An IPR proceeding is not an examination by a patent examiner in which a decision is made about the scope and validity of a patent. It is an adjudicative proceeding during which PTAB, comprised of three administrative law judges, determine whether the challenger has shown “a reasonable likelihood” that it will prevail on its challenges. *See Abbott Labs. v. Cordis Corp.*, 710 F.3d 1318, 1326 (Fed. Cir. 2013) (“The purpose of this reform [America Invents Act] was to ‘convert[ ] inter partes reexamination from an examinational to an adjudicative proceeding. . . .’”) (citation omitted). Moreover, the prior art that can be considered by PTAB is more limited. *See* 35 U.S.C. § 311(b) (A petitioner in an inter

partes review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.”). Still, PTAB’s rulings *are* generally intended to have a preclusive effect on the parties. *See* 35 U.C.C. § 315(e) (describing estoppel effect of IPR).

Here, Apple sought review of the ’752 patent based on two pieces of prior art, and PTAB concluded that Apple had not shown a “reasonable likelihood” of prevailing on its challenges. Even so, PTAB did *not* conclude that the patent was either “valid” or “invalid.” In other words, there was no explicit, or even implicit, decision on the validity of the patent as there is during the initial prosecution of the patent.

Several courts, including the Federal Circuit, have considered whether evidence of an *ongoing* reexamination or IPR proceeding is admissible, with the majority concluding that the evidence should be precluded. Although these cases are distinguishable because the IPR proceeding is completed in the present case, the possibility of potential prejudice and jury confusion nonetheless is real. *See, e.g., K-TEC, Inc. v. Vita-Mix Corp.*, 696 F.3d 1364, 1376 (Fed. Cir. 2012) (noting that “[i]t is generally true that evidence of non-final reexamination determinations is of little relevance and presents a risk of jury confusion”); *Callaway Golf Co. v. Acushnet Co.*, 576 F.3d 1331, 1343 (Fed. Cir. 2009) (“The district court did not abuse its discretion in concluding that the prejudicial nature of the evidence concerning the ongoing parallel reexamination proceeding outweighed whatever marginal probative or corrective value it might have had in this case.”); *Personalized User Model, L.L.P. v. Google Inc.*, No. CV 09-525-LPS, 2014 WL 807736, at \*3 (D. Del. Feb.

27, 2014) (“Given the non-finality of the reexamination proceedings (appeal rights have not been exhausted) and the different standards applicable to reexaminations and litigation, the probative value of the reexamination evidence is substantially outweighed by the risk of unfair prejudice and the risk of confusing the jury.”).<sup>4</sup>

A handful of district courts have also considered whether to admit evidence from completed IPR proceedings, with several concluding that the evidence could be admitted in conjunction with jury instructions explaining the different standards applicable to court and IPR proceedings. *See, e.g., StoneEagle Servs., Inc. v. Pay-Plus Solutions, Inc.*, No. 8:13-CV-2240-T-33MAP, 2015 WL 3824208, at \*8 (M.D. Fla. June 19, 2015); *Universal Electronics, Inc. v. Universal Remote Control, Inc.*, No. SACV 12-00329 AG, 2014 WL 8096334, at \*7 (C.D. Cal. Apr. 21, 2014); *Oracle America, Inc. v. Google, Inc.*, Civ. No. 10-03561, 2012 WL 1189898, \*3 (N.D. Cal. Jan. 4, 2012).<sup>5</sup> In contrast, at least one court

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<sup>4</sup> *See also IA Labs CA, LLC v. Nintendo Co.*, 857 F. Supp. 2d 550, 552 (D. Md. 2012) (“As for the probative value and potential prejudice of the reexamination proceedings, the Court agrees with the vast majority of courts that such evidence has little relevance to the jury’s independent deliberations on the factual issues underlying the question of obviousness and that risk of jury confusion is high.” (internal citation and quotation marks omitted)); *Tesco Corp. v. Weatherford Int’l, Inc.*, 750 F. Supp. 2d 780, 794 (S.D. Tex. 2010) (excluding evidence of a reexamination interim determination given the “serious risk that a jury would view the examiners as expert and authoritative”); *Transamerica Life Ins. v. Lincoln Nat’l Life Ins. Co.*, 597 F. Supp. 2d 897, 907 (N.D. Iowa 2009) (“This court agrees with its brethren that evidence of incomplete patent reexamination proceedings is not admissible to prove invalidity of a patent, because it has no probative value on that issue . . . and even if the evidence has some marginal probative value, that probative value is outweighed by its potential for undue prejudice or confusion of the jury about the presumption of validity of the patent.”).

<sup>5</sup> WARF suggests that the jury instructions approved by this court in *Ameritox, Ltd. v. Millennium Health, LLC*, No. 3:13-cv-00832-WMC, slip op. at 5 (W.D. Wis. Apr. 15, 2015) (dkt. #411), are an example of instructions that may be provided to a jury on this issue. In that case, the jury was instructed that, “In deciding whether [defendant] has met its burden of proof, you may consider whether or not the U.S. Patent and Trademark Office previously considered the prior art references or the arguments against validity during patent prosecution.” However, those

has concluded that evidence of an IPR proceeding should be excluded under Rule 403, even where the proceeding was complete. *See, e.g., Interdigital Commc'ns Inc. v. Nokia Corp.*, No. CV 13-10-RGA, 2014 WL 8104167, at \*1 (D. Del. Sept. 19, 2014).

Generally, this court agrees with Apple and those courts that have declined to admit evidence of non-dispositive IPR proceedings: any probative value of this evidence is substantially outweighed by the risk of unfair prejudice, as well as the risk of jury confusion. The IPR proceeding is subject to different standards, purposes and outcomes than both the original prosecution and this court proceeding. Not only is PTAB's decision not binding in these proceedings, the law is not even clear on whether and how much the PTAB's decision denying Apple's request for review should affect the *weight* given to the two prior art references presented during the IPR proceedings. Although the court could attempt to provide instructions to the jury regarding the purpose and current standards applicable to the IPR proceeding, it would be difficult for a jury to understand, much less apply, the nuanced differences between the various proceedings and to determine how much weight should be given to PTAB's decision, if any. Instead, there is a great risk that the jury would conclude, incorrectly, that the Patent Office has twice held the '752 patent is nonobvious over prior art. Such a conclusion would likely unfairly prejudice the jury against Apple before being asked to decide the same question. Accordingly, this motion is GRANTED.

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instructions do not address the issue here: whether evidence of a PTAB decision denying a request for IPR review should be admitted over a Rule 403 objection.

**F. MIL 6: exclude WARF's expert Mudge from testifying about IPR proceedings (dkt. #338)**

In this motion, Apple moves to preclude WARF's expert Mudge from testifying about the IPR proceedings. WARF has responded that it does not intend to present any testimony from Mudge about the IPR proceedings. (Pl.'s Opp'n (dkt. #439) 49.) Moreover, the court is barring admission of evidence regarding the IPR proceedings. Accordingly, this motion is GRANTED.

