

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

CARNEGIE MELLON UNIVERSITY,)	
)	
Plaintiff,)	
v.)	Civil Action No. 2:09-cv-00290-NBF
)	
MARVELL TECHNOLOGY GROUP, LTD.,)	
and MARVELL SEMICONDUCTOR, INC.,)	
)	
Defendants.)	

**PLAINTIFF CARNEGIE MELLON UNIVERSITY’S SURREPLY MEMORANDUM IN
OPPOSITION TO MARVELL’S MOTION FOR JUDGMENT AS A MATTER OF LAW,
NEW TRIAL AND/OR REMITTITUR WITH RESPECT TO DAMAGES (DKT. 807, 809)**

I. INTRODUCTION

Power Integrations does not justify upsetting the verdict. To argue that it does, Marvell (1) blatantly mischaracterizes CMU's damages claim in a futile attempt to conform it to the fact pattern there; (2) fails to address the benefit Marvell received from its U.S. infringement; and (3) simply pretends that the compelling evidence linking Marvell's infringing U.S. conduct directly to *all* of its sales does not exist. According to Marvell, "the jury awarded damages for *worldwide use*," Dkt. 855 at 3, but that is just not true. CMU's damage claim is grounded exclusively on domestic use of CMU's invention. Dkt. 672 at 5; Dkt. 441 at 12. This Court recognized that "CMU does not seek damages from alleged infringement of the Accused Chips that are never used in the United States," Dkt. 672 at 5, n. 12, and so instructed the jury. Tr. 12/21/12 at 81:7-11 (damages must be based only on "the monetary amount CMU and Marvell would have agreed upon *as a fee for use of the invention in the United States*").

CMU presented compelling evidence that, but for use of CMU's patented methods in the U.S., Marvell would not have sold a single chip. For example, Dr. Bajorek testified that there was a "direct link between Marvell's alleged use of the patented technology and its sales of the accused products," Tr. 12/3/12 at 162:7-12, and Ms. Lawton testified that "the damages analysis in this case is predicated on Marvell's use of the technology in the United States, and the benefits that flow from that." Tr. 12/10/12 at 198. In other words, CMU demonstrated that Marvell's sales and CMU's damages were "rooted in" Marvell's infringing activity in the U.S.

The rest of Marvell's arguments largely rehash prior points, asking this Court to reweigh the evidence, and ultimately plead for this Court to substitute its judgment for that of the jury.

II. POWER INTEGRATIONS DOES NOT JUSTIFY OVERTURNING THE VERDICT

Power Integrations v. Fairchild Semiconductor Int'l, Inc., No. 2011-1218, 2013 WL 1200270 (Fed. Cir. March 26, 2013), confirms that this Court's pre-trial decisions and jury instructions are in full accord with established law. Indeed, the Federal Circuit affirmed that it is "established law" that "once a patentee demonstrates an underlying act of *domestic infringement*, the patentee is entitled to receive full compensation for 'any damages' suffered as

a result of the infringement.” *Power Integrations*, 2013 WL 1200270 at *18 (emphasis added). The Federal Circuit did not make new law, nor did it set out new requirements about how to value an infringer’s unlawful use of an invention. Broad pronouncements were unnecessary because the facts of that case did not present any conflict between the fundamental principles of full compensation and extraterritoriality.¹ To the contrary, the Federal Circuit based its decision on a failure of proof; Power Integrations failed to establish that its damages were “rooted in” Fairchild’s conduct in the United States. *Power Integrations*, 2013 WL 1200270 at *19.

The limited scope of *Power Integrations* is apparent upon examination of the careful language used by the court, which recognized that the plaintiff’s admissions made it unnecessary to make new law. The court stated: “***under the facts of this case***, the underlying question here remains whether Power Integrations is entitled to compensatory damages for injury ***caused by infringing activity that occurred outside the territory of the United States***,” and held that “[t]he answer is no.” *Id.* at *18 (emphasis added). The court then held that:

The district court determined that the jury had “clearly adopted the measure of damages posed by Power Integrations expert, Dr. Troxel” in reaching the combined damages award of over \$33 million. In view of this determination, the district court correctly concluded that there was “no legal basis that supports the jury award in the amount of \$33 million” ***because Dr. Troxel’s estimate of \$30 million in damages was not “rooted in Fairchild’s activity in the United States.”*** Indeed, *Dr. Troxel* testified on cross-examination that he ***did not quantify an amount of damages based on any offer for sale by Fairchild in the United States.***

Id. at *19 (emphasis added).² The plain import of the Federal Circuit’s ruling is that where (as here), damages are “rooted in” a defendant’s ***domestic*** infringement, a plaintiff is entitled to full

¹ The presumption against extraterritorial application “serves to protect against unintended clashes between our laws and those of other nations which could result in international discord.” *Kiobel v. Royal Dutch Petroleum Co.*, ___ U.S. ___, 2013 WL 1628935 at *4 (April 17, 2013). The district court in *Power Integrations* noted that, “although Fairchild attempts to pit the Supreme Court’s decision in *Microsoft* and the years of Supreme Court precedent preceding it against the *Rite-Hite* decision, the Court does not believe that the cases are at odds with one another.” *Power Integrations*, 589 F. Supp. 2d 505, 510 (D. Del. 2008).

