

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

CARNEGIE MELLON UNIVERSITY,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil No. 09-290
	)	Judge Nora Barry Fischer
MARVELL TECHNOLOGY GROUP, LTD.,	)	
and MARVELL SEMICONDUCTOR, INC.,	)	
	)	
Defendants.	)	

**MEMORANDUM OPINION**

Presently pending before the Court is a motion filed by Defendants Marvell Technology Group, Ltd., and Marvell Semiconductor, Inc. (collectively, “Marvell”) to exclude the proffered expert testimony of Ms. Catharine M. Lawton. (Docket No. 367). Plaintiff Carnegie Mellon University (“CMU”) opposes this motion. (Docket No. 395). The Court heard argument on the motion during its hearing on July 10 and 11, 2012. (Docket No. 433). Although Ms. Lawton was present in the courtroom during the hearing, CMU opted not to call her to testify. (Docket No. 440 at 98). The motion is now ripe. For the following reasons, Marvell’s motion [367] is GRANTED, in part, and DENIED, in part.

**I. BACKGROUND<sup>1</sup>**

**a. *Factual Summary***

This is a patent infringement action in which CMU alleges that Marvell has infringed two of its patents, U.S. Patent Nos. 6,201,839 (the “‘839 Patent”) and 6,438,180 (the “‘180 Patent”)

---

<sup>1</sup> As the parties are well aware of the factual and procedural background of this case, the Court will limit its discussion to the background necessary for the resolution of the current motion. For further detail regarding same, see Docket Nos. 306, 337, and 441.

(collectively, the “CMU Patents”). The patents-in-suit are generally directed to sequence detection in high density magnetic recording devices, and more specifically, to high density magnetic recording sequence detectors. *See* ‘839 Patent 1:20-23. Both patents claim priority to a May 9, 1997 provisional application. *See* ‘839 Patent; ‘180 Patent. The ‘180 Patent is a continuation-in-part of the ‘839 Patent. *See* ‘180 Patent.

Although much of the scope and contours of Marvell’s alleged use are still disputed, it is clear that Marvell used the accused technology throughout its so-called “sales cycle.”<sup>2</sup> The sales cycle involves testing of both computer programs and manufactured chips, and CMU accuses Marvell of infringement during this design and testing stage. If a sales cycle is successful, it culminates with a “design win,” whereby Marvell makes mass sales of chips that allegedly perform the patented methods.

CMU seeks a reasonable royalty for Marvell’s alleged infringement throughout this process. To that end, CMU proffers Ms. Lawton as its damages expert. Ms. Lawton has produced a massive report. (*See* Docket No. 367-2).

**b. Ms. Lawton**

Ms. Lawton is a Director at the Berkeley Research Group, LLC (“BRG”), which is an international consulting firm that specializes in, among other things, strategy issues related to complex litigation. (*Id.* at 1). She has over twenty-six years of experience advising clients on various damages issues, including intellectual property infringement damages, and related topics. (*Id.* at 1-2). She has acted as a damages expert in other intellectual property cases. (*Id.* at 2).

---

<sup>2</sup> The Court only briefly summarizes the alleged sales cycle here. For a more detailed description, *see* Docket No. 441.

The underlying theme of Ms. Lawton's report is that Marvell considered CMU's technology "must have." (*See id.* at 14). All told, she concludes that a running royalty of \$0.50 per unit should be applied to Marvell's sales of the Accused Chips at issue. (*Id.*).

Given the size of Ms. Lawton's report, it comes as no surprise that she has left very few, if any, stones unturned. She has considered the possibility of an established royalty, and correctly found none. (*See* Docket No. 449 at 4-6). After reaching this conclusion, Ms. Lawton engaged in an extremely detailed *Georgia-Pacific* analysis in order to reach her opinion on a reasonable royalty for the case. (Docket No. 367-2 at 368-540).

## **II. LEGAL STANDARD**

Under Rule 702 of the Federal Rules of Evidence, a court may permit an expert to offer opinion testimony only if such testimony "will assist the trier of fact" and "(1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case." FED.R.EVID. 702. "The district court acts as a gatekeeper tasked with the inquiry into whether expert testimony is 'not only relevant, but reliable.'" *IP Innovation L.L.C. v. Red Hat, Inc.*, 705 F.Supp.2d 687, 689 (E.D. Tex. 2010) (Rader, J.) (quoting *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 578, 589 (1993)). Testimony that does not meet the standard set forth in Rule 702 must be excluded.