**G. MIL 7: preclude evidence or argument regarding Apple's future products (dkt. #338)**

This motion is GRANTED as unopposed for the same reasons provided in the court's decision on WARF's motion in limine 4. (*See* 9/28/15 WARF's MIL Op. & Order (dkt. #464) § I.D.)

**H. MIL 8: preclude evidence or argument that Apple copied or stole WARF's alleged invention (dkt. #338)**

In this motion, Apple seeks an order precluding WARF from offering evidence or argument suggesting that Apple "copied" or "stole" WARF's invention. In support, Apple principally argues that WARF lacks evidence that the engineers involved in Apple's development of the accused feature were aware of the '752 patent before or during the development of the accused LSD Predictor. In particular, Apple takes issue with WARF's (1) reliance on a 1998 paper purportedly reviewed by Apple's engineers during the development of the LSD Predictor, (2) assertion that the '752 patent was "widely known in the computer architecture world," and (3) argument that the LSD Predictor is "in

significant part identical to the working embodiment of the '752 patent specification” as support for WARF’s position that “Apple stole or copied the patent.” (Def.’s Mot. (dkt. #338) 31-33.)

In its opposition, WARF claims to have substantial evidence that gives rise to a reasonable inference on the part of the jury that Apple copied the '752 patent and discusses in detail: (1) the 1998 paper; (2) WARF’s expert Dr. Conte’s view of the general awareness of the '752 patent; and (3) Dr. Conte’s comparison of Apple’s alleged infringing product to the '752 specification. While courts have excluded argument that the defendant copied or stole the patented invention in the face of *no* evidence in support, *see, e.g., Calouri v. One World Techs., Inc.*, No. 07-cv-2035, 2012 WL 2004173, at \*2 (C.D. Cal. June 4, 2012), WARF has at least some evidence to support its position. Whether this evidence alone is sufficient -- for the jury to find copying for purposes of secondary considerations of non-obviousness or willful infringement -- is an open question, but the court is in no position to exclude evidence of copying or WARF’s argument to that effect at this point.<sup>6</sup> Accordingly, this motion is DENIED.

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<sup>6</sup> Apple argues that evidence of copying is not necessary to prove infringement. (Def.’s Mot. (dkt. #338) 34 (citing *Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1351 (Fed. Cir. 2002)).) Nonetheless, copying *is* relevant to secondary considerations of non-obviousness and willfulness. *See SynQor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1377 (Fed. Cir. 2013) (considering evidence of copying by competitors as objective evidence of non-obviousness); *L.A. Gear, Inc. v. Thom McAn Shoe Co.*, 988 F.2d 1117, 1127 (Fed. Cir. 1993) (an infringer’s “deliberate copying was strong evidence of willful infringement, without any exculpatory evidence to balance the weight”).



**I. MIL 9: preclude evidence or argument for secondary considerations that are not tied to the '752 patent (dkt. #338)**

Apple moves to exclude 107 exhibits that WARF intends to offer as praise of the invention claimed in the '752 patent. Apple does not dispute that praise of the invention is objective evidence of non-obviousness. *See, e.g. Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1327-28 (Fed. Cir. 2008). Instead, Apple argues that WARF's exhibits lack the requisite "nexus between the merits of the claimed invention" and the praise identified. *Id.* (no nexus established where praise was for the patented device but was not tied to the "scope of the claims"); *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311-12 (Fed. Cir. 2006) (secondary considerations of non-obviousness are "only significant" if there is a nexus to "the claimed invention").

In briefing and at the final pretrial conference, Apple grouped these exhibits into the following categories: (1) documents that don't actually praise anything, Exs. 15-53; (2) documents praising the inventors' work generally, but not discussing their work on memory dependence prediction, Exs. 54-60; (3) documents commenting on the inventors' work on memory dependence generally, but not identifying any particular aspect that corresponds with the claimed invention of the '752 patent, Exs. 61-92; and (4) the commercial success of Apple's accused products, Exs. 93-121.

In response, WARF points out that the "nexus" between the invention and the praise goes to the weight of the evidence, not its admissibility. *See Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1574 (Fed. Cir. 1996) ("It is within the province of the fact-finder to resolve these factual disputes regarding whether a nexus exists between the commercial success of the product and its patented features, and to

determine the probative value of [plaintiff's] evidence of secondary considerations for rebutting the prima facie case of obviousness.”). In other words, WARF argues, whether the challenged exhibits are evidence of praise of the invention is a question for the jury.

This motion is similar to one filed by Intel during the *Intel* litigation. In resolving that motion, Judge Crabb declined to address each challenged exhibit individually, and instead precluded “documents containing only general praise for inventors, documents praising the load/store feature described in the invention [because it was not a claimed part of the patent] and statements describing defendant’s apparent infringement rather than praising the invention.” *WARF v. Intel Corp.*, No. 9-cv-78-bbc, slip op. at 7 (W.D. Wis. Sept. 24, 2009) (dkt. #442).

This court will adopt a similar approach. Apple has not identified specific objections to each exhibit it seeks to challenge, and the court will not strike all of the exhibits based on Apple’s general arguments. Certainly, some of Apple’s challenges go to the weight that should be given this evidence. For example, some of the documents discuss the inventors’ academic work on “memory dependence prediction.” WARF intends to call an expert to explain the relationship between the aspects of “memory dependence prediction” praised and the asserted claims of the patent. A jury could conclude that such documents are evidence of praise for the patented invention. On the other hand, some of the exhibits identified by Apple are troubling. Documents containing only general praise for the inventors without reference to the patented invention are irrelevant. Similarly, some of the documents laud the importance of ever

greater processor speed, while documents praising features described in the invention that are “unclaimed” features are irrelevant. *Muniauction*, 532 F.3d at 1328.

Accordingly, this motion is GRANTED IN PART AND DENIED IN PART. WARF is precluded from introducing any of these exhibits that (1) contain only general praise for inventors without praising their work specifically related to the patented invention; (2) praise the inventor’s work generally, unless WARF has expert testimony connecting that praise to the patented invention; (3) praise unclaimed features described in the ’752 patent; or (4) describe the commercial success of Apple’s products, unless WARF has expert testimony connecting that praise to the patented invention. The parties are instructed to confer and agree on which exhibits must be precluded under this ruling. If they are unable to agree on particular exhibits, they should present specific disputes to the court in advance of trial.

**J. MIL 10: preclude evidence or argument regarding infringement under the doctrine of equivalents for certain claims (dkt. #338)**

Apple moves to preclude WARF from presenting evidence or arguing that Apple’s products satisfy the “predetermined range” or “synchronization table” claim elements under the doctrine of equivalents on the grounds that WARF’s infringement expert, Dr. Thomas Conte, did not include an explicit doctrine of equivalents analysis as to those claim limitations in his infringement report. More specifically, Apple asserts that in order to pursue an equivalents theory, WARF was required to disclose particularized expert testimony linking each limitation in the ’752 patent to elements in Apple’s products and explaining why any differences between Apple’s products and the claim limitations are

“insubstantial.” *See, e.g., Amgen Inc. v. F. Hoffman-La Roche Ltd.*, 580 F.3d 1340, 1382 (Fed. Cir. 2009) (“To support a finding of infringement under [the doctrine of equivalents], [plaintiff] must have presented, on a limitation-by-limitation basis, particularized testimony and linking argument as to the insubstantiality of the differences between [the claim elements] and [accused product], or with respect to the function, way, result test.” (citation and internal quotation marks omitted)).

