

**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 Plaintiff Carnegie Mellon University’s (“CMU”) Motion to Exclude Opinion Testimony Regarding Purported Acceptable, Non-Infringing Alternatives. (Docket No. 373). Through this motion, CMU challenges the proffered expert testimony of Marvell’s experts Dr. Richard Blahut and Mr. Creighton Hoffman. CMU filed its brief in support (Docket No. 374), the Defendants (collectively, “Marvell”) their brief in opposition (Docket No. 389), and the Court heard argument on the motion during its consolidated, two-day hearing on a number of motions. (Docket No. 433). The parties were given the opportunity to call the experts at issue to provide testimony, but declined to do so. (*See* Docket No. 438 at 4). The Court has considered the record before it, and the motion is now ripe for adjudication. For the following reasons, CMU’s motion [373] is DENIED.

## 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”) (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. As part of its argument on what a reasonable royalty would be, Marvell intends to call Dr. Blahut and Mr. Hoffman to testify on, among other things, the existence of acceptable, non-infringing alternatives to the CMU technology that Marvell could have used to drive down the royalty rate requested by CMU at a hypothetical negotiation.

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<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.

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

***b. Dr. Richard Blahut***

Dr. Blahut has been proffered by Marvell to testify as an expert on a number of issues in this matter. (Docket No. 389-5 at ¶ 1). Pertinent to this motion is his opinion on the issue of “whether there are noninfringing alternatives to incorporating technology that falls within the scope of the asserted claims.” (*Id.*) Dr. Blahut’s discussion of what he concludes are “acceptable, non-infringing alternatives” is found in paragraphs 339 to 359 of his report. (*See* Docket No. 375-1 at ¶¶ 339-359).

In the relevant section of his report, Dr. Blahut concludes that there were five alternative means available to Marvell in the prior art to “boost performance in a comparable way to the methods found in either the Group I or Group II claims,” that is, to produce a signal-to-noise ratio (“SNR”) improvement. (*Id.* at ¶¶ 339-40, 343-44). These alternatives include: IBM’s NPML technology (*id.* at ¶¶ 345-48); the Seagate/Worstell Detector (*id.* at ¶¶ 349-50)<sup>3</sup>; the U.C. San Diego Detector (*id.* at ¶¶ 351-53); the Lucent Detector (*id.* at ¶¶ 354-58); and modification of other components in the hard disc drive (“HDD”) read channel.<sup>4</sup> (*Id.* at ¶ 359).

During his deposition, Dr. Blahut made several admissions with respect to the alleged alternatives. In particular, he did not know if Marvell had ever tested, implemented, or tried to incorporate any of the alternatives. (Docket No. 375-1, Ex. 4 at 322-31). Nor did he know if the owners of the alternative technologies would be willing to license them or if Marvell’s customers

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<sup>3</sup> The Court’s opinion on the first motion for summary judgment addresses this technology. (*See generally* Docket No. 307).

<sup>4</sup> While the first four alternatives are likewise “detectors” (*see* Docket No. 389-5 at ¶¶ 345-358), the final alternative described by Dr. Blahut is to alter the overall reach channel via “pre-processing” or “post-processing,” *i.e.*, modifying components outside of the Viterbi-like detector itself. (*Id.* at ¶ 359).

would consider them acceptable alternatives. (*Id.*). These admissions form the effective basis of CMU's motion.

***c. Mr. Creighton Hoffman***

Mr. Hoffman is Marvell's damages expert. (Docket No. 375-1, Ex. 2 at 2). In his report, Mr. Hoffman states that he "understand[s] that numerous acceptable alternatives could have been used by Marvell to account for signal-dependant [sic] noise or otherwise increase data density." (*Id.* at 20). Based on this availability, he opines that "[t]he presence of these alternatives would limit the royalty that Marvell would be willing to pay for rights to the patent technologies." (*Id.*). Mr. Hoffman reiterates this point on page 26 of his report. (*Id.* at 26). These opinions are made under Mr. Hoffman's analyses of *Georgia-Pacific* Factors 9 and 10.<sup>5</sup> (*Id.* at 19-20, 25-26). Mr. Hoffman relies upon the report of Dr. Blahut for the proposition that non-infringing alternatives exist. (*See* Docket No. 375-1 Ex. 2 at 20 nn. 77-78; 26 nn. 108). Based in part on Dr. Blahut's opinion, Mr. Hoffman provides three independent opinions wherein he concludes that the reasonable royalty owed by Marvell is \$250,000. (*Id.* at 3).

**II. LEGAL STANDARD**

Under Rule 702 of the Federal Rules of Evidence, a court may permit opinion testimony from an expert 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

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<sup>5</sup> *See Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F.Supp. 1116, 1120 (S.D.N.Y. 1970). The 9<sup>th</sup> Factor looks to the "utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results." *Id.* The 10<sup>th</sup> Factor looks to the "nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention." *Id.*

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). Section 284 authorizes two forms for compensation: 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 has not sought, and 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).

