

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

CARNEGIE MELLON UNIVERSITY,

Plaintiff,

v.

MARVELL TECHNOLOGY GROUP, LTD.
and MARVELL SEMICONDUCTOR, INC.,

Defendants.

Civil Action No. 2:09-cv-00290-NBF

Hon. Nora B. Fischer

**MARVELL'S REPLY TO CMU'S OPPOSITION TO MARVELL'S
POST-TRIAL MOTION FOR JUDGMENT AS A MATTER OF LAW
OR, IN THE ALTERNATIVE, NEW TRIAL ON NON-DAMAGES ISSUES**

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INTRODUCTION

CMU's Opposition (Dkt. 827, hereinafter "Opp.") emphasizes the deference owed to the jury's verdict but distorts the record on which that verdict is based, touting supposed "admissions" by witnesses that take little or no account of accompanying explanations and manufacturing "contradictions" by mixing and matching statements from differing contexts. Moreover, CMU fails to show the propriety of a closing that inflamed the jury in a way that can be cured only by a new trial.

I. CMU FAILS TO REBUT MARVELL'S ARGUMENTS FOR JUDGMENT OF INVALIDITY AND NON-INFRINGEMENT

In responding to Marvell's Motion for Judgment as a Matter of Law, or in the Alternative, New Trial on Non-Damages Issues (Dkt. 805, 806) and Marvell's Opposition to CMU's Motion for a Finding of Willful Infringement and Enhanced Damages (Dkt. 833, 834), CMU discounts key record evidence. As to invalidity, CMU claims (Opp. at 3) that "Marvell's invalidity case went from weak to non-existent after Dr. Proakis' testimony" and points to Dr. Proakis's supposed admission that Worstell failed to teach a set of signal-dependent branch-metric functions. But CMU ignores Dr. Proakis's explanation of how CMU "really misinterpreted this," treating "constant" as it appears in Worstell as disclosing only one branch-metric function across all branches. (12/17/12 Tr. (Proakis) at 94:7-12; 94:17-23; 97:7-8.) Similarly, when CMU further claims (Opp. at 3) that Dr. Proakis failed to consider secondary considerations of nonobviousness, it ignores that CMU's alleged invention was not commercially successful. (11/29/12 Tr. (Moura) at 73:19-21; *id.* (Kavcic) at 270:4-5; 12/5/12 Tr. (Wooldridge) at 132:1-12, 149:10-150:15, 169:5-9, 170:3-5, 235:17-23.)

As to infringement, CMU ignores the record in claiming (Opp. at 5) that Marvell displayed "knowledge or willful blindness to its customers' infringing use (demonstrated by its

instructions and collaborations with its customers).” To the contrary, the evidence demonstrates that Marvell proceeded as it did based on a good-faith belief that neither it nor its customers were infringing, a position consistent with its disclosure of CMU’s patents and application for its own patents before the PTO. *See, e.g.*, Dkt. 834 at 15-18.

Moreover, CMU departs from the record in claiming (Opp. at 5-6, citing Dkt. 793 at 6-10) that “Drs. Wu and Blahut and Mr. Burd either conceded facts establishing infringement or directly contradicted Marvell’s ‘official’ documents, prior sworn deposition testimony, and, in the case of Dr. Blahut, his own expert report.” By using the term “detector” (Dkt. 793 at 7), Marvell did not acknowledge that accused products fall within the language of the CMU patent claims, for Marvell’s documents were not written in reference to CMU’s patent claims, and Marvell’s non-infringement position in fact relies on “trellis” and “branch metric functions.” For example, Mr. Burd’s use of the variable “BMV_{it}” in source code was obviously not named to refer to a “branch metric” within the meaning of the CMU patent. Moreover, contrary to CMU’s repeated suggestions, Dr. Wu did not contradict his prior testimony about Marvell’s ’585 patent. CMU’s counsel interrupted his testimony (12/12/12 Tr. (Wu) at 67:6-11), and Dr. Wu was very clear that, although the patent guides engineers to understand the technology, and for that reason uses the term branch metric, consistent with claim 1 of the ’585 patent, Marvell’s chips take the difference of path metrics, as distinct from computing a branch metric (as even Dr Kavcic concedes). (12/12/12 Tr. (Wu) at 56:16-57:13.) And by testifying about “path metrics” and “branch metrics” as they exist *within a trellis* (12/13/12 Tr. (Blahut) at 268:11-269:10; 243:24-244:2), Dr. Blahut did not suggest that Marvell’s product within the *post processor* computed a “branch metric.” (12/13/12 Tr. (Blahut) at 288:4-23).