Instead, Apple argues, Dr. Conte’s report includes one conclusory paragraph regarding doctrine of equivalents with respect to the “predetermined range” element, and *no* equivalents analysis for “synchronization table.” Apple also argues that WARF should not be permitted to rely on Conte’s opinions regarding literal infringement to support an infringement claim under the doctrine of equivalents.

This motion will be denied. With respect to the “predetermined range” limitation, Dr. Conte’s report includes an explicit analysis of the doctrine of equivalents. (Conte Rept. (dkt. #105) ¶ 1045.) Conte opines in particular that:

In Apple’s design, the use of a combination of an armed flag and a counter threshold in the LSD Predictor is insubstantially different from the use of only a counter threshold condition. In both cases the speculation of a load instruction is blocked only if there is a prediction within a predetermined range.

(*Id.*) He goes on to opine that the function, way and result of the LSD predictor are substantially the same as the predetermined range described in the patented invention, and refers back to his previous discussion of the technical aspects of the invention. (*Id.* ¶¶ 1042, 1045.) Although Apple criticizes the testimony as “conclusory” and inadequate, such critiques go to the weight of the evidence, not their admissibility. Apple is free to

argue to the jury that Conte's analysis does not establish infringement of the "predetermined range" under the doctrine of equivalents.

Further, it was acceptable and appropriate for Conte to refer back to and incorporate, either explicitly or implicitly, his earlier opinions on the technology and literal infringement. Although a patentee must provide "particularized testimony and linking argument" to support a finding of infringement under the doctrine of equivalents, the Federal Circuit has explained that:

[This] standard does not require [an expert] to re-start his testimony at square one when transitioning to a doctrine of equivalents analysis. Indeed, we think it desirable for a witness to incorporate earlier testimony in order to avoid duplication. The fact that [an expert] d[oes] not explicitly do so does not mean he did not implicitly incorporate his earlier testimony.

*Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1305 (Fed. Cir. 2007). Thus, in *Paice*, the Federal Circuit rejected the argument that the expert's "equivalence testimony [was] strictly limited to the few lines" of testimony in which he referred specifically to the doctrine of equivalence. *Id.*

The court reaches the same conclusion with respect to Dr. Conte's "synchronization table" analysis. His report includes an extensive technical discussion and infringement analysis regarding this element. (Conte Rept. (dkt. #105) ¶¶ 895-918.) This analysis is relevant to the doctrine of equivalents even though Conte did not include a summary paragraph specifically undertaking a function-way-results analysis. Certainly, Dr. Conte cannot provide new infringement opinions under the doctrine of equivalents regarding the "synchronization table," but the court will not preclude Dr.

Conte from offering opinions disclosed by his report. Nor will the court preclude WARF from making an argument under the doctrine of equivalents with respect to these two claim elements at trial. Accordingly, this motion is DENIED.

**K. MIL 11: preclude testimony from WARF's expert Kunin (dkt. #338)**

Apple moves to preclude WARF's expert Stephen Kunin from testifying at trial. WARF has responded that it does not intend to present any testimony at trial from Kunin, as all of his opinions concerned issues that were resolved at summary judgment. (Pl.'s Opp'n (dkt. #439) 82.) Accordingly, this motion is GRANTED as unopposed.

**L. MIL 12: preclude evidence or argument on the subject of the willfulness test based on any evidence other than knowledge (dkt. #338)**

Apple seeks to exclude evidence that purportedly demonstrates knowledge of the '752 patent for purposes of WARF's willful infringement claim on the basis that the evidence either: (1) does not demonstrate knowledge of the '752 patent specifically; or (2) does not show knowledge on the part of certain employees at Apple. In response, WARF contends that the evidence, if accepted by the jury, is sufficient to demonstrate constructive knowledge or the jury could infer actual knowledge from this circumstantial evidence. (Pl.'s Opp'n (dkt. #439) 87-88 (citing *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 860 (Fed. Cir. 2010) ("Based on this circumstantial evidence, the jury could have reasonably inferred that Microsoft knew about the '449 patent."))).) Notably, Apple did not move on the subjective prong of the willful infringement claim at summary judgment. Assuming WARF's claim gets past the objective prong, it will be for the jury

to determine whether WARF's evidence creates a reasonable inference that Apple knew about the patent. Accordingly, this motion is DENIED.

**M. MIL 13: exclude Exhibit 5 of Moris deposition (dkt. #338)**

In this motion, Apple seeks an order excluding the testimony and opinion of Deanna Moris regarding the cost of development of the alleged invention claimed in the '752 patent. In particular, Apple seeks to exclude Exhibit 5 of her deposition, which is a two-page handwritten estimate created the day before her deposition of the amount of time, in person-months, she calculated was spent on developing the '752 patent. In response, WARF states that it does not intend to introduce the exhibit at issue or call Moris to testify. Accordingly, this motion is GRANTED as unopposed.

**N. MIL 14: preclude WARF from referring to itself as a charity or describing what it does with its money (dkt. #338)**

Apple seeks an order precluding WARF from referring to itself as a "charity" or "discuss[ing] what it does with its money other than to pay inventors." (Def.'s Mot. (dkt. #338) 57 (quoting *Wis. Alumni Research Found. v. Intel Corp.*, No. 08-cv-078-bbc, slip. op. at 6 (W.D. Wis. Sept. 24, 2009) (dkt. #442)).) Apple contends that this information is not relevant to any jury issue, and, indeed, such characterization and evidence may bias the jury to increase its damages award.

In response, WARF agrees not to refer to itself as a charity, but contends that Apple's second request "restricts unfairly WARF's ability to provide basic information about itself to the jury." (Pl.'s Opp'n (dkt. #439) 96.) Specifically, WARF contends

that this information is relevant to rebut Apple's position that certain license agreements with "patent assertion entities" -- which WARF describes as "thinly-capitalized" companies that "exist[] solely to produce profits for their owners, and lack the resources to effectively enforce their patents when appropriate" -- are comparable to Apple's hypothetical license agreement with WARF. To the extent Apple opens the door by attempting to analogize WARF's position to that of a more typical "patent assertion entity," then WARF is free to differentiate itself by reference to its stakeholders, its use of funds, and its position in the hypothetical negotiation. All of this, of course, is only relevant to the damages phase of trial.

WARF also contends that if Apple is allowed to introduce evidence that WARF uses money to pay inventors -- and exclude this other evidence -- such a ruling "would lead the jury to believe that intellectual property assets of the state were taken from the state and used solely to benefit WARF and the inventors." (Pl.'s Opp'n (dkt. #439) 96.) The court does not share WARF's concern. Regardless, WARF's concern will be ameliorated by the introduction of certain, limited evidence about its role to counter Apple's attempt to analogize WARF to a more typical "patent assertion entity." As such, this motion is GRANTED IN PART as unopposed and DENIED IN PART unless Apple opens the door.