In a patent infringement action, a successful plaintiff is entitled to "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court." 35 U.S.C. § 284 (2006). Two forms of compensation are authorized by § 284: lost profits and reasonable royalty damages. *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1324 (Fed.

Cir. 2009). Because CMU does not manufacture or sell products that practice the claimed methods, it is not entitled to lost profits.

“A reasonable royalty contemplates a hypothetical negotiation between the patentee and the infringer at a time before the infringement began.” *Red Hat*, 705 F.Supp.2d at 689 (citing *Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075, 1078 (Fed. Cir. 1983)). The hypothetical negotiation presumes that both the patentee and the accused infringer are willing parties to the negotiation, and also assumes that the patent was valid, enforceable, and infringed. *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F.Supp. 1116, 1120 (S.D.N.Y. 1970). The *Georgia-Pacific* case sets out a series of factors that may be relevant to the analysis of a reasonable royalty. *Id.*

### **III. ANALYSIS**

Marvell’s challenge to Ms. Lawton’s report can be generally divided into four parts. The first issue Marvell raises is Ms. Lawton’s purported use of the entire market value rule. (Docket No. 368 at 6-10). The second is that her apportionment analysis is unreliable. (*Id.* at 11-13). Next, Marvell claims that Ms. Lawton relied on an irrelevant powerpoint slide, which renders her opinion unreliable. (*Id.* at 13-16). Finally, Marvell throws the proverbial “kitchen sink” at Ms. Lawton’s report, raising five short, independent disputes with various aspects of her report. (*Id.* at 17-19). CMU counters all of these arguments. (*See* Docket No. 395 at 1-2). The Court will now address the arguments raised, in turn.

#### **a. *Entire Market Value Rule***

The entire market value rule requires a patentee to “prove that the patent-related feature is the basis for customer demand.” *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1336 (Fed. Cir. 2009) (internal quotations omitted). This does not mean that the patent-related

feature is the *only* feature, but simply that it is the one that drives demand. *TWM Mfg. Co., Inc. v. Dura Corp.*, 789 F.2d 895, 901 (Fed. Cir. 1986) (The entire market value rule allows recovery “based on the value of an entire apparatus containing several features, when the feature patented constitutes the basis for customer demand.”). Put another way, the entire market value rule applies when the patented feature “substantially create[s] the value of the component parts.” *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1318 (Fed. Cir. 2011).

Marvell takes the position that there is no evidence of record that indicates that the patented method drives customer demand or creates the value of the relevant components.<sup>3</sup> (Docket No. 368 at 6). Marvell points, for example, to the fact that any read channel contains a number of components that are unrelated to the patented feature, and Ms. Lawton acknowledges as much. (*Id.* at 7 (citing Docket Nos. 367-2 at 509; 367-1 at 34:19-35:2)).

CMU counters that Ms. Lawton actually did not apply the entire market value rule, despite reference to same. (*See* Docket No. 395 at 9 (citing Docket No. 367-2 at 510-11) (“it is my opinion based on the facts of this case that the Entire Market Value Rule exception is applicable, however, to be conservative, I am not utilizing it to calculate damages.”) (emphasis in document)). Ms. Lawton testified that her reasonable royalty analysis is “clearly predicated on the apportioned value.” (Docket No. 396-6 Ex. 14 at 311-13). Thus, CMU argues that exclusion of her testimony on this basis would be in error.

The Court agrees with CMU. Ms. Lawton has clearly steered away from the entire market value rule, and as such, her opinion is not based on same. That is not to say, however, that she may openly state that she believes the rule applies, that a wider range of damages are therefore available, and then close by saying she is being “conservative” by not applying the

---

<sup>3</sup> Ms. Lawton takes a different tack, pointing to Dr. Bajorek’s Report, along with other evidence, to support her conclusion on market value. (*See* Docket No. 367-2 at 508-509).

entire market value rule. After argument, it appears that this is Marvell's concern: that Ms. Lawton will testify that she *could have* applied the entire market value rule, but instead opted to apply a more "conservative" analysis (and still arrive at a conclusion that Marvell owes CMU \$734 million or more). (See Docket No. 440 at 171-72 ("Ms. Lawton should not be able to tell a jury that, in her opinion, the entire market value rule applies, but she's being conservative by not applying it.")).