² Power Integrations sought damages for sales “regardless of any connection to infringing activity in the United States” and sales based upon “entirely extraterritorial” activity. *Id.*

compensation. Examination of (1) CMU's actual damages theory, (2) the supporting evidence, and (3) the jury instructions through the prism of *Power Integrations* demonstrates that the verdict here is amply supported by the law and the facts.

A. Marvell Mischaracterizes CMU's Claims In a Desperate Attempt to Invoke the Inapplicable Extraterritoriality Principle

CMU claims damages only for *domestic use* of its patented method. This Court stated:

CMU intends to prove that the alleged infringing method is used during Marvell's sales cycle, which is performed here in the United States, where both its engineers and customers are located. (Docket No. 665). CMU seeks damages for this sales cycle infringement by claiming a reasonable royalty rate on all of the chips that are produced during this sales cycle and purchased based on the result of said cycle.

Dkt. 672 at 5; *id.* at 5 n.12 ("To be clear, CMU does not seek damages from alleged infringement of the Accused Chips that are never used in the United States....., it seeks damages on the infringement from the U.S. based sales cycle, and has chosen to quantify these damages by applying a per chip royalty rate on all Accused Chips produced under the sales cycle."). CMU has *never* invoked *foreign use* of its patented methods to support its damages claim.³

In fact, as Ms. Lawton explained the basis of her calculation to the jury: "the damages analysis in this case is predicated on *Marvell's use of the claimed inventions in the United States*, and the benefits that flow from that." Tr. 12/10/12 at 198. In response to a question about "the benefit of *Marvell's use of CMU's patents in the United States*," she testified: "it's my opinion that but for the use of the MNP in the United States, as Dr. Bajorek explained, Marvell would not have achieved a single chip sale because they needed to be able to use the methods themselves and they needed for their customers to be able to use them as well in order to successfully get through that sales cycle and achieve those design lines [*sic* - wins]." *Id.* at 258-59. There is no mistaking the direct link between Marvell's and its customers' domestic infringing conduct and CMU's damages claim.

³ CMU has repeatedly confirmed this. *See, e.g.*, Dkt. 401, 428, 658, 665 (CMU's briefs); Dkt. 440 at 23-59, and Dkt. 666 at 2-27 (arguments on summary judgment and "emergency" motion).

The Court instructed the jury accordingly. After stating that CMU sought a “reasonable royalty,” the Court defined it as “the monetary amount CMU and Marvell would have agreed upon as *a fee for use of the invention in the United States* at the time prior to when the infringement began.” Tr. 12/21/12 at 81 (emphasis added). The Court emphasized: “Marvell cannot be found to have directly or indirectly infringed in connection with chips that are never used in the United States. To the extent, however, that Marvell achieved sales resulting *from Marvell’s alleged infringing use* during the sales cycle, you may consider them in determining *the value of the infringing use.*” *Id.* at 63 (emphasis added). Thus, the jury found that all of Marvell’s sales were rooted in *domestic* uses of CMU’s patented method during the sales cycle and were an appropriate factor in measuring the value of those uses.⁴

Nonetheless, Marvell tries to shoehorn this case into the fact pattern of *Power Integrations*. Marvell ignores the nature, need for and value of its own *domestic* infringement, and instead inaccurately argues that “the jury awarded damages for *worldwide use.*” Dkt. 855 at 3. Nothing could be further from the truth. CMU never argued that the jury should consider the uses of chips that never enter the U.S., so there is no reason to believe that the jury did so. Marvell’s blatant mischaracterization of CMU’s claim and the damages verdict is the unsound basis of its *Power Integrations* argument. Without it, Marvell’s argument fails. CMU’s claim is well within the scope of the established legal principles that *Power Integrations* left undisturbed.

B. *Power Integrations* is Distinguishable

Astonishingly, Marvell argues that “[i]n all relevant respects, this case is indistinguishable from *Power.*” Reply at 3. That is simply untrue. Here, unlike *Power Integrations*, ample evidence roots the damages awarded to CMU firmly in Marvell’s domestic activity. In addition to the Lawton testimony described above, that evidence includes:

- Dr. Bajorek’s testimony that “[T]here’s a *direct link between Marvell’s alleged use of the patented technology and its sales* of accused products.” Tr. 12/4/12 at 162.

⁴ The Court must presume that the jury followed its instructions. *z4 Techs., Inc. v. Microsoft Corp.*, 507 F.3d 1340, 1356 (Fed. Cir. 2007) (citing *Shannon v. U.S.*, 512 U.S. 573, 585 (1994)).