**O. MIL 15: preclude evidence or argument regarding UW's financial condition (dkt. #338)**

Apple also seeks an order precluding evidence or argument concerning the University of Wisconsin's financial condition, arguing that such evidence is not relevant



to any jury issue and would be prejudicial to Apple. WARF does not oppose the motion, but clarifies that it intends to introduce certain evidence about WARF's operations to counter Apple's characterization of WARF as a patent assertion entity -- as discussed above. The motion is GRANTED as unopposed, though nothing about this decision alters the court's ruling with respect to Apple's motion *in limine* 14.

**P. MIL 16: preclude reference to number of attorneys, residence of attorneys, and size and location of law firms representing Apple (dkt. #338)**

Next, Apple requests an order precluding any evidence or argument regarding the number of attorneys Apple retained, the residence of those attorneys, the size and location of the law firms employed by Apple, and the fact that some of Apple's attorneys also represented Intel in the *WARF v. Intel* case. WARF does not oppose the motion except to ensure that it "works both ways," precluding the same evidence or argument about WARF's counsel. The court agrees. This motion is GRANTED, and the same ruling applies to WARF's counsel.<sup>7</sup>

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<sup>7</sup> As one small caveat to this ruling, the court will ask counsel during *voir dire* to introduce themselves for purposes of identifying whether any jury members are familiar with them or their law firms. Typically, this introduction also includes where they practice. In light of the parties' mutual concern, the court directs that all counsel who will appear before the jury at some point, stand and state their name, as well as the name of the law firm with which they practice unless previously introduced to the jury by other counsel for that party.

**Q. MIL 17: preclude evidence and argument of irrelevant aspects of Apple's business (dkt. #338)**

In this motion, Apple seeks an order precluding WARF from “offering evidence or argument relating to irrelevant aspects of Apple’s business, including allegations relating to the size of Apple, the compensation paid to Apple’s employees, working conditions related to the manufacture of Apple products, or statements made by Apple’s former CEO Steve Jobs that are unrelated to the issues in this case.” (Def.’s Mot. (dkt. #338) 60.) In response, WARF contends that it does not intend to offer any evidence of the items listed, but nonetheless argues that the motion should be denied because the scope of the motion is not clear. The motion is GRANTED as to the specific list of items quoted above. In all other respects, the motion is RESERVED pending specific examples of other so-called “irrelevant aspects” of Apple’s business. The court also reserves on WARF’s counter-motion to exclude Apple’s introduction of evidence about irrelevant aspects of its own business.

**R. MIL 18: preclude reference to other litigation in which Apple is involved (dkt. #338)**

Apple seeks an order precluding WARF from referring to other litigation involving Apple. In particular, Apple points to WARF’s damages expert Catherine Lawton’s references in her report to Apple’s litigation with Samsung, including damages amount that Apple sought from Samsung for infringement of patents which Apple contends are unrelated to the ’752 patent. Apple contends that such evidence would prejudice and confuse the jury.

WARF opposes the motion on the basis that Apple's approach to damages in the *Samsung* case -- an approach embraced by the same damages expert presented here, Julie Davis -- is relevant to WARF's damages claim. In particular, WARF contends that Lawton's use of Davis's apportionment approach cuts off any argument by Apple that her method is unreliable. WARF also argues that certain opinions offered by Davis in this case -- namely, that WARF's damages should be heavily discounted because many patents may read on smartphone and tablets -- is in conflict with her testimony presented in the *Samsung* litigation. WARF also argues that there is evidence that it was aware of the *Samsung* litigation and would have considered it in a hypothetical negotiation with Apple. The court agrees with WARF that a blanket ruling precluding any reference to the *Samsung* litigation is unwarranted. Accordingly, the motion is DENIED. Apple may renew this motion with respect to specific pieces of evidence or testimony not described by WARF in opposing the motion.

**S. MIL 19: preclude reference to discovery disputes or the adequacy of discovery responses (dkt. #338)**

Apple seeks an order excluding any reference to discovery disputes or the sufficiency of either party's discovery responses, arguing that such evidence is not relevant and likely to confuse the jury. WARF does not oppose the motion provided that Apple does not argue that "WARF did not sufficiently simulate processor performance, or do more extensive energy testing or benchmark testing during discovery." (Pl.'s Opp'n (dkt. #439) 115.) WARF contends that its testing was thwarted by Apple's blocking of WARF's access to the simulator, in particular, and test phones, more generally. This

motion relates to the Apple's motion to strike WARF's technical experts. (*See infra* Opinion § I.Y.) As explained during the final pretrial conference, this motion is GRANTED so long as Apple does not open the door by asking WARF's experts about the limits of their testing if Apple actually blocked or prohibited such testing, as opposed to WARF failing to request additional equipment, access or time to run additional testing. Apple represented at the final pretrial conference that it would not cross-examine WARF's experts about failing to do tests which it did not allow them to perform. (9/25/15 Hr'g Tr. (dkt .#462) 74.) However, the parties are encouraged to confer as to any remaining areas of dispute on this subject and, if necessary, seek guidance from the court in advance of trial.

**T. MIL 20: preclude WARF from offering into evidence or relying on documents it produced on the last day of discovery (dkt. #338)**

Apple seeks to preclude WARF from either offering into evidence or relying on documents produced on the last day of discovery. Without condoning WARF's eleventh hour production, the court cannot evaluate the merits of Apple's motion without reference to specific examples, particularly since WARF represents that: a number of the documents were already in Apple's possession; are variations of documents which were previously provided to Apple; or are public documents (e.g. Wikipedia entries). The court also cannot evaluate at a general level whether: (1) WARF's production was untimely; or (2) Apple was prejudiced by it. As such, this motion is DENIED, but Apple is free to raise objections to WARF attempting to offer into evidence particular exhibits that were unfairly produced on the last day of discovery.

**U. MIL 21: bifurcate trial with phase one consisting of liability and damages and phase two concerning willful infringement (dkt. #338)**

In this motion, Apple requested that the court try liability and damages together and then try the subjective prong of WARF's willful infringement claim in a second phase. Apple contends that "[t]here is substantial overlap in the testimony and evidence Apple expects to present for both liability and damages," and therefore liability and damages should be tried together. (Def.'s Mot. (dkt. #338) 65.) Apple further contends that bifurcation of willfulness is appropriate to "avoid any confusion and unfair prejudice that might result from the inclusion of subjective willfulness-related evidence in the liability/damages phase that might improperly infect the jury's determination of those issues." (*Id.*)

WARF opposes both prongs of this motion. First, WARF argues that this case, consistent with the court's practice, is set for a bifurcated trial with liability in a separate phase preceding damages and it should proceed as such. The court agrees with WARF. The liability phase will involve both determinations of infringement (and various types of infringement) and invalidity (and various invalidity) challenges. To add damages to that phase would unnecessarily complicate an already daunting set of tasks for the jury. In particular, the special verdict form could be difficult to structure if the court were to proceed to try both liability and damages in one phase.

