

Intellectual Property Advisory

Carnegie Mellon University v. Marvell: \$1.5 Billion at Stake at the Federal Circuit

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Currently on appeal to the United States Court of Appeals for the Federal Circuit is Carnegie Mellon University's ("CMU") \$1.535 billion judgment for patent infringement against Marvell Technology Group Ltd. and Marvell Semiconductor, Inc. (collectively "Marvell"), which is one of the largest damages awards for patent infringement in history. This advisory summarizes the issues and arguments on appeal. This case will be closely watched, and it could serve to demonstrate the Circuit Judges' current attitudes toward high damages awards in patent cases, and in particular, with regard to patents owned by universities and other non-practicing entities ("NPEs") that do not themselves practice the inventions. Moreover, it raises the important question whether products made, used, and sold outside of the United States can be used to determine damages for infringement of a U.S. patent. If the Federal Circuit answers this question in the affirmative by affirming the judgment, companies with foreign operations may need to reevaluate their potential exposure. Marvell appeals from the United States District Court for the Western District of Pennsylvania, Case No. 2:09-CV-00290-NBF. The appeal is captioned *Carnegie Mellon University v. Marvell Technology Group, Ltd., et al.*, Appeal No. 14-1492. The appeal is fully briefed and awaiting oral argument.

Introduction

CMU sued Marvell for alleged infringement of U.S. Patent Nos. 6,201,839 ("the '839 patent") and 6,438,180 ("the '180 patent"). CMU accused Marvell's microchips of infringing claim 4 of the '839 patent and claim 2 of the '180 patent, which relate to methods for improving the accuracy of data read from hard-disk drives. A jury found for CMU on all relevant issues related to liability and damages and awarded \$1.17 billion in damages. Post-trial, the District Court found Marvell's infringement willful, and CMU moved for treble damages and an injunction on the sale of infringing products. The District Court denied the injunction but awarded an additional \$287 million in enhanced damages, plus post-judgment interest and royalties, raising the total judgment to \$1.535 billion.

On appeal, Marvell seeks to have the District Court's \$1.535 billion judgment in favor of CMU overturned by challenging the jury and district court's determinations on (1) damages; (2) willfulness; (3) laches; (4) validity; and (5) infringement. This advisory summarizes each of these issues below.

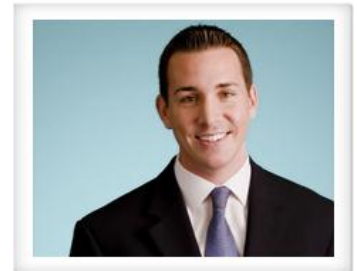
I. Reasonable Royalty Damages Award

Marvell seeks reversal of the District Court's award of \$1.17 billion reasonable royalty damages award because, as Marvell contends, it was based upon (1) erroneously admitted testimony from CMU's damages expert; (2) a royalty base consisting overwhelmingly of chips not made, used, or sold in the United States, thus giving an impermissible extraterritorial effect to U.S. patents; (3) a hypothetical license measured by a per-unit royalty rather than a flat fee when a flat fee should have been deemed the only appropriate measure; and (4) a royalty rate of \$.50 per chip that exceeds any comparable real world rate and is not properly apportioned to the technology covered by CMU's patent claims. In the alternative, Marvell seeks to have the damages award vacated and remanded for a new trial or remittitur.

(1) Alleged erroneously admitted testimony from CMU's damages expert



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Marvell contends that the jury's \$1.17 billion damages award rested entirely on the testimony of CMU's damages expert, who lacked the relevant expertise, used unreliable methodologies, and lacked sufficient factual basis to support her testimony. Marvell thus argues that the District Court erred in denying Marvell's motions to exclude her testimony. Citing primarily to *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348 (Fed. Cir. 2013), *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51 (Fed. Cir. 2012), and *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292 (Fed. Cir. 2011), Marvell contends that the theories advanced by CMU's damages expert lacked the hallmarks of genuinely useful expert testimony because they rested on unreliable methodologies. Marvell points to alleged fatal mistakes made by CMU's damages expert, such as including Marvell's foreign production and sales of accused products in the royalty base, disregarding evidence that CMU's patents were actually valued and licensed on a flat-fee basis (instead of by applying a per-chip royalty), and failing to properly apportion damages to separate between patented and unpatented features of the accused products.

CMU counters that its damages expert was exceedingly qualified and that her analysis was both thorough and based on reliable methodologies. CMU argues that its expert properly allocated "fair credit" to the respective contributions by Marvell and CMU to the microchips' success. CMU contends, though, that the undeniable reality was that access to CMU's technology was "life or death" for Marvell. CMU further argues that its damages expert calculated two separate benchmarks to help isolate the value of CMU's invention from Marvell's contributions: (1) an analysis of excess profits; and (2) an analysis of an operating profit premium. CMU argues that the Federal Circuit has affirmed awards based on similar analyses. *Energy Trans. Group, Inc. v. William Demant Holding A/S*, 697 F.3d 1342, 1356-57 (Fed. Cir. 2012); *TWM gf. Co. v. Dura Corp.*, 789 F.2d 895, 899 (Fed. Cir. 1986).