- Dr. Bajorek’s testimony that “Marvell had to go through what we call a, winner takes all sales cycle, a lengthy and complicated sales cycle, and complete that sales cycle successfully ***to sell even a single chip to the drive makers,***” *id.* at 66; and that Marvell and its customers “definitely” have to “use the technology that is being developed in the products” during the sales cycle, including the MNP/NLD circuits. *Id.* at 70, 72; *see also id.* at 76-77, 95-97, 191; P-1916, P-1917.
- Dr. Bajorek demonstrated (and Marvell stipulated) that “all the activities related to designing, simulating, designing, testing, evaluating, qualifying the chips by Marvell as well as by its customers ***occurs in the United States.***” 12/4/12 at 72, 87-90, 105; *see also id.* at 105-08; P-Demo 8 at 36-39 (testimony regarding the myriad documents Dr. Bajorek reviewed showing where in the U.S. sales cycle activities occur); JX-C at 213:2-4 & P-Demo 8 at 40 (Dr. Armstrong testimony that Bill Brennan “sign[s] off” on every deal).
- Dr. Bajorek testified that the MNP and NLD technology was “must have” and “a life or death matter for the company [Marvell].” Tr. 12/4/12 at 66-67, 73, 115-24, 126-27, 130-37, 140; P-Demo 8 at 43-61.

Consistent with *Power Integrations*, the Court instructed the jury that it had to focus on activities rooted in the United States. Tr. 12/21/12 at 81:7-11; Dkt. 829 at 6 n.9. The jury found that the parties would have agreed to a royalty of \$0.50 for every chip sold by Marvell in return for permission ***to use the patented methods in the U.S.***, despite Marvell’s weak argument that the award should encompass only chips used ***by end users*** in the U.S.⁵

The facts of *Power Integrations* stand in sharp contrast to the compelling evidence presented by CMU. Power Integrations’ expert, Dr. Troxel, ***conceded that his damages calculation included damages entirely unrelated to any potentially infringing activity (make, use, sell, offer sale or import) within the United States;*** for example, he testified:

Q. And this \$30 million difference of alleged damages are ***not related to parts that were used in the United States***; is that correct?

A. That’s right. These would be worldwide. These would be sales outside the U.S. [10/4/06 Troxel Tr. 838:12-17]

Q. And now this \$30 million of alleged damages are ***not related to parts that were sold in the United States***; is that correct?

A. Not directly. That’s correct. The total computation would not include – would exclude the dollars of sales that remain in the U.S. [10/4/06 Troxel Tr. 838:19 – 839:1]

⁵ Tr. 12/10/12 at 199-201, 207-10. This result was not surprising given Marvell’s limited emphasis on this alternative.

Ex. 1 at 836-40.⁶ Accordingly, the district court held that Dr. Troxel “made clear on cross-examination” that his damages opinion “**was not actually rooted in Fairchild's activity in the United States.**” 589 F. Supp. 2d at 511.⁷ The evidence proffered by CMU established precisely the opposite.

In light of Dr. Troxel’s admissions, both the district and appellate courts in *Power Integrations* analyzed whether it was permissible to recover lost profits for “sales consummated in foreign markets, **regardless of any connection to infringing activity in the United States.**” 2013 WL 1200270 at *19 (emphasis added). Because the conduct there was “entirely extraterritorial,” there were neither “compelling facts nor a reasonable justification” sufficient to force the court to consider whether the principle of full compensation trumps extraterritoriality.⁸ Here, by contrast, the infringing uses during the sales cycle fall on the domestic side of the line; they **take place entirely in the United States** so there is still no conflict between the principles.⁹

⁶ “Ex. --” refers to the exhibits to the Declaration of Christopher M. Verdini filed herewith.

⁷ Dr. Troxel’s admissions are not surprising because, among other things, his damages theory focused mainly on lost profits, *i.e.* specific lost sales made outside of the U.S., not the value of domestic infringing use that is the focus of a reasonable royalty under Section 284.

⁸ The Federal Circuit made clear that, at least in some unspecified circumstances, full compensation may in fact trump extraterritoriality. 2013 WL 1200270 at *19. To the extent that it ever becomes necessary to decide between the competing principles, it may be appropriate to focus on the location of the conduct that would exhaust the patent, as the *Power Integrations* court effectively did in focusing on the “chain of causation.” Here, Marvell’s sales took place in the United States, *see infra* at 9-10, and, had they been licensed, would have exhausted the patents. *See Quanta Computer, Inc. v. LG Electronics, Inc.*, 128 S.Ct. 2109 (2008) (sales of devices that embody a method patent exhaust it). In light of *Quanta*, such sales also should constitute infringing acts. Pet. For Writ of Cert., *Mirror Worlds, LLC v. Apple Inc.*, 81 U.S.L.W. 3562 (U.S. Mar. 21, 2013) (No. 12-1158) (Ex. C).