As the court noted during the final pretrial conference, Apple's only argument in support of trying the two phases together is that certain witnesses' testimony covers both liability and damages. To the extent the testimony covers both, Apple need not -- and, indeed, should not -- recall the witness to provide the same testimony, but can simply

refer to the prior testimony in opening statement and closing argument. To the extent that one witness must be called twice -- because some of the testimony he or she seeks to provide is only relevant to damages -- then the court is open to either allowing that witness to appear via videoconference during the damages phase of the trial, or otherwise attempting to mitigate any inconvenience. Any efficiency, however, gained by having a witness only testify one time is far-outweighed by the court's interest in structuring the trial to aid the jury in deciding the various issues before it without confusion or unnecessary expenditure of resources and time.

As for Apple's second request -- that the subjective prong of the willful infringement claim be tried after the jury's consideration of liability and damages -- the court agrees with Apple that a third phase (if necessary) on willful infringement is appropriate to ameliorate any prejudice to Apple based on the evidence that need come in only to prove Apple's subjective intent to infringe. While the court agrees that WARF's willful infringement claim is relevant to determining damages, it need not be tried in the damages phase. Accordingly, the court will grant Apple's request to try willful infringement after the damages phase (and, necessarily, after a finding of liability).<sup>8</sup>

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<sup>8</sup> Curiously, despite there being *no* reference in Apple's motion *in limine* to WARF's license with Intel for the '752 patent, WARF spends most of its opposition arguing that the Intel license *is* relevant to non-obviousness and therefore should come in during the liability phase. This argument is in no way relevant to the issue raised in Apple's motion. If WARF failed to bring its own motion to address timely this issue, that's WARF fault, but there are too many other issues properly before the court, for the court to consider an argument raised in an opposition to a motion *in limine* unrelated to that motion.

Accordingly, this motion is GRANTED IN PART AND DENIED IN PART. Apple's request to try liability and damages in a single phase is DENIED, but Apple's request to try the subjective prong of the willful infringement claim in a separate, final phase is GRANTED.

**V. MIL: exclude testimony by WARF's expert Blattberg regarding importance of processor speed in industry (dkt. #308)**

In this *Daubert* motion, Apple seeks to exclude the testimony of WARF's marketing expert Dr. Robert Blattberg on the basis that his testimony "fails to assist the jury under Rule 702 and improperly places an expert's sheen on matters of common sense." (Def.'s Mot. (dkt. #308) 2.)<sup>9</sup> Specifically, Apple argues that Blattberg's opinions consist of recitations from: "(1) the bare factual content of documents produced by WARF or Apple in this case; (2) the factual content of a website; and/or (3) the opinion of WARF's technical expert Dr. Conte." (*Id.* at 3.) Apple implicitly argues that for Blattberg's testimony to qualify as expert testimony or to otherwise be helpful to the jury, Blattberg should have conducted his own market research, commissioned surveys or held focus groups. (*Id.* at 4.)

In response, WARF contends that Blattberg's testimony -- and in particular, the three core opinions Apple seeks to strike -- is properly grounded in his source material, and that the criticism that he relies (at times, verbatim) on certain news articles or

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<sup>9</sup> The court set forth the standard for reviewing challenges to expert testimony under Rule 702 and *Daubert* in the Opinion and Order on WARF's motions *in limine*. (See 9/28/15 WARF's MILs Op. & Order (dkt. #464) § I.O.)

representations on competitor websites does not serve as a basis for striking his testimony as not helpful or unreliable. The court agrees with WARF that Blattberg's testimony *may* assist the jury in synthesizing various marketing materials and connecting those materials to the technical aspects of the alleged infringing product and competitor products. Perhaps his testimony will be of limited value to the jury, but Apple can underscore its flaws and limits through cross-examination. Accordingly, this motion is DENIED.

**W.MIL: exclude testimony by WARF's expert Knittel on "regression analysis" (dkt. #309)**

Apple seeks to exclude the testimony of one of WARF's damages expert Dr. Christopher R. Knittel pursuant to Federal Rule of Evidence 702 and *Daubert*. WARF's main damages expert Catherine Lawton concluded that the appropriate measure of damages in this case is \$2.74 per infringing device, based in part on Knittel's "regression analysis," in which he purports to calculate the dollar value associated with changes in the speed of the processors used in the accused Apple products. Knittel concludes that for an estimated 8.55% reduction in processor speed (the purported result if Apple were not to use the infringing technology), the average prices of the accused iPhones would decrease by a range of \$7.09 to \$10.64, and the average price of the accused iPads would decrease by a range of \$5.48 to \$9.29. Apple seeks to exclude this testimony as unreliable for four reasons, which the court addresses in turn.

*First*, Apple contends that the analysis violates the entire market value rule because it relies on the entire market value for the end user products at issue in this litigation. The court has already considered two other motions concerning the entire



market value rule. (*See* 9/28/15 WARF’s MILs Op. & Order (dkt. #464) § I.F; *supra* Opinion § I.B.) For the reasons described above (*see supra* Opinion § I.B), the court will not exclude Knittel’s testimony in which he relies on the price of the accused iPhone and iPads as a starting point for purposes of his regression analysis. Knittel is not proposing to use the entire value as a royalty base. Indeed, he does not propose a reasonable royalty number at all. Rather, Lawton relies on Knittel’s analysis in support of her figure, which is also not based on the entire value of the product. Moreover, the reference to the full price of the product does not place undue emphasis on the total value of the accused products. *See Fractus, S.A. v. Samsung Electronics, Co., Ltd.*, 876 F. Supp. 2d 802, 834-35 (E.D. Tex. 2012).

*Second*, Apple argues that the analysis “conflicts with the real-world Apple pricing data produced in this case.” (Def.’s Mot. (dkt. #309) 3.) Specifically, Apple faults Knittel’s approach for failing to take into consideration the fact that “Apple sells iPhones containing SoCs with different processor speeds at exactly the same price.” (*Id.*) In response, WARF points out that Apple’s argument concerns the fact that previous generations of iPhones were launched at the same prices as the non-infringing iPhone 5s, and, therefore, fails to consider the effect of time. (Pl.’s Opp’n (dkt. #392) 19.) Apple remains free to cross-examine Knittel on whether the evidence he relied on in determining the price differential is sound, but this challenge does not form a basis for excluding his testimony.

*Third*, Apple faults Knittel’s “biased selection of which variables to include in his regression models,” arguing that the results vary widely depending on the number and

type of variables. (Def.'s Mot. (dkt. #309) 3.) Specifically, Apple criticizes Knittel for using a "stepwise methodology," in which a computer program is employed to choose the independent variables, directing the court to general criticism in academia about this approach. (*Id.* at 10-15.) In response, WARF counters that Knittel did not use a stepwise methodology. (Pl.'s Opp'n (dkt. #392) 23-24.) Instead, WARF explains that Knittel relied on Apple's marketing materials to identify and weight independent variables. (*Id.* at 24-25.)