(2) Inclusion of foreign chips in the royalty base

Marvell argues that the District Court erred by not striking the portion of the damages award that rested on chips made, used, and sold outside the United States. This, Marvell contends, would have resulted in a more than 75% reduction in the royalty base because it would have been limited to the approximate 556,812,091 microchips made, used, or sold in the United States (Marvell argues the number is more likely closer to 329,297,798), instead of the approximate 2,338,280,542 chips manufactured, used, or sold worldwide.

Relying on *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348 (Fed. Cir. 2013), Marvell contends that the District Court erred when it reasoned that damages from an initial infringing use in the United States (here, during research, design, and customer-relations activities) sweeps in all ensuing sales, including those of foreign chips manufactured, sold, and used exclusively abroad. Marvell argues that in *Power Integrations* the Federal Circuit reaffirmed the longstanding rule against extraterritoriality, by affirming that an award for patent damages must be stricken if it is based on worldwide sales. Specifically, Marvell contends that *Power Integrations* cannot be distinguished, as the District Court attempted to do, on the ground that the infringing activity here was domestic use that foreseeably resulted in foreign sales, rather than the foreign sales themselves. Marvell argues that *Power Integrations* expressly rejected such an attenuated chain of causation: "Power Integrations is incorrect that, having established one or more acts of direct infringement in the United States, it may recover damages for Fairchild's worldwide sales of the patented invention because those foreign sales were the direct, foreseeable result of Fairchild's domestic infringement." *Power Integrations*, 711 F.3d at 1371. Marvell argues that the fact that the chips at issue here were produced, sold, and used abroad presents an independent, intervening act that should cut off the chain of causation initiated by an act of domestic infringement. Marvell further argues that *Power Integrations* cannot be distinguished on the ground that it involved an apparatus claim rather than a method claim.

In response, CMU argues that Marvell misstates the issue. CMU contends that what it sought — and the jury awarded — was damages for Marvell's innumerable domestic uses of CMU's patented method during Marvell's U.S.-based sales cycle. CMU argues that Marvell stipulated that, in this business, before selling a single chip a manufacturer must undertake a "three-to-four-year long process" alongside a prospective customer conceptualizing the chip, simulating and designing it, testing it, and seeking qualification of it, all to arrive at an end product that performs as promised. To carry this process out, CMU contends, Marvell had to use the chips

and simulators — and therefore CMU's patented method — trillions of times a day for millions of chips or simulators, throughout the sales cycles, all of which took place in California. Thus, CMU argues that Marvell's position that the jury awarded damages for foreign sales is incorrect. Therefore, CMU argues that the jury's damage award reflects an economically rational hypothetical royalty negotiation, grounded in Federal Circuit precedent, that is the only sensible way to calculate damages in this case. CMU essentially argues that there is no real way to value the infringing use in the United States other than basing it on sales resulting from that use, and, therefore, the approach of its damages expert was appropriate and does not raise concerns over extraterritoriality. In response to Marvell's reliance on *Power Integrations*, CMU argues that the one sentence from a three judge panel cited by Marvell was dicta and could not overrule volumes of precedent allowing patentees to recover damages for the full benefit derived from infringing uses. CMU concludes by stating that the jury in this case, unlike in *Power Integrations*, confronted an entirely domestic chain of events, and it awarded CMU a reasonable royalty for Marvell's domestic infringement, which was causally connected to and resulted in Marvell's foreign sales.

Several amici curiae have submitted briefs in the appeal on this issue, some of which support Marvell's position and others which support CMU. In particular, several universities support CMU, whereas certain intellectual property law professors and certain public companies support Marvell.

(3) Hypothetical license based on per-unit royalty instead of a flat fee

Marvell also argues that the District Court erred in allowing a hypothetical license to be measured by a per-unit royalty rather than a flat fee. Marvell contends that the only evidence of contemporaneous, actual licensing showed that CMU requested and received flat-fee sums instead of per-unit royalties. Marvell also argues that CMU had no comparable license involving a per-chip royalty, and, therefore, the District Court erred by relying on CMU's damages model of a per-unit royalty.