⁹ Marvell’s reliance upon *Power Integrations* is akin to its reliance upon *Mirror Worlds*. For both cases, Marvell focused on the result (no damages) without acknowledging underlying failures of proof. *See* Dkt. 441 at 13 (“Judge Davis [in *Mirror Worlds*] was faced with a patent owner asserting infringement based on sales (which cannot infringe a method) and left with no evidence linking those sales to any infringement.... CMU has demonstrated that Marvell infringes the CMU patents and **that infringement is directly related to Marvell’s sales.**”) (emphasis added). CMU’s case does not suffer from a similar failure of proof.

C. Marvell's Sales Are a Proper Measure of the Value of Its Infringing Use

The jury instructions on damages in this case align perfectly with *Power Integrations*, so Marvell vainly attempts to transform *Power Integrations* into a case that laid down a black letter rule that there is only one proper method to calculate damages. Effectively arguing that *Power Integrations* overturned volumes of precedent *sub silentio*, Marvell contends that its total sales¹⁰ are an “impermissible measure,” because “a royalty base must represent a quantification of *infringing* conduct (here, use of the patented method in the United States) ... [and] the royalty rate is then used to value each instance of the *infringing* conduct.” Dkt. 855 at 5 (emphasis in original).¹¹ *Power Integrations* says nothing of the sort, and Marvell's reading does violence to ample precedent.¹² Citing such precedent, this Court already has recognized, “one of the simplest ways to determine the value of an infringer's use of a patented method during research is to ascertain how many sales were made based upon that infringing use.”¹³ Indeed, one factor in the seminal *Georgia-Pacific* case is the “extent to which *the infringer has made use* of the invention,” and it provides for consideration of “*any evidence* probative of the value of that use.” *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (1970). Marvell's assertion that *Power Integrations* fundamentally altered this established law is baseless.

¹⁰ Although Marvell repeatedly uses the phrase “worldwide sales,” the overwhelming evidence established (and the jury found) that all of Marvell's sales took place in the U.S. *Infra* pp. 9-10.

¹¹ The Court has rejected this argument. Marvell argued that Ms. Lawton considered so-called foreign sales in determining the royalty rate and should not include them in the base. Dkt. 414 at 4. Marvell has no answer to the logical flaws in this argument, *e.g.*, the fact that it would leave CMU without a remedy for Marvell's massive infringement if, for example, no chips end up in the U.S. Dkt. 428 at 4-5.

¹² *See, e.g., Minco, Inc. v. Combustion Eng'g, Inc.*, 95 F.3d 1109, 1118 (Fed. Cir. 1996) (holding that “an adequate damages award depends on the unique economic circumstances of each case,” and the “trial court has discretion to . . . choos[e] a methodology to calculate damages”); *Fromson v. Western Litho Plate and Supply, Co.* 853 F.2d 1568, 1577 (Fed. Cir. 1988) (“[T]he district court on remand is, of course, at liberty to craft a royalty on such bases as it may deem most fair. The royalty may, for example be measured as a percentage of Western's gross or net profit dollars, *or* as a set amount per infringing plate sold, *or* as a percentage of the gross or net price received for each infringing plate”) (emphasis added).

¹³ Dkt. 672 at 5 (citing *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1324 (Fed. Cir 2009)); Dkt. 441 at 12; *see also* Dkt. 428 at 2-3.

Furthermore, the Federal Circuit repeatedly has endorsed consideration of *non-infringing* conduct in the calculation of damages. Dkt. 428 at 3-4 (collecting cases). If the Federal Circuit had intended to adopt such sweeping changes to the well-established methodology for calculating patent damages, it would have said so. It did not. Instead, it expressly limited its opinion to the facts of the case, where the plaintiff's expert (Dr. Troxel) had conceded the absence of any nexus between U.S. infringement and his damages calculation.

Finally, Marvell's attempt to shift this Court's attention away from its own domestic infringement and the benefits therefrom to the behavior of foreign end users under the guise of deference to the principle of extraterritoriality is fundamentally at odds with the underlying purpose of the statutory scheme.¹⁴ 35 U.S.C. § 284 makes plain that CMU is entitled to damages in "no event less than a reasonable royalty *for the use made of the invention by the infringer*" in the U.S. CMU is entitled to damages measured by the "the value of the benefit conferred to the infringer by *use* of the patented technology." *Powell v. Home Depot U.S.A., Inc.*, 663 F.3d 1221, 1240 (Fed. Cir. 2011). CMU's entire damages case was predicated on *the value Marvell derived from its and its customers' domestic use* of CMU's invention. The evidence plainly showed that, without that domestic infringement, Marvell would have made no sales.¹⁵