While obviously subjective, Apple is free to challenge Knittel's methodology by counter evidence or cross-examination, but the court will not exclude it altogether. Indeed, the variables chosen do not seem to be the thrust of Apple's concern. Instead, Apple faults Knittel's judgment on which and how many variables to include, but this criticism also goes to the weight the jury may place on Knittel's testimony and not on the admissibility of his regression analysis.

*Fourth*, and finally, Apple contends that Knittel's analysis depends on his assessment of the value of other features "that cannot possibly be true," including "that a larger display *decreases* value, and that a heavier phone *increases* value." (Def.'s Mot. (dkt. #309) 3 (emphasis added).) In response, WARF argues that Apple mischaracterizes Knittel's report. With respect to the weight example, Knittel himself explained that the weight of the phone does not increase the value; instead, "the likely explanation is that heavier phones have more features, and so features that are not directly controlled for in the model will be captured by the weight variable." (Pl.'s Opp'n (dkt. #392) 28 (citing Knittel Dep. (dkt. #246) 186-87).) Knittel also explained at his deposition that the sole

purpose of the regression analysis is to value processor speed, and that the analysis is not intended to isolate and value other attributes, e.g., weight. Apple may well question Knittel about his approach and whether the analysis results in outliers with respect to other variables, but the court does not find that this serves as a basis for striking his testimony.

As such, Apple's motion to strike Knittel's testimony is DENIED.

**X. MIL: exclude testimony by WARF's expert Lawton regarding reasonable royalty (dkt. #313)**

Apple also seeks to exclude testimony by WARF's main damages expert Catherine Lawton. In this motion, Apple argues that Lawton's damages number is inflated and falls far short of the reliability standards under Rule 702 and *Daubert*. Apple posits two core reasons to strike her testimony.

*First*, Apple takes issue with Lawton's use of \$70.97 to \$81.79 as the value of Apple's SoC (system on chip), from which she derives her per unit royalty of \$2.74. Specifically, Apple contends that: (1) this number (or, really, range of numbers) is inflated because it does not reflect the actual market value of the SoCs; and (2) Lawton's analysis for calculating the total value of the SoC is flawed in several respects. In support of its argument, Apple points out that the total value assigned by Lawton is more than double the value of any SoC in the marketplace. (Def.'s Mot. (dkt. #313) 10). Still, as WARF argues, there is no dispute that Apple does not sell the particular SoC at issue in this case and therefore its expert must estimate its value. (Pl.'s Opp'n (dkt. #393) 21.) While Apple's criticism appears to have merit, whether Lawton's value is inflated is

proper fodder for cross-examination and does not serve as a basis for excluding her testimony. As for Apple's challenges to Lawton's calculation of the total value of the patented invention, all concern areas which are properly subject to cross-examination, including Lawton's treatment of various features of the phone, her use of Apple's customer data, and the relative value she places on processor speed as compared to other features. Still, this is not enough to strike her testimony as unreliable.<sup>10</sup>

*Second*, Apple contends that Lawton's reliance on the 50% rate Apple obtained in its patent litigation lawsuit with Samsung is not reliable because she failed to explain how that patent license is comparable to the one at stake here. In response, WARF argues that the Apple-Samsung license is just one factor Lawton considered before concluding that 50% is a reasonable royalty rate. For example, Lawton also relied on WARF's "policy of seeking 50% to 70% of the profits generated by the patent when the University shoulders the majority of the investment." (Pl.'s Opp'n (dkt. #393) 35.) Moreover, Lawton relied on WARF's technical expert, Dr. Conte, to compare the technology at issue in the Apple-Samsung patent license with that at issue here. (*Id.* (citing Lawton's use of Conte's Damages Report).) As Apple recognized in its opposition to WARF's motion to strike its own experts testimony on comparable licenses, it is common for pure damages experts to rely on technical experts in their analysis. (*See* Def.'s Opp'n (dkt. #417) 2 (discussing Davis's use of Donaldson and Colwell's technical analysis).)

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<sup>10</sup> For the reasons already discussed, the court also rejects Apple's challenge to Lawton's testimony as improper under the entire market value rule. (*See supra* Opinion § I.B.)

Moreover, WARF contends that Lawton did not blindly rely on the 50% figure but also took into account certain economic differences between the Apple-Samsung patent and that at issue here. (Pl.’s Opp’n (dkt. #393) 36 (citing Lawton Rept. (dkt. #243) ¶ 782).) While Apple is free to challenge Lawton on her conclusion that the Apple-Samsung patent was sufficiently comparable to the one underlying the hypothetical negotiation at issue in this case, as Apple pointed out in its opposition to WARF’s motion to strike testimony about comparable licenses (*see* 9/28/15 WARF’s Op. & Order (dkt. #464) § I.Q), “disputes regarding license comparability go to weight, not admissibility.” (Def.’s Opp’n (dkt. #417) 6 (citing *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1227 (Fed. Cir. 2014) (holding that testimony about comparable licenses must account for “distinguishing features” but any argument that a license is not “perfectly analogous generally goes to the weight”); *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1326 (Fed. Cir. 2014) (“[W]hether these licenses are sufficiently comparable such that Motorola’s calculation is a reasonable royalty goes to the weight of the evidence, not its admissibility.”)).)

Accordingly, Apple’s motion to strike Lawton’s testimony is DENIED.

**Y. MIL: exclude portions of testimony by four of WARF’s technical experts (dkt. #317)**

Under *Daubert* and Federal Rule of Evidence 702, Apple moves to preclude WARF’s four technical experts from testifying in support of WARF’s damages case at trial. Apple argues that each expert bases his conclusions on unreliable methodologies and gives opinions he is not qualified to give. As discussed below, however, Apple’s

arguments generally go to the *weight* that should be given the experts' opinions, not to the reliability of their methods, the usefulness of their reports, or their qualifications that are of concern in *Daubert* or Rule 702. Accordingly, this motion generally is DENIED.

### **1. Dr. Glenn Reinman**

Dr. Reinman was retained by WARF to conduct performance testing on Apple's accused devices in order to determine the performance benefit attributable to the '752 patent within the accused processors in Apple's devices. (Reinman Rept. (dkt. #260) ¶ 2.) Reinman ran tests using "benchmarks," which are individual tests designed to stress particular operations of a processor. Reinman chose to run three benchmark "suites" or applications during his testing: Geekbench, SPEC CPU, and Dhrystone. Reinman explains in his report that he chose these particular suites because he believed them to be: (1) representative of relevant applications on Apple Devices; (2) repeatable, meaning that he could run them many times on different LSD Predictor Mode settings; and (3) readily verifiable. (*Id.* ¶ 35.) Reinman also limited his testing methodology because his tests could be performed only on "engineering devices" owned and controlled by Apple, which permitted Reinman to toggle between the "enabled" and "disabled" modes of the LSD Predictor. (*Id.* ¶ 33.)