Marvell calls the Court's attention to the *Uniloc* case, wherein the Federal Circuit addressed a scenario that is facially similar to the instant one. In that case, Uniloc "said it would not base a royalty calculation on the entire market value of the products." *Uniloc*, 632 F.3d at 1319. It then proceeded to offer Microsoft's \$19.28 billion total revenue as a "check" in determining reasonableness by showing the reasonableness of the asserted 2.9% royalty. *Id.* Uniloc then belittled Microsoft's expert's calculation, which was "only .0003% of total revenue." *Id.* at 1318. At trial, the expert referenced a prepared pie chart comparing Microsoft's total revenue with the amount of the proposed reasonable royalty. *Id.*

Microsoft argued that Uniloc had actually applied the entire market value rule through: (1) Uniloc's expert's pie chart; (2) Uniloc's expert's comparison of his calculated royalty to the total revenue Microsoft earned through the accused products; and (3) Uniloc's belittlement of Microsoft's proposed royalty. *Id.* The district court agreed with Microsoft, noting that Uniloc had conceded that the entire market value rule was not applicable. *Id.* at 1319.

The instant case is not entirely on all fours with *Uniloc*. As Judge Payne of the Eastern District of Texas recognized, an apportionment analysis needs to start somewhere, and simply starting with the total operating profit does not inherently invoke the entire market value rule. See *PACT XPP Technologies, AG v. Xilinx, Inc.*, Civ. No. 07-563, 2012 WL 1666390, \*2 (E.D.

Tex. May 11, 2012) (overruling objection based on entire market value because, even though the plaintiff admitted that its expert's analysis "starts with the average sales price," the expert "apportioned the average sales price.").

In the Court's view, *Uniloc* and *PACT* work together. To this Court's reading, the problem which *Uniloc* addressed was inappropriately tainting the jury's understanding of the damages in the case by comparing potentially appropriate calculations with much greater revenue figures in an effort to lend credence to its "reasonable" royalty. As the Federal Circuit noted, and the district court before it, "[t]he [total revenue] cat was never put back into the bag even by Microsoft's cross-examination" of the expert. *Uniloc*, 632 F.3d at 1320. *PACT* did not involve a comparison of the sort made in *Uniloc*, and Judge Payne found no issue with the expert's reference to average sales price. *PACT*, 2012 WL 1666390 at \*2.

To this end, the Court finds that Ms. Lawton has not applied the entire market value rule simply by referencing Marvell's total operating profit on a per-unit basis. Instead, she has used the average operating profit as a starting point for her apportionment analysis. (*See* Docket No. 367-2 at 505). Simple reference to average operating profits for the purpose of showing a starting point is justified, so long as the testimony does not lapse into statements that tend to show how "reasonable" a royalty is when compared to a much larger amount. *See Uniloc*, 632 F.3d at 1319. Ms. Lawton's testimony at her deposition effectively shows that some reference to revenues, margins and values is necessary to formulate a reasonable royalty. (*See* Docket No. 396-6 Ex. 14 at 83-86). Hence, Ms. Lawton's testimony will not be excluded on the grounds that she used the entire market value rule, because she has not done so.

However, in order to ensure that the comparative bias observed in *Uniloc* does not arise here, the Court will order the parties to meet and confer and submit a proposed limiting

instruction in accord with this Court’s opinion and with *Uniloc*. The instruction shall ensure that Ms. Lawton’s testimony does not go into total revenue, total profit, or total margin (“the total numbers”) of the accused chips, except to start her analysis. Thereafter, she may refer to the total number of sales, total apportioned revenue, average price per chip, operating profit per chip, and apportioned profit per chip in making her calculations. The Court does not read *Uniloc* as foreclosing the use of these figures, and indeed, a number of them are necessary for her to testify coherently on the issue of damages, while the “total numbers” – with the exception of total sales – may serve only to taint the jury.