II. CMU FAILS TO REBUT MARVELL'S ARGUMENTS AGAINST A FINDING OF WILLFULNESS

A. The Record Does Not Support a Finding of Objective Willfulness

CMU agrees that the Court rather than the jury must decide the question of objective willfulness, but errs in suggesting (Opp. at 6-7 & n.10) that the inquiry depends on special proof as to what defenses Marvell subjectively had in mind pre-litigation (a question as to which CMU cites no particular evidence), as opposed to Marvell's defenses as advanced in this litigation. CMU misplaces reliance on *Seagate's* reference to "prelitigation *conduct*" as a touchstone for willfulness (Opp. at 6 n.10 (citing *In re Seagate Tech. LLC*, 497 F.3d 1360, 1374 (Fed. Cir. 2007) (*en banc*)) (emphasis added)), for a defendant's *conduct* is distinct from its *state of mind*. Moreover, any focus on what a patent defendant had in mind pre-litigation would undermine the distinction between subjective and objective tests for willfulness. The objective willfulness inquiry asks only whether patent defenses as litigated had genuine merit, such that they were not mere "shams." *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.*, 682 F.3d 1003, 1005-06 (Fed. Cir. 2012) ("Following *Seagate*, this court established the rule that generally the "objective" prong of *Seagate* tends not to be met where an accused infringer relies on a reasonable defense to a charge of infringement.") (citations omitted); *id.* at 1007; *see also* Dkt. 806 at 3-4; Dkt. 834 at 14 and references cited therein.

Nor is there merit to CMU's claim (Opp. at 7) that "the noninfringement and invalidity defenses Marvell presented at trial were so inherently flawed that nearly every Marvell witness contradicted his prior sworn testimony and/or contemporaneous Marvell 'official' documents." As discussed *supra* and in Marvell's Opposition to CMU's Motion for a Finding of Willful Infringement and Enhanced Damages (Dkt. 833, 834), CMU's criticisms of Marvell's evidence of non-infringement and invalidity fly in the face of the full record. Marvell's

witnesses consistently explained their understanding as to why Marvell was not infringing, thus posing genuine questions for trial.

Finally, the record well establishes the objective reasonableness of Marvell's positions:

- *The Silvus Email.* CMU insists (Opp. at 7) that “an objective pre-litigation actor would have ignored” the inventor’s own account of the scope of his invention, but if the inventor himself suggested that he did not invent a post-processor, a reasonable litigant could of course reach the same conclusion. Although CMU notes that Marvell did not have pre-litigation access to this email, pre-litigation knowledge goes only to the subjective prong, and Marvell cannot objectively be faulted for arriving at the same interpretation of CMU’s patent as CMU’s own inventor.
- *Marvell’s Patents.* While Marvell’s patents do not insulate against infringement, the fact that the Patent Office issued the Marvell patents as patentably distinct over CMU’s patents is an objective indicator that the Marvell technology was not, as CMU maintains, a slavish copy.
- *CMU’s Delay.* While CMU’s unexplained delay in filing suit likewise does not insulate against infringement, such a delay helps negate objective willfulness, for it shows that CMU lacked any obvious or immediate basis to overcome Marvell’s reasonable defenses to infringement.
- *“Close Call.”* The Court’s prior acknowledgement that invalidity was a “close call,” and the fact that Marvell nearly obtained summary judgment of invalidity, helps to confirm that Marvell’s invalidity defenses were no mere “sham.” Moreover, the Court’s dismissal of the Group II claims on summary judgment of non-infringement helps show the reasonableness of Marvell’s non-infringement, defense, given that the Group II claims come from the same patents as the Group I claims.
- *CMU’s Retreat.* Contrary to CMU’s argument (Opp. at 8), Marvell’s defenses did cause CMU to retreat from its claim of being “*the first*” to address correlated noise. (Dkt. 806 at 7). Nor can CMU deny as much, for its own expert admitted that CMU was *not* the first to account for signal-dependent noise or correlated noise. 12/3/12 Tr. (McLaughlin) at 241:2-242:12.

In sum, there are numerous, powerful, external indications in this case that Marvell’s supposed infringement was not objectively willful, because Marvell advanced genuine invalidity and non-infringement defenses.

B. The Jury's Finding of Subjective Willfulness Should Not Stand

If the Court finds objective willfulness, then it will need to reach the jury's verdict on subjective willfulness, which is unsustainable. CMU offers no plausible account of why, if Marvell was subjectively infringing, Marvell would have openly disclosed all particulars in applying for (and obtaining) its own patent. While the PTO's issuance of a patent is not itself a defense to infringement, a subjectively willful infringer is unlikely to trumpet its infringing use to the PTO and the public by applying for its own patent. Moreover, the PTO bolstered Marvell's good faith by holding Marvell's invention patentably distinct from CMU's.

CMU's claims that Marvell "failed to obtain an opinion of counsel" and "failed to respond to Fujitsu's specific inquiry about the CMU patents" have already been addressed. (Dkt. 834 at 12-13, 16-17.)