As Reinman explains in his report, commercial iPhones containing the LSD Predictor are set to the default operating mode, in which the LSD Predictor predicts dependencies between load and store instructions in a way that allegedly infringes the '752 patent. (*Id.* ¶ 18.) The LSD Predictor also has two "disabled operating modes," however, that are not active on the commercial iPhones. (*Id.* ¶ 20.) The first disabled

mode, called “Mode 2,” prevents all load instructions from speculatively executing ahead of any store instructions. The second disabled mode, called “Mode 3,” allows load instructions to execute freely and speculatively, but does not attempt to predict load-store dependencies or delay the execution of any instructions. (*Id.*)

For four days at the offices of Apple’s counsel, Reinman was given access to Apple’s “engineering devices” in order to conduct his tests, which compared the performance of the iPhone processors between the default operating mode and the disabled modes. (*Id.* ¶ 33.) Reinman was also provided with one Macintosh laptop and one cable that allowed him to test these devices, but limited his ability to run tests on multiple devices at the same time. (*Id.* ¶ 29.) After running benchmark tests, Reinman concluded that his tests “represent the performance benefit attributable to the LSD Predictor within the tested devices (default Mode 0), as compared to Modes 2 and 3, in which the LSD Predictor is disabled.” *Id.* ¶ 189.

Apple argues that WARF should be precluded from relying on Reinman’s test results for three reasons. *First*, Apple contends that Reinman’s methodology was flawed at the outset because his tests do not measure the *incremental* value of the allegedly infringing features of the LSD Predictor. *See Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014) (“The essential requirement is that the ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product.”). Apple argues that Reinman’s performance tests comparing the operational LSD Predictor with the LSD Predictor in disabled modes assume that Apple’s accused products would have contained *no* predictor at all if the allegedly infringing LSD

Predictor had been unavailable to Apple. Because there were other, non-infringing predictors available, including Apple's predecessor A6 chip, Apple argues that the appropriate comparison would have been to measure the performance of the LSD Predictor to the performance of one of these non-infringing alternatives. (Def.'s Mot. (dkt. #317) 10.) By failing to make the appropriate comparison, Reinman's testing improperly attributes or at least implicitly suggests the entire performance benefit of the LSD Predictor in its operational mode to WARF's patented invention. (*Id.* at 11.)

As an initial matter, Apple's argument appears to have merit, at least as to undue prejudice, if one assumes Apple would have chosen an alternative predictor were the LSD Predictor unavailable. However, WARF defends Reinman's tests on the ground that *none* of the non-infringing alternatives available in the prior art or in Apple's previous products would have been viable in the accused products. Instead, WARF's technical expert, Dr. Conte, explains in his report that Apple would have obtained the best results with the LSD Predictor set to one of the disabled modes. (Conte Rept. (dkt. #216) ¶¶ 11-19.) WARF also argues that the type of testing Apple suggests would not have been possible or accurate, in any event, because there are no accused iPhones that contain non-infringing prior art.

Apple's position certainly seems more persuasive on this issue, both as to fact and reasonable inferences, but the court has no basis to reject Dr. Conte's contrary opinion outright. Accordingly, the court is not persuaded that Dr. Reinman's methodology is clearly unreliable or so flawed that it cannot be presented to a jury. At worst, it seems the factual premise on which Reinman's opinion depends is shaky. While Apple is free



to expose Reinman's baseline assumptions and choices through cross-examination and testimony from its own experts, it has not demonstrated a right to exclude it altogether.

Apple's *second* objection to Reinman's performance tests concern the three, specific benchmark suites that Reinman chose to run. Apple spends several pages arguing that Reinman's chosen benchmarks are inadequate to illustrate overall performance, and that Reinman should have tested different or additional benchmarks. Apple also asserts that the test results of its own expert, Dr. August, confirm Reinman's tests were insufficient. In response, WARF provides more than 20 pages of argument explaining why Reinman's benchmarks were appropriate and why it is Dr. August's results that are actually flawed.

Whatever their ultimate merit, WARF's responses again demonstrate that Apple's objections go to the weight of Reinman's choice of benchmarks, not their admissibility. As an initial matter, Apple once again fails to challenge the basic methodology behind Reinman's tests -- testing performance by running various benchmarks on the LSD Predictor. Similarly, Apple neither suggests that Reinman's test results are inaccurate, nor that Reinman made any fundamental errors in running the tests. By merely asserting Reinman's choice of benchmarks could have been better, without establishing that it violates basic, accepted methodology or standard measures of reliability, Apple underscores that its criticism is more appropriately the subject of cross-examination about Reinman's choice and an offer of proof as to which benchmarks are more accurate indications of the overall performance benefit of the LSD Predictor. Apple may also, and certainly intends to, present testimony from Dr. August to undermine the underlying assumptions in Reinman's tests. However, absent proof of a *true* consensus

within the relevant field of expertise as to the proper benchmarks, or at least excludable benchmarks, the limitations in *Daubert* and Rule 702 are not at play.

The parties' arguments on this issue also raise a concern about whether WARF's experts were prevented from running more tests by Apple's refusal to provide access to its cSim simulator or engineering devices for further testing. (Pl.'s Opp'n (dkt. #437) 11, n.3, 18-19. If WARF had had access to Apple's cSim, WARF argues, its experts could have tested more benchmarks. Since WARF moved to compel access to the cSim, and its motion to compel was denied, Apple may have to live with the reasonable consequences Reinman testified resulted from that choice.<sup>11</sup> (Dkt. #71). Said another way, because Apple opposed, and ultimately succeeded in preventing WARF's access to the cSim, Apple cannot now raise arguments at trial that WARF should have run tests only available through the cSim.<sup>12</sup>

With respect to other testing of Apple's engineering devices, it is not clear from the record whether Apple flatly refused any request by WARF to conduct additional *performance testing*. As described above, the court encourages the parties to confer as to any remaining dispute over the availability of additional testing and, if necessary, bring that to the court's attention in advance of trial. (*See supra* Opinion § I.S.)

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<sup>11</sup> Similarly, with respect to the engineering devices, WARF says that Apple limited access to four days; when WARF requested additional access for testing, Apple refused. Reinman relies, in part, on his limited access to Apple's devices in explaining his choice of benchmarks.

<sup>12</sup> In fairness, Apple may not intend to make this argument, but should be on notice that doing so may open the door to such a response.

Apple's *third* and final objection to Reinman's performance tests concern his claimed failure to "account for features that Apple developed and that are not part of or described anywhere in the '752 patent," but that would impact or at least magnify performance. Apple argues that Reinman's testing improperly gives credit to WARF for all of the features of the LSD Predictor, even though it contains features *not* claimed by the '752 patent. (Def.'s Br. (dkt. #317) 12.)

Again, Apple's argument has merit, but this, too, goes largely to the weight that should be given to Reinman's performance testing and results. WARF's experts have opined that any additional features of the LSD Predictor not specifically covered by the '752 patent either (1) do not improve processing speed, or (2) are simply implementation details for the '752 patented invention. (Conte Rept. (dkt. #217) ¶¶ 164-176.) To the extent Apple disagrees with these opinions, it is free to challenge that evidence or to present contrary evidence at trial.