In denying Marvell's motion for judgment as a matter of law, the District Court held that the evidence of CMU's flat-fee licensing was not dispositive because, as CMU's damages expert noted, those agreements were executed well before the date of the hypothetical negotiation, were different because they involved extra-contractual collaboration with CMU, and one of the licenses took place three-and-a-half years after the date of hypothetical negotiation. Marvell disagrees and argues that if CMU was willing to license the patents-in-suit at flat rates both before and after the hypothetical negotiation, then the only rational inference is that it would have done so during negotiations with Marvell. The District Court also found sufficient the reliance by CMU's damages expert on certain per-unit royalty agreements, which Marvell contends was error because those agreements were not comparable.

CMU counters that the parties would have agreed to a per-unit royalty, given their likely desire to share in the potential upside of a growing market and the risk of the market not panning out, so that neither ultimately was over- or underpaid through a lump sum arrangement. CMU also argues that both parties frequently entered into running royalty agreements around the time of the hypothetical negotiation so it was reasonable that the parties would have agreed to one here. Furthermore, CMU contends that the flat fee agreements referenced by Marvell were nothing like the hypothetical licensing agreement between the parties and that they all predated the hypothetical negotiation by at least a decade, which is reason enough to discount them under *LaserDynamics*.

(4) Imposition of a \$.50-per-chip royalty

Marvell contends that, even if a per-chip royalty were to be considered, the District Court erred in imposing a \$.50-per-chip royalty. Specifically, Marvell argues that CMU's damages expert's "excess profits" analysis failed to identify what value the patented technology added to the accused chips and that there is no support in the record for the assumption that a "target" 50% gross profit margin for a business unit, or entire company, accounts for Marvell's contributions to the specific chips at issue here or that any "excess" profits are attributable solely to the patented feature. Marvell further contends that the evidence actually suggests that Marvell makes less on chips that specifically embed the accused technology. Marvell, citing to *Uniloc*, also argues that Federal Circuit precedent requires proper apportionment of patent damages between the patented feature and the unpatented features and that CMU's "excess profits" analysis, which was approved by the District Court, fails to

reflect the requisite apportionment.

Likewise, Marvell contends that District Court erred in crediting the “operating profit premium” theory advanced by CMU’s expert as a basis for deriving the royalty rate. CMU’s expert purported to calculate the difference between the sale price of a chip that had the accused technology minus the price of a chip that did not have the accused technology to determine the “operating profit premium” that was associated with the accused technology. Marvell argues, however, that the calculation relied on a small and unrepresentative sample that artificially inflated the result. Moreover, Marvell argues that the “operating profit premium” theory contravenes the Federal Circuit’s settled apportionment requirement because CMU’s expert did not differentiate between patented and unpatented features.

Relying on the above reasoning, Marvell asks the Federal Circuit to reverse the District Court and direct entry of judgment for Marvell, or at a minimum direct entry of judgment based on a royalty base that excludes foreign chips and applies a royalty rate that does not exceed \$.06 per chip, which was the lower bound of CMU’s damages expert’s range that resulted from her attempt to apportion the value of CMU’s patented technology to Marvell’s products. Based on Marvell’s \$.06 proposed rate per chip and a royalty base of chips made, used, or sold in the United States — a total 556,812,091 chips — Marvell essentially seeks to lower the damages award to about \$33,408,725.46 or even as low as \$19,757,867.88, if, as Marvell contends, the number of chips made, used, or sold in the United States is 329,297,798.

CMU counters that its damages expert’s methodology was reliable, and the jury was entitled to credit it. CMU argues that awards based on similar analyses have been affirmed by the Federal Circuit and are appropriate to help isolate the value of CMU’s invention from Marvell’s own contributions. At bottom, CMU argues that Marvell’s criticism of its damages expert’s analyses are simply challenges to the factual underpinnings of her opinions that go to the weight to be afforded to her testimony. The jury did just that, as CMU contends, and found for CMU.

II. Willful Infringement

Marvell also seeks reversal of the District Court’s separate enhancement of \$287 million for willful infringement. Marvell argues that it had objectively reasonable invalidity and non-infringement defenses that preclude a finding of willfulness and the record fails to support the jury’s finding of subjective willfulness to which the District Court deferred. Marvell further contends that the District Court erroneously deferred the objective willfulness issue to the jury by first sending the question to the jury and then treating the reasonableness of Marvell’s reliance on its invalidity defense as the prerogative of the jury, even though, as Marvell contends, the Federal Circuit has reserved the question of objective reasonableness for the judge to decide.

In its answering brief, CMU argues that the record provided overwhelming evidence of Marvell’s objective recklessness and subjective willfulness. For example, CMU contends that Marvell had actual knowledge of CMU’s patents, failed to investigate the patent situation, and proceeded without taking any precaution, and Marvell not only failed to remediate, but also doubled down when it developed new infringing products. CMU also argues that Marvell’s defenses were conjured for litigation and were so implausible that no reasonable litigant could have expected them to succeed. Finally, CMU disputes that the District Court deferred its duty to decide willfulness, as argued by Marvell, by citing to the District Judge’s decision where she expressly found that Marvell had willfully infringed CMU’s asserted patent claims.