**b. Apportionment**

Marvell next challenges Ms. Lawton’s apportionment analysis on two grounds. First, Marvell asserts that Ms. Lawton’s analysis is based “on a very small number of chips.” (Docket No. 368 at 11). Marvell claims that her analysis of 2,735 chips should not be extrapolated to 1,468,067,339 chips. (*Id.* at 12). Second, Marvell argues that Ms. Lawton’s attribution of the entire purported price premium is in error because there are “**81** improvements” in the new (accused) chips as compared to their predecessors. (*Id.* at 12-13 (emphasis in brief)).

CMU’s rebuttal to the first point is that Ms. Lawton’s analysis actually included approximately 354,000 chips, both accused and non-accused. (Docket No. 395 at 15). In addition, CMU posits that any attack on the sufficiency of the evidence relied upon by Ms. Lawton is a question best left to the jury. (*Id.* (citing *Walker v. Gordon*, 46 Fed. Appx. 691, 695 (3d Cir. 2002) (“[d]eterminations regarding the weight to be accorded, and the sufficiency of, the evidence relied upon by the proffered expert, are within the sole province of the jury.”))). CMU also observes that Ms. Lawton’s analysis is “based on all available data points.” (*Id.* at 16 (emphasis removed)). CMU next argues that the “experts agree that there would have been *one*



*negotiation* ... and that the licensing terms would have been for use of the CMU invention *regardless of its specific implementation.*” (*Id.* (emphasis added)). Finally, CMU points to several facts that purportedly contradict Marvell’s position.

In light of CMU’s responses, the Court does not find Marvell’s arguments persuasive. Each one is, effectively, directed towards the evidence upon which Ms. Lawton relied. Marvell and CMU, respectively, have pointed to evidence that contradicts or supports her opinions. The Court will now leave to counsel the task of cross examination and to the jury the task of determining which set of facts is correct. Thus, the Court will not exclude any of Ms. Lawton’s testimony on the basis of her apportionment analysis.

***c. Marvell’s Powerpoint Presentation***

Marvell next challenges Ms. Lawton’s use of an internal Marvell document which references a proposed internal 3% royalty rate on “substantial key functionality.” (Docket No. 368 at 13-17). This document is, on its face, not a license agreement. Ms. Lawton, however, uses the document as a “starting point” in her hypothetical negotiation analysis. (Docket No. 367-2 at 518). CMU argues that Marvell has taken the document out of the context in which it appears in Ms. Lawton’s report, and that it is not of such import as Marvell would assign to it. (Docket No. 395 at 17).

The Court views this document as somewhat akin to the DSSC Agreements, against which use CMU railed in its motion to exclude the testimony of Marvell’s damages expert, Creighton Hoffman. Mr. Hoffman relied upon the clearly distinguishable DSSC Agreements – without explanation – but the Court did not exclude his testimony because those agreements arguably show a “discernible link to the claimed technology.” (Docket No. 449 at 7 (citing *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 870 (Fed. Cir. 2010))). The distinction here is

that the internal royalty has no discernible link to the patents-in-suit, is not an actual license, and even if it was, would not be between two similarly-situated entities, which Ms. Lawton acknowledged was a requirement for *Georgia-Pacific* Factor 2. (See Docket No. 376-2 at 517).

That is not to say that her reliance on this document makes the rest of her report inherently unreliable, as Marvell would have it. As CMU observes, Ms. Lawton’s “Negotiation Outcome” (Docket No. 367-2 at 537-38) is merely illustrative. (Docket No. 395 at 17). As Ms. Lawton stated at her deposition, her overall analysis is independent of the illustration. (Docket No. 396-6 Ex. 14 at 15-16). Her opinion is still supported by substantial evidence, and the Court denies Marvell’s motion on this basis.

**d. *Marvell’s Alleged Indicia of Unreliability***

In Marvell’s final challenge, it takes a “kitchen sink” approach. It argues that Ms. Lawton ignored the DSSC Agreements in her analysis, that she improperly relied upon the 25% rule of thumb, that her “excess profits” analysis is flawed based on the evidence, that she failed to account for the simulation programs separately from the accused chips, and that Ms. Lawton improperly predicated her analysis on sales, rather than use.