¹⁴ When considering application of the extraterritoriality principle, courts must consider the "focus of congressional concern." *Morrison v. Nat'l Australia Bank Ltd.*, 130 S.Ct. 2869, 2884 (2010) (statutory language shows the focus of congressional concern of the securities laws was the purchase and sale of securities); *see also Tire Eng'g & Distrib., LLC v. Shandong Linglong Rubber Co.*, 682 F.3d 292, 306-7 (4th Cir. 2012) (under predicate act doctrine, demonstration of violation of Copyright Act, which has no extraterritorial application, allows plaintiff to "collect damages from foreign violations that are directly linked to the U.S. infringement"). Power Integration's damages theory was flawed in part because it focused on the conduct of the infringer's customer, *i.e.* the customer's decision to buy only products that it could use worldwide, instead of the domestic misconduct of the infringer and the benefits "rooted in" that domestic misconduct

¹⁵ Not surprisingly, Marvell does not suggest any other sensible way to "correlate" Marvell's and its customers' continuous domestic use to its value to Marvell. No parties to the hypothetical negotiation would have agreed to royalties based upon hours of use or number of uses during the sales cycle. Apart from the logistical difficulty of tracking such uses, CMU's benefits would increase if Marvell were less efficient in the sales cycle. It defies common sense to suggest that the parties would have struck a deal with such wrong-headed economic incentives. Marvell

**III. MARVELL FALLS WELL SHORT OF SATISFYING RULE 50
REGARDING BUT-FOR CAUSATION**

A. CMU Proved That Marvell’s Sales Took Place in the U.S.

Marvell misrepresents the record to argue that there “is *no* support in the evidentiary record” that Marvell’s sales took place in the U.S. Dkt. 855 at 6. For example, Marvell ignores its stipulation, which plainly includes sales. Tr. 12/21/12 at 51 (“[A]most all of MSI’s *sales* . . . personnel for read channel products are located in Santa Clara, California); *id.* (“MSI’s *sales* . . . *decision-making* for read channel products is conducted in Santa Clara, California.”); *id.* at 51-52 (Dr. Armstrong and Mr. Brennan “are knowledgeable about MSI’s *sales* . . . ,” and “work or worked in [N]orthern California,” and their work is “*essential to MSI’s ongoing sales*”). Moreover, the research, design, development, marketing and testing activities that Marvell stipulated took place in the U.S. constitute the *sales* cycle. *Id.* at 52-53. And, Mr. Brennan personally “sign[s] off” on each *sale*. JX-C at 213:2-4. If the admissions were not enough, Dr. Bajorek opined that Marvell’s sales “essentially take place in the United States.” Tr. 12/4/12 at 72; *see also id.* at 106-08. Marvell did even not cross-examine him on that opinion, and the jury was entitled to (and did) credit Dr. Bajorek’s opinion. Tr. 12/21/12 at 62:17-19; Dkt. 762 at 4.¹⁶

never pointed to any such agreements, nor did it argue for other alternative measures to value its use. The value of Marvell’s and its customers’ domestic use of CMU’s patented method lies solely with the profits that Marvell reaps from it; those profits are tied directly to total sales. It makes no legal or economic sense to divorce these concepts, and *Power Integrations* does not require such a nonsensical result.

¹⁶ *Springer v. Henry*, 435 F.3d 268, 281 (3d Cir. 2006). Dr. Bajorek’s opinion, standing alone, supports the jury’s conclusion that Marvell’s sales occurred in the U.S. *Energy Transp. Group, Inc. v. Sonic Innovations, Inc.*, 697 F.3d 1342, 1352 (Fed. Cir. 2012). Contrary to Marvell’s assertion, the cases cited in the ruling compelling Marvell to produce a 30(b)(6) witness (Dkt. 195) are inapposite. In *Litecubes, LLC v. Northern Light Prods., Inc.*, 523 F.3d 1353 (Fed. Cir. 2008), the court *rejected* the suggestion that the “location from which the goods were shipped” or where title technically passes serves as the location of the sale. *Id.* at 1369-70 (district courts are free to conclude that sale can occur at the “location of the seller and the buyer,” or the “place[] of contracting”); *see also Fellowes, Inc. v. Michelin Prosperity Co.*, 491 F. Supp. 2d 571, 577-78 (E.D. Va. 2007) (same). Likewise, in *Transocean Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296 (Fed. Cir. 2010), the court held that the sale occurred in the U.S. even though—unlike here—the negotiations did not. *Id.* at 1309; *see also Wing Shing Prods. (BVI), Ltd. v. Simatelex Manuf. Co.*, 479 F. Supp. 2d 388, 405 (S.D.N.Y. 2007) (sale occurs abroad only when no “essential steps” occur in U.S.).

B. Marvell Failed to Carry Its Burden To Prove That Sales Occurred Abroad

Marvell next argues that the verdict shows only that “*at least one*” sale occurred in the U.S. Dkt. 855 at 7-8. Not only did Marvell fail to offer any evidence segregating specific sales as foreign, but Federal Circuit authority requires *Marvell* to do so. *z4 Techs.*, 507 F.3d at 1356 (it is *defendant’s* burden to “present . . . evidence to the district court segregating domestic and foreign sales”).¹⁷ Given the paucity of evidence (and no documents) it could muster on this point, Marvell did not even argue in favor of segregation.