### **III. ANALYSIS**

CMU does not challenge Marvell’s proposed experts as lacking substantial qualifications or based on fit. Instead, CMU maintains that the reports of both Dr. Blahut and Mr. Hoffman fail on reliability grounds. CMU argues that neither expert engaged in an analysis of whether certain allegedly alternative technologies were (1) available and/or (2) acceptable during the period of the alleged infringement. (*See generally* Docket No. 374). The admissibility of Dr. Blahut’s

opinions is a threshold issue with respect to the admissibility of Mr. Hoffman's, so the Court will turn first to Dr. Blahut's opinions, and it will next turn to Mr. Hoffman's opinions.

*a. Dr. Blahut*

CMU challenges Dr. Blahut's acceptable alternatives opinion largely on the basis that it is purely speculative or *ipse dixit*, and it is, therefore, irrelevant. (Docket No. 374 at 5). This position is based on the proposition that Dr. Blahut has performed no analysis of whether the alleged alternatives were available to Marvell or acceptable to its customers. (*Id.* at 6). CMU relies heavily on *Grain Processing Corp. v. American Maize-Products Co.*, 185 F.3d 1341, 1355 (Fed. Cir. 1999) in making its arguments. According to CMU, because there is no evidence in the record that these alternatives were either acceptable or available on the market

if the alternatives were neither acceptable nor available on the market - and we have no evidence of either, says CMU - then such alternatives are irrelevant in determining the appropriate reasonable royalty in this case. (Docket No. 374 at 10).

Marvell responds first that there is no requirement that the alternatives be "on the market" to be considered "available." (Docket No. 389 at 10). Moreover, Marvell posits that the question of alternatives is more accurately stated as whether it "*could have* used, built, and/or implemented" the alternatives. (*Id.* at 11 (emphasis in brief)). Marvell also maintains that CMU's position has been that the key benefit to its patents is an improved SNR gain, and that Dr. Blahut has addressed this feature of the alleged alternatives. (*Id.* at 12).

The Court first observes that *Grain Processing* is not entirely relevant to the matter at hand because that case involved a damages theory premised on lost profits, rather than a reasonable royalty. *Grain Processing*, 185 F.3d at 1343. The existence of an acceptable, non-infringing alternative is particularly important in a lost profits case because it must be shown that

the patent owner would have made profits “but for” the infringement, *id.* at 1349 (citing *King Instruments Corp. v. Perego*, 65 F.3d 941, 952 (Fed. Cir. 1995)), and “[i]n the face of [a] noninfringing substitute, [a plaintiff] could not prove lost profits.” *Id.*

Although not expressly required as in the lost profit arena, the presence or possibility of alternatives can still play a role in the reasonable royalty analysis. The Federal Circuit has implicitly recognized as much, holding in a reasonable royalty case that, even though “[t]here was... no available and acceptable noninfringing alternative to which [the defendant] could have switched at the time of the hypothetical negotiation,” the fact that there was a possibility that the defendant “could have come up with one” was sufficient to justify the district court’s reduction of a blended royalty rate from 11.5% to 7%. *Mars, Inc. v. Coin Acceptors, Inc.*, 527 F.3d 1359, 1373 (Fed. Cir. 2008). It appears that this finding is based on the fact that “Coinco had the ability, the resources, and the desire to design around Mars’ patents.” *Id.*

Similarly, Dr. Blahut outlines multiple ways to achieve the effect which CMU touts as the primary benefit of its patented technology. (See Docket No. 375-1 at ¶¶ 339-359). Despite the lack of evidence on “availability,” the mere existence of these technologies is indicative that not only had others discovered different means of improving SNR gain, but that Marvell probably “could have come up with one” as well. *Mars*, 527 F.3d at 1373. Indeed, one of the requirements for a patent’s issuance is that its disclosure “enable any person skilled in the art” to make and use the invention, 35 U.S.C. § 112, and several of the identified alternatives were patented. (See Docket No. 389-5 at ¶¶ 345, 349, 354). It seems, then, that Dr. Blahut’s testimony would tend to show that Marvell “could have come up with” a reasonable alternative. Thus, as far as Federal Circuit precedent is concerned, this Court reads *Mars* as undercutting

CMU's position and supporting the admissibility of Dr. Blahut's testimony for the purposes of showing that there were acceptable, non-infringing alternatives available to Marvell.