The Court finds none of these arguments persuasive. First, as the Court explained in its opinion on CMU’s motion attacking Mr. Hoffman’s opinion (Docket No. 449), the DSSC Agreements are obviously distinguishable from the end result of the hypothetical negotiation. To the extent that Ms. Lawton believes them irrelevant, she is entitled to that opinion – just as Mr. Hoffman is entitled to the belief that they are relevant. Ms. Lawton considered the DSSC Agreements and found that they do not offer guidance in determining a reasonable royalty in this case. (Docket No. 367-2 at 515-16). It is not the Court’s place to question such a determination, for that is the realm of the jury. *Walker*, 46 Fed. Appx. at 695. To the extent that Ms. Lawton

believes the DSSC Agreements are irrelevant, while Mr. Hoffman believes they are not, the Court notes that the Rules do not allow it “to exclude an expert’s testimony on the ground that the court believes one version of the facts and not the other.” Fed.R.Evid. 702, 2000 Amendments. Hence, to the extent that there is a dispute as to the similarities between the DSSC Agreements and the license resulting from the an hypothetical negotiation, the Court is not to exclude an expert because of a dispute over the relevance of underlying facts.

Moreover, in accord with Rule 26(a)(2)(B)(i)-(ii), all that Ms. Lawton’s report is required to say is that she has considered the licenses and, in her opinion, they are not relevant. *See* Fed.R.Civ.P. 26(a)(2)(B)(i) (requiring expert to provide “a complete statement of all opinions the witness will express and the basis and reasons for them”); *id.* at (B)(ii) (requiring the witness to list “the facts or data considered by the witness in forming [her opinions]”). Marvell has had, and will again have, an opportunity to question Ms. Lawton on her opinion. (*See* Docket No. 396-6 Ex. 14 at 191-194).

Although *Uniloc* rejected use of the 25% rule of thumb, it rejected the rule “because it fails to tie a reasonable royalty base to the facts of the case at issue.” *Uniloc*, 632 F.3d at 1315. Ms. Lawton’s report cites evidence that CMU actually uses a 25% or 33% rule in negotiations. (*See* Docket No. 367-2 at 362 n. 2348). Her reference to a rule that is tied to the facts of the case does not run afoul of *Uniloc*, even if it appears to do so on its face.

Marvell’s dispute with Ms. Lawton’s excess profits analysis is another instance of a factual dispute. Whether Marvell’s designated 30(b)(6) witness’s statement is sufficient to support a conclusion that Marvell’s “target” margin is 50% is a question once again best left for the jury. *Walker*, 46 Fed. Appx. at 695. CMU is also correct that Ms. Lawton’s excess profits

valuation is not an analysis of the accused technology, but serves as part of her apportionment analysis. (*See* Docket No. 367-2 at 505 (citing her own analysis of Marvell's sales & profits)).

Next, Marvell contends that Ms. Lawton's report is inappropriately based on the assumption that both Group I and Group II claims are infringed, and as such, both Marvell's simulations and chips are implicated. The Court has granted summary judgment of non-infringement on the Group II claims (Docket No. 443), so there will be no need of any testimony to address same.

Finally, the Court has addressed the underlying principles of Marvell's fifth argument. (*See* Docket No. 441 (rejecting Marvell's arguments regarding extraterritorial activity and licensed use)). The Court is not persuaded on this basis. Accordingly, Ms. Lawton's opinions stand.

#### **IV. CONCLUSION**

For the foregoing reasons, Marvell's motion [367] is GRANTED, in part, and DENIED, in part, in accord with the preceding discussion. The motion is granted to the extent that Ms. Lawton may not testify to total revenue, total profit, or total margin, except to start her analysis. The motion is denied in all other respects, such that Ms. Lawton may refer to the total number of sales, total apportioned revenue, average price per chip, operating profit per chip, and apportioned profit per chip in making her calculations. The parties shall meet and confer and submit a proper limiting instruction in accord with this Opinion and the following Order.

*s/ Nora Barry Fischer*  
Nora Barry Fischer  
United States District Judge

Date: August 24, 2012  
cc/ecf: All counsel of record.