C. Marvell’s Causation Arguments Misrepresent the Record

Marvell’s arguments regarding “but for” causation find no support in the record. Marvell begins with sleight of hand and (again) attempts to shift the Court’s focus from Marvell’s behavior to the behavior of its customers. Instead of addressing CMU’s actual theory, *i.e.*, that Marvell would not have sold a single chip “but for” its and its customers’ *domestic use* of CMU’s patented methods and that Marvell had no alternatives to infringement, Marvell argues (again) that CMU must show “customer demand” for the accused circuits.

Marvell’s argument is wrong as a matter of law and fact. On the law, CMU repeatedly demonstrated that proof of customer demand is not required, and that Marvell’s argument depends on inapplicable EMVR cases. Dkts. 441 at 11-15; 451 at 4-7; 604 at 2-8; 672 at 2-3, 5-6; 829 at 6-14, 17-20; Tr. 12/6/12 at 2-7. As to the facts, compelling evidence supports the jury’s conclusion that Marvell’s and its customers’ domestic infringement was the but-for cause of its sales.

First, Marvell completely side steps its necessary and continuous use of CMU’s technology during the sales cycle. Aside from being a not-so subtle shot at the weight of the evidence, Marvell’s “cupholder” hypothetical is logically flawed and ignores the “winner take

¹⁷ Marvell cites *IP Innovation LLC v. Red Hat, Inc.*, 705 F. Supp. 2d 687, 690 (E.D. Tex. 2010), which is inapposite because it addressed whether a patentee had satisfied the entire market value rule by demonstrating that the patented feature was the basis for customer demand. It did not, and could not, overrule the holding in *z4 Techs.*

all” sales cycle and “must have” evidence presented by, *e.g.*, Dr. Bajorek, and credited by the jury. That evidence proved that the manufacturer could sell no “cars” unless it could work with its customers to develop the “cupholders” in the U.S. and both it and its customers could test them in the U.S. The Court repeatedly has recognized, and the jury clearly agreed, that CMU’s evidence is a sufficient, “but for” causal link. Dkt. 441 at 2-4, 12; Dkt. 672 at 5; Dkt. 829 at 8-13.

Second, the evidence showed that Marvell’s customers wanted the Accused Technology. Dkt. 829 at 8-14. Marvell continues to ignore this evidence,¹⁸ which the jury was entitled to credit. *Springer*, 435 F.3d at 281. The Court previously stated that this evidence shows “that this was technology *that customers indeed wanted*,” Tr. 12/6/12 at 6-7 (emphasis added), and it need not credit contrary evidence cited by Marvell, even if it were credible.¹⁹

IV. MARVELL’S ARGUMENTS REGARDING THE NUMBER OF CHIPS USED IN THE U.S. ARE IRRELEVANT, WAIVED, AND BASELESS

There is no legal basis for limiting damages to a per-chip royalty assessed on chips that return to the U.S. after being sold to a HDD manufacturer. *See supra* pp. 1-8. Marvell realizes

¹⁸ Marvell states that it is “undisputed” that customers “did not want” the Accused Technology, and “customers would have purchased Marvell’s chips *without* the accused circuits.” Dkt. 855 at 9-10. But the record construed in CMU’s favor contradicts Marvell’s assertion. No customer bought available non-infringing chips in volume. Dkt. 829 at 10. Instead, customers bought the chips with the accused technology (“actions speak louder than words”) and Dr. Bajorek testified (and Marvell admitted) that customers “would not have bought the chips [with the MNP and NLD circuits] if they didn’t plan to use them.” *Id.* at 11; Tr. 12/4/12 at 73, 109, 111-12, 114, 116, 140; P-Demo 8 at 44; *see also* Tr. 12/3/12 at 278 (McLaughlin testimony on same). Years after first offering the MNP, Marvell announced that it was one of two advances that “helped firmly establish Marvell as the market leader in the HDD IC business.” Dkt. 829 at 12. This amply shows customer demand even if CMU is required to do so (it is not).

¹⁹ Not only was the jury entitled to give Marvell’s evidence no weight, Dkt. 829 at 12-13, but *actions* of Marvell’s customers flatly contradict the *testimony* by Messrs. Baqai and O’Dell. *Id.* at 13-14. Marvell defends Mr. Baqai’s testimony, Dkt. 855 at 9 n.3, but it cannot dispute that, after testifying that there was no gain from the MNP, Mr. Baqai conceded that the Mammoth program realized a “yield increase” due to the use of the MNP. Tr. 12/13/12 at 192-93. Furthermore, Teik Ee Yeo—WD’s Rule 30(b)(6) witness—contradicted Mr. Baqai. He testified (and WD’s firmware showed) that WD used the infringing technology for the Doheny 2 *and all subsequent drive programs*. Dkt. 829 at 13; P-1918; P-1919.

immediate value from all of its sales, regardless of where those chips ultimately are used.