CMU also claims (Opp. at 10) that "Marvell abandoned its 'theoretical' argument when it dropped its enablement and written description defenses, and made plain that its complexity argument is baseless when Dr. Blahut admitted that complexity is not part of the test for infringement." Here, CMU conflates two separate issues. While "complexity" is not a claim limitation and therefore does not belong in a formal infringement analysis, it still bears on Marvell's subjective intent, for it illuminates Marvell's good-faith motivation. As Marvell's witnesses testified (12/17/12 Tr. (Burd) at 137:16-139:22), Marvell decided to go its own way and take a fundamentally different approach *because* Dr. Kavcic's approach was too complex. *See, e.g.*, Dkt. 834 at 20.

CMU further suggests (Opp. at 9 n.18) that Marvell overlooked evidence of its "copying" but those add nothing to CMU's case given that it is *claim language* that matters to infringement. CMU points to testimony that Marvell's circuits were "virtually identical" or a "cut and paste" of CMU's patents. (*Id.*) CMU's expert in the first instance, however, was comparing Dr. Kavcic's

publication and CMU patents generally without doing a claim analysis, and, in the second instance, was discussing only a discrete portion of the circuit, an FIR filter, which CMU indisputably did not invent. *See* 12/13/12 Tr. (Blahut) at 249:2-251:22. Similarly, CMU invokes Mr. Burd's statement that a section of the CMU patents was "generally following" the Kavcic-Moura papers, without drawing any connection specifically between the papers and the claim language. CMU also refers to Dr. Wu's statement about the NLD's relationship to the structure of Kavcic's approach (P-366) but omits Dr. Wu's ensuing statement in the very same document that Marvell *rejected* the approach thus referenced. *See, e.g.*, Dkt. 834 at 17. The record thus lacks proof of any subjective willfulness on Marvell's part, much less the *clear-and-convincing* evidence needed to sustain that the jury's verdict.

III. THE COURT SHOULD ORDER A MISTRIAL BASED ON CMU'S CLOSING ARGUMENT

CMU's attempted justification (Opp., at 11-20) for its inflammatory closing fails, for its violations of this Court's orders were stark, systematic, and persistent. The record indicates that CMU calculated that it could sway the jury with arguments forbidden by the Court, especially given the jury's natural sympathies towards a hometown institution such as CMU. *See* Dkt. 806 at 16 n.8, 18 and authorities collected therein. CMU errs in insisting (Opp. at 11) that there is "no evidence that the jury's verdict was the product of (allegedly) inflammatory remarks by CMU's counsel," for the jury awarded CMU every penny of the astonishing \$1.17 billion requested.

A. CMU's Improper Arguments Regarding Chain of Innovation

CMU argues (Opp. at 16-17) that its references to lost pursuit of further research and innovation were permissible because they went to "economic circumstances" that "included

CMU's long-standing obligation to reinvest third party license proceeds into the DSSC." This argument, however, fails to dispel the stark conflict with this Court's *in limine* ruling (Dkt. 608).

B. CMU's Improper Arguments Regarding Criminal Theft

CMU does not deny (Opp. at 17-18) that it inflamed the jury and again violated the Court's *in limine* order by arguing that it had suffered harm beyond denial of a reasonable patent royalty, specifically in the form of *criminal theft* of the jurors' own identities and social security numbers.

C. CMU's Improper Arguments Regarding Advice of Counsel

CMU fails in its effort (Opp. at 13-16) to shift blame to Marvell for supposedly failing to object to its improper arguments about advice of counsel. Although CMU refers to "analogous" arguments it made in opening, those arguments (11/28/12 Tr. at 116:12-117:2; 11/28/12 Tr. at 124:15-24) were distinct and in any event *preceded* the Court's relevant cautions and exclusion order (Dkt. 753). As for what CMU calls "two similar references" in closing, the first (12/20/12 Tr. at 143:6-9) went only to correspondence between Fujitsu and Marvell, without referring to Marvell's consultations with its counsel. This leaves only a single prior argument to which Marvell did not object, for the simple, well understood reason that it faced the dilemma of "antagonizing the jury." *Moody v. Ford Motor Co.*, 506 F. Supp. 2d 823, 831 (N.D. Okla. 2007). The only contrary authority CMU cites (Opp. at 16), *Murray v. Fairbanks Morse*, 610 F.2d 149, 152 (3d Cir. 1979), involved "*no* objection in the record by defendant." (Emphasis added.)

As to CMU's argument to the jury that the record affirmatively proved that Marvell did not consult counsel as Marvell's policy requires (12/20/12 Tr. at 140:19-22, 142:17-20, 143:6-9), no such argument could fairly be made consistent with Dr. Wu's testimony, which established that he had "reviewed [CMU's] patent