III. Marvell’s Laches Defense

Marvell also argues that it was legal error for the District Court to deny its defense of laches, even after the District Court expressly found that CMU had engaged in unreasonable and inexcusable delay by waiting to sue Marvell for nearly six years after it had notice of possible infringement and that Marvell was prejudiced by that delay. The District Court reasoned that, because Marvell had copied CMU’s patents consciously and deliberately for an entire decade, the equities clearly favored CMU and laches was unavailable to Marvell. On appeal, Marvell contends that CMU’s dilatory conduct should bar pre-suit damages as a matter of law, and that Marvell’s alleged misconduct had nothing to do with CMU’s delay in filing suit. A finding of laches would vacate the damages awarded to CMU for Marvell’s pre-suit infringement, about \$620 million.

CMU responds by arguing that the District Court did not abuse its discretion in reaching this outcome. Under Federal Circuit precedent, CMU contends, laches will not absolve an infringer who engages in conscious copying of intellectual property even if the elements of laches are otherwise established.

IV. Validity of the Asserted Patent Claims

Marvell argues that the District Court erred in upholding the validity of the asserted patent claims. Marvell seeks reversal of that decision on the ground that the asserted patent claims are invalid as anticipated and/or obvious in light of U.S. Patent No. 6,282,251 (“the Worstell patent”).

Marvell argues that it was error for the District Court to accept the jury’s finding of validity because the District Court did not identify a single element of the asserted patent claims not anticipated by the Worstell patent. Citing to the Federal Circuit decision, *Newell Cos. V. Kenney Mfg. Co.*, 864 F.2d 757, 767 (Fed. Cir. 1988), Marvell argues that the jury was not free to discard probative admissions and undisputed facts, which in the case at hand establish the invalidity of the asserted claims.

CMU counters that nothing in Marvell’s brief overcomes the jury’s prerogative to credit CMU’s more persuasive expert witness and that the District Court did in fact identify elements of the asserted patent claims not anticipated by the Worstell patent, namely (1) a “set of signal-dependent branch metric functions”; and (2) applying a selected function to a “plurality of signal samples.” CMU also argues that Marvell is undertaking a near impossible task because Marvell must demonstrate that no reasonable juror could reject its invalidity and other defenses in the face of the court’s willfulness opinion finding each defense to be objectively unreasonable. CMU also relies on *Ajinomoto Co. v. ITC*, 597 F.3d 1267, 1278 (Fed. Cir. 2010) and *Golden Bridge Tech., Inc. v. Nokia, Inc.*, 527 F.3d 1318, 1322-23 (Fed. Cir. 2008) for its contention that Marvell’s obviousness argument is waived since it was not presented by Marvell at trial, a point which Marvell disputes. Finally, CMU argues that even if Marvell’s obviousness argument were to be considered, it is conclusory, and Marvell has failed to overcome the extensive evidence of nonobviousness presented by CMU, including secondary considerations of Marvell’s commercial success.

Of note, after Marvell filed its appeal brief to the Federal Circuit, the PTO has now confirmed the patentability of both the ‘180 and ‘839 patents in reexamination proceedings. The Worstell patent was not the primary focus of these proceedings, but it was considered at least to some extent by the PTO and found not to be invalidating. The PTO’s decision is not dispositive but could foreshadow the result of Marvell’s invalidity challenge in the appeal.

V. Infringement of the Asserted Patent Claims

Lastly, Marvell seeks reversal of the District Court’s holding that Marvell’s products infringe the asserted patent claims.

In denying Marvell’s motion for judgment as a matter of law on non-infringement, the District Court concluded that the jury was free to accept either expert’s opinions or reject them, as the credibility of the parties’ competing experts is an issue for the jury to resolve, not the court. Marvell argues that no reasonable jury could find that Marvell infringes the asserted patent claims and sets forth technical non-infringement arguments to support its position. Marvell also contends that CMU’s expert conceded some of these non-infringement arguments and, therefore, it should be clear that Marvell does not infringe the asserted patent claims.

CMU counters that it presented a strong infringement case with credible evidence and thus substantial evidence supports the jury’s finding that the accused products are infringing. In support of its position, CMU counters Marvell’s assertion that CMU’s expert conceded infringement and advances technical arguments of its own, with citations to the record, why Marvell’s products infringe the asserted patent claims.

Conclusion

This case will be closely watched not only because of the significant damages at stake, but also because it could provide overarching guidance as to current Federal Circuit views on damages awards that could serve to shape

litigants' expectations as to patent damages in the future. One question that should be resolved is whether products made, used, and sold outside of the United States can be considered when determining damages for infringement of a U.S. patent.

If you have any questions about this topic, please contact the author(s) or your principal Mintz Levin attorney.

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