Assuming there is a basis to limit CMU's damages, Marvell's attack on Ms. Lawton's estimates of the number of chips used in the U.S. falls well short of what Rule 50 requires.

First, Marvell's arguments are waived. Marvell made no *Daubert* motion on this point before or at trial, nor did it object to Ms. Lawton's testimony regarding the number of MNP and NLD-type chips that end up in the U.S. Dkt. 855 at 10-11. Marvell may not use a motion for judgment as a matter of law to challenge opinions it did not challenge in a *Daubert* motion and on which it specifically relied. *Energy Transp. Group, Inc. v. Sonic Innovations, Inc.*, No. 05-422, 2011 WL 2222066 at *21 (D. Del. June 7, 2011), *aff'd*, 697 F.3d 1342.

Second, Marvell's arguments fail on the merits. Marvell relies on the same industry sources (IDC, TrendFocus, and Gartner) on which Ms. Lawton relied, *see* Dkt. 855 at 11, so it cannot credibly contend—with no record support—that those same industry sources are not reasonably reliable. The fact that Ms. Lawton relied on the exact same industry sources on which Marvell relies in the ordinary course of its business, and also interviewed a Gartner analyst who provided additional details, eviscerates Marvell's challenge to that data as unreliable. *See* Ex. 3; Tr. 12/10/12 at 165, 200, 207-10.²⁰ Worse still, Marvell fabricates an argument that Ms. Lawton's analysis is unreliable because she assumed that *all* PCs coming into the U.S. contain a Marvell chip. Dkt. 855 at 11. She conservatively estimated the *proportion* of HDDs used in the U.S. and multiplied that number by the total number of *Marvell's* infringing chips. *See* Ex. 3; Tr. 12/10/12 at 165, 200, 207-10.²¹

²⁰ The trial evidence properly encompasses these portions of Ms. Lawton's report because Marvell itself introduced those pages of Ms. Lawton's report, displayed the tables from her report, and examined Ms. Lawton at length on them during cross examination. Tr. 12/10/12 at 207-10; D-Demo 11 at CL3; Ex. 2 (Lawton Rpt. Table 15, Sch. 54 (displayed by Marvell)). Indeed, Marvell displayed a demonstrative based on Ms. Lawton's opinions that announced that the "Chips Used in U.S." is "556,812,092." D-Demo 11 at CL3. Having relied on that number, Marvell may not now argue that it has no basis.

²¹ Marvell says there is "no testimony or evidence" supporting Ms. Lawton's alternative estimate, Dkt. 855 at 11, but Ms. Lawton testified that she used records from Marvell's four largest customers to determine that at least 14% of Marvell's chips are delivered in the U.S., and

V. **THERE IS SUBSTANTIAL EVIDENCE SUPPORTING THE ROYALTY RATE**

Marvell’s five arguments against Ms. Lawton’s royalty rate fail. CMU already debunked Marvell’s first argument, *i.e.*, that Ms. Lawton’s opinion was “based in large part on Marvell’s profits from the *worldwide use* of the patented method.” *See supra* pp. 3-5.

Marvell next rehashes its challenge to Ms. Lawton’s excess profits analysis, Dkt. 855 at 12-13, which CMU has previously refuted. Dkt. 829 at 15-17.²² As CMU demonstrated, (1) the Federal Circuit repeatedly has upheld excess profits analyses as an apportionment tool; (2) the Federal Circuit confirmed that such analyses do not violate *Uniloc*; (3) Marvell’s expert has used excess profits analyses; (4) Marvell’s arguments go to weight not admissibility, and (5) Marvell had a full opportunity to cross examine Ms. Lawton. Dkt. 829 at 16-17. Marvell’s only response is a footnote incorrectly suggesting that the Federal Circuit authority CMU cited involve comparing “*actual* margins earned with and without using the patented feature,” Dkt. 855 at 13 n.5 (emphasis in original). But even that weak rejoinder is wrong; the cases cited involved—for example—comparing “the average *expected* profit margin on the infringing products . . . to the *industry average* expected profit margin.” *Energy Transp.*, 697 F.3d at 1367 (emphasis added); *TWM Mfg. Co v. Dura Corp.*, 789 F.2d 895, 899 (Fed. Cir. 1986) (upholding royalty based on comparison of anticipated net profit from infringing products with “*industry standard* net profit[s]”). The Court properly rejected Marvell’s *Daubert* challenge to Ms. Lawton’s excess profits analysis, Dkt. 451 at 11-12, and it should do the same again here.

that estimate is independent of (and much lower than) the number of chips ultimately are used in the U.S. Tr. 12/10/12 at 208:1-7, 209:3-5, 209:8-11, 209:12-23, 209:24-210:2. Again, Marvell displayed the relevant portion of her report. Tr. 12/10/12 at 208-10 (displaying table 15).