With respect to acceptability to Marvell's customers, Dr. Blahut's report addresses the allegedly key feature of the CMU Patents: improved SNR. He describes a series of other Viterbi-like detectors which have similar, or better, SNR statistics. (*Id.*) Again assuming that SNR performance is the key characteristic, as CMU argues, then Dr. Blahut's opinion in support of Marvell's position shows that the "important properties" of the various alternatives are "effectively identical," and as such, they would qualify as "acceptable," even under the *Grain Processing* standard. See *Grain Processing*, 185 F.3d at 1355 (the evidence "indicat[ed] that consumers considered [the product's] important properties to be effectively identical to previous versions," and as such, it "was an acceptable substitute in the marketplace.")<sup>6</sup>

All said, the Court concludes Dr. Blahut has "good grounds" for concluding that these technologies existed and that they could achieve similar results as those derived from CMU's patented technologies. *Pritchard v. Dow Agro Sciences*, 705 F.Supp.2d 471, 476 (W.D.Pa. 2010) (citing *Kannankeril v. Terminix Intern., Inc.*, 128 F.3d 802, 807 (3d Cir. 1997)). More importantly, the question of whether there is a "noninfringing substitute is a question of fact," *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1577 (Fed. Cir. 1992), such that a court should not determine the issue by way of a *Daubert* review. *Fresenius Medical Care Holdings, Inc. v. Baxter Intern., Inc.*, Civ. No. 03-1431, 2006 WL

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<sup>6</sup> In the reasonable royalty context, the Court notes that it appears that alternatives need not even be "effectively identical" in performance. *cf. Mars*, 527 F.3d at 1373 (finding a reduction in damages appropriate in a case without an alternative because a solution could probably be figured out, even though the "design around was not as good as [the defendant] would like."). Thus, under either standard, Dr. Blahut's testimony would suffice to demonstrate acceptability, even though he did not use the word "acceptable."

1390416, \*7 (N.D. Cal. May 18, 2006). Thus, the Court believes that CMU's objections to Dr. Blahut's testimony are more properly addressed in cross-examination at trial.

***b. Mr. Hoffman***

CMU's challenge to Mr. Hoffman's report is based largely on the same grounds as its challenge to Dr. Blahut's report, and the Court's reasoning in the prior section of this opinion applies equally to its evaluation of CMU's arguments with respect to Mr. Hoffman. However, CMU also argues for exclusion of Mr. Hoffman's testimony on the basis that he has failed to "price" the alleged alternatives in a manner that would enable him to properly compare the alternatives to the technology at issue. (Docket No. 374 at 8). CMU contends that, without evidence of the cost to Marvell for accessing these alternatives, Mr. Hoffman's report cannot assist the jury in determining whether the alleged alternatives would have any effect on the hypothetical negotiation. (*Id.*). This is because, under *Grain Processing*, "the high cost of a necessary material can conceivably render a substitute 'unavailable.'" *Grain Processing*, 183 F.3d at 1354.

Marvell responds that there is no need to formulate prices for the alleged alternatives because its position is based on the qualitative *Georgia-Pacific* Factor 9. (Docket No. 389 at 13). Marvell also argues that it would have been "able to use the simple existence of multiple [alternatives] to negotiate lower royalty rates during the hypothetical negotiation." (*Id.* at 14 (citing Docket No. 389-9 at 170:14-20)).

The Court again agrees with Marvell. While availability is clearly effected by the price of the alternative technologies, the burden is not on Marvell to establish what CMU's damages are; that burden lies with CMU. *Lucent*, 580 F.3d at 1324. To the extent that CMU argues that high price can make a technology effectively unavailable (Docket No. 374 at 8-9 (citing *Grain*

*Processing*, 183 F.3d at 1354; *Mars*, 527 F.3d at 1372-73)), this argument carries little weight in light of CMU's previous assertions with respect to damages in this case. CMU has argued – incessantly, throughout this entire litigation, even on issues unrelated to damages – that the technology embodied in its patents was “must have” to Marvell. (*See, e.g.* Docket Nos. 232 at 19; 371 at 1, 10; 401 at 3, 11-14, 18-20; 406 at 6, 7, 13, 18). Thus, CMU has claimed since at least January of 2011 that Marvell could not be competitive in the HDD industry without access to CMU's technology. (*See* Docket No. 232 at 19). In effect, CMU's position has been that Marvell would be willing to pay almost any price to secure the advantages produced by CMU's technology. What's good for the goose is good for the gander. If CMU posits that price is of no moment to Marvell with respect to licensing CMU technology, price must also be of no moment to Marvell in licensing the available alternatives. In a case such as this, where CMU has consistently advanced a theory premised upon Marvell's dire necessity for CMU's technology, CMU may not avoid its position now in order to exclude an unfavorable expert and then return to its original position once that expert has been excluded.

#### IV. CONCLUSION

For the foregoing reasons, CMU's motion [373] is DENIED. An appropriate Order follows.

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

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