## **2. Dr. Murali Annavaram**

Apple next challenges Dr. Annavaram, who submitted a report analyzing the power benefit attributable to the LSD Predictor in Apple's accused products. (Annavaram Rept. (dkt. #249).) Apple raises several objections to Annavaram's report, including several the court already addressed related to Reinman's performance testing, on which Annavaram based some of his power savings calculations. Since the court has already concluded that Apple's arguments regarding Reinman's testing go to the weight

of his opinions, not to admissibility, the court will address that portion of the motion no further.

The remainder of Apple's arguments challenge alleged "assumptions" on which Dr. Annavaram relied in his analysis, including which benchmarks would best show power savings and how performance improvements relate to power savings. Apple's challenges to these assumptions are also disagreements with Annavaram's analysis, but do not undermine the basic reliability of Annavaram's methods. According to WARF, Apple has further misconstrued or misunderstood Annavaram's opinions and analysis. Accordingly, the court will not preclude Annavaram from presenting his opinions at trial.

### **3. Dr. Thomas Conte**

Apple challenges Dr. Conte's damages report in which he offered opinions regarding apportionment and the supposed value of the LSD Predictor. (Conte Rept. (dkt. #217).) Apple contends that Conte's report on apportionment and value should be precluded because he: (1) relied on unreliable testing results reported by Reinman and Annavaram; and (2) improperly doubled the performance benefit by positing that the LSD Predictor would have allowed Apple to include *other, unidentified features* in its processors that would have achieved even greater performance benefits. Apple also moves to preclude several specific statements in Conte's reports, which Apple argues he is unqualified to make.

Since the court has (again) concluded that Reinman's and Annavaram's tests and opinions are admissible, the court will not preclude Conte from testifying regarding his

analysis and opinions because they incorporated those test results. Further, although Apple implies that it was improper for Conte to rely on the test results of others without conducting his own performance testing, it *is* proper for an expert to rely on the opinions of other experts, so long as all of those opinions are reliable and non-speculative, and subject to weighing by the trier of fact. *See Walker v. Soo Line R. Co.*, 208 F.3d 581, 588 (7th Cir. 2000) (“Indeed, courts frequently have pointed to an expert’s reliance on the reports of others as an indication that their testimony is reliable.”).

Apple’s second argument with respect to Dr. Conte gains more traction. Apple criticizes Conte’s conclusion that the LSD Predictor is not only responsible for the 8.55% performance benefit found through Reinman’s testing, but is actually responsible for a 17.04% “net performance benefit.” To reach this 17.04% number, Conte applied a formula used by Apple when designing products to conclude that the 8.55% performance benefit (shown by Reinman) would result in an 8.49% increase in available enhancements. (Conte Rept. (dkt. #217) ¶¶ 125-28, 153-54.)

Conte admits that he identified *no* particular enhancements that Apple included in its products as a result of this supposed 8.49% increase in available room for enhancements. Thus, Conte is arguably crediting the LSD Predictor with a performance boost derived from whole cloth that may not have actually resulted in *any* increased benefit to the accused products. On the other hand, WARF argues that the fact that the LSD Predictor made that space available for additional enhancements should be considered a benefit for purposes of the damages analysis.

Ultimately, the court believes this is an issue that should be presented to the jury.

Indeed, Conte's analysis is easy to understand and his methodology is straightforward, even if it is not particularly persuasive, allowing Apple to argue that Conte's analysis is too speculative and that WARF has identified no additional benefits or enhancements were added to the accused products as a result of the LSD Predictor.

This leaves Apple's objections to various opinions Conte provided in his infringement and damages reports that are lumped together with epithets such as "legal, contractual, and pricing issues as well as 'opinions' regarding Apple's state of mind." (Def.'s Mot. (dkt. #317) 34.) Apple argues that these opinions should be stricken because Conte is not qualified to make them. More persuasively, Apple objects to six, specific categories of testimony by Conte: (1) vicarious liability; (2) induced and contributory infringement; (3) infringement under 35 U.S.C. § 271(f); (4) subjective willfulness; (5) typical device usage by consumers; and (6) comparative pricing data.

Although some of Apple's objections may have merit, Apple fails to conduct any particularized analysis with respect to each opinion it seeks to preclude. For example, Apple does not explain why it believes Conte is unqualified to opine that Apple exercised "direction and control" over its contract manufacturers. Conte states in his report that he is "familiar with the relationship between a company that designs microprocessors and a contract silicon fabricator that performs the actual physical step of fabrication based on my professional experience, including my work for BOPS, Inc. [where he was Chief Micro-Architect]." (Conte Rept. (dkt. #105) ¶ 1056.) It may be that Conte's experience does not actually qualify him to give opinions regarding Apple's relationship with its

fabricators, but the court will not make arguments for Apple.<sup>13</sup> Accordingly, the court will not strike any of Conte's opinions at this stage.

#### 4. Dr. Michael Johnson

Finally, Apple objects to the expert report provided by Michael Johnson, who WARF intends to call as a damages expert to opine on the importance of the '752 patent to Apple. (Johnson Rept. (dkt. #250) ¶ 8.) Johnson is an expert in the field of mobile processor design and is the former Chief Architect at AMD, a leading computer processor company.

Apple contends that Johnson is unqualified to provide the opinions set forth in his report because he lacks personal knowledge of the '752 patent and Apple's accused products. Instead, Johnson relies on the analysis and opinions of WARF's other technical experts, including Reinman, Annavaram, and Conte. However, as noted previously, an expert's testimony is not improper simply because the expert relied on the opinions of other experts. Rather, it is *dependent* on the persuasiveness and reliability of those other experts.

Here, the court is satisfied that Johnson is qualified to offer opinions on the limited subjects covered in his expert report. In particular, Johnson's experience at AMD and in licensing is directly relevant to his opinions regarding the importance of the LSD Predictor to Apple's products and other licensing considerations. Accordingly, the court

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<sup>13</sup> As with plaintiff's other experts, Apple's criticism of Conte for relying on the opinions of other experts falls flat. It is not improper *per se* for an expert to rely on the opinions of others.

will not preclude Johnson's testimony.

ORDER

IT IS ORDERED that:

1. Defendant Apple Inc.'s motions *in limine* nos. 1-21 (dkt. #338) are GRANTED IN PART, DENIED IN PART, and RESERVED IN PART as set forth above.
2. Defendant's motion *in limine* to exclude the expert report and testimony of Robert Blattberg (dkt. #308) is DENIED.
3. Defendant's motion *in limine* to exclude the expert report and testimony of Christopher R. Knittel (dkt. #309) is DENIED.
4. Defendant's motion *in limine* to exclude the expert opinions and testimony of Cathy Lawton (dkt. #313) is DENIED.
5. Defendant's motion *in limine* to exclude certain testimony and opinions from WARF's technical experts (dkt. #317) is DENIED.

Entered this 29th day of September, 2015.

BY THE COURT:

/s/

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WILLIAM M. CONLEY  
District Judge