²² For example, Marvell (again) falsely claims that Ms. Lawton “conceded that she made *no* attempt to value any of the non-infringing contributions to the chips,” Dkt. 855 at 13, and that she “conceded that whatever margin Marvell is able to earn in ‘excess’ of 50% has no particular relationship to the patented feature at issue in this case.” *Id.* at 12. To the contrary, the excess profits analysis allowed her to “analyze[] the value of Marvell’s [aggregated] contribution to the products at issue,” Tr. 12/6/12 at 101, and to “estimate[] the value associated with the other [non-infringing] components of the chip.” *Id.* at 113-14; Dkt. 829 at 16 n.31.

Marvell's third argument largely rehearses the "small sample size" arguments that the Court repeatedly has rejected. Dkt. 451 at 9; Dkt. 607 at 3-5. Marvell's only new argument—that Ms. Lawton purportedly admitted that profits on read channels "cannot be used as any sort of 'benchmark,'" Dkt. 855 at 13—again misrepresents her testimony. Ms. Lawton testified that she compared chips that, except for the addition of the MNP, matched all the key criteria (including quarter sold) identified by Dr. Armstrong. Tr. 12/10/12 at 88-105. Because Marvell shifted so quickly and completely to chips with the MNP and later the NLD, the chips she compared were all sold in 2003-04. *Id.* Thus, the issues that arose as the stand-alone read channel market contracted have nothing at all to do with Ms. Lawton's operating profit premium analysis. Moreover, the jury was entitled to credit: (1) Ms. Lawton's and Dr. Bajorek's testimony showing that the compared chips, and the other data points she considered, were representative of Marvell's total sales in light of its consistent use of CMU's invention; (2) Ms. Lawton's testimony that Marvell's profit margins for its infringing chips were stable or increasing (even in the face of falling prices); and (3) her opinion that the parties would have selected a single royalty. Dkt. 829 at 17-20. Marvell's new challenge is therefore baseless.

Marvell weakly asserts that it did not waive its fourth argument, *i.e.*, that Ms. Lawton failed to consider non-infringing alternatives. Dkt. 855 at 14-15. Marvell argues that its general challenge to CMU's damages arguments and *CMU's* statement that Marvell had no alternative to using CMU's technology preserved this point. Dkt. 855 at 14-15. This falls well short of the Third Circuit's requirement that Marvell specifically identify the facts and law on which its motion is based. Dkt. 829 at 20-21.²³ On the merits, Marvell simply reiterates its

²³ Raising general issues like damages or even the reasonable royalty rate does not preserve all of the innumerable specific arguments that could potentially be made on that subject. *See i4i Ltd. Partnership v. Microsoft Corp.*, 598 F.3d 831, 845 (Fed. Cir. 2010); *Lightning Lube, Inc. v. Witco Corp.*, 4 F.3d 1153, 1172-73 (3d Cir. 1993). The cases cited by Marvell are not to the contrary. *See Gaus v. Conair Corp.*, 363 F.3d 1284, 1287 (Fed. Cir. 2004) (no waiver because Rule 50(a) motion listed specific grounds for judgment of non-infringement); *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1324-25 (Fed. Cir. 1991) ("[T]he ground stated in support of the first motion for directed verdict and in support of the motion for JNOV were one and the same."); *Boehringer Ingelheim Vetmedica, Inc. v. Schering Plough Corp.*, 166 F. Supp.

mischaracterization of Dr. Bajorek's and Ms. Lawton's testimony, which CMU has refuted. Dkt. 829 at 22-24. Having chosen not to present evidence of non-infringing alternatives through Dr. Blahut, Marvell does not even respond to recent Federal Circuit authority showing that it was Marvell's burden to come forward with non-infringing alternatives. *See id.* at 21-22 (quoting *SynQor, Inc. v. Artesyn Tech., Inc.*, 709 F.3d 1365, 1382-83 (Fed. Cir. Mar. 13, 2013)). Marvell's arguments fail on that basis alone.

Finally, Marvell reiterates its thoroughly debunked argument that Ms. Lawton "ignor[ed]" the DSSC Agreements when concluding the parties would select a running royalty. Dkt. 855 at 15. CMU has previously refuted this frivolous argument. Dkt. 829 at 24.

VI. THERE IS NO BASIS FOR A NEW TRIAL OR REMITTITUR

Marvell's arguments for a new trial or remittitur simply cross-reference its prior arguments in which Marvell failed to carry its heavy burden. Dkt. 829 at 26 (describing the burden). Marvell's arguments regarding one of the Court's damages instructions are waived and meritless. Dkt. 829 at 27-28.

VII. CONCLUSION

For the foregoing reasons, CMU respectfully requests that the Court deny Marvell's Motion for Judgment as a Matter of Law, New Trial and/or Remittitur With Respect to Damages.

2d 19, 30 (D.N.J. 2001) (no waiver because specific arguments in Rule 50(b) motion first were made in Rule 50(a) motion).

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on April 19, 2013 the foregoing was filed electronically. Notice of this filing will be sent to all parties by operation of the Court's electronic filing system. Parties may access this filing through the Court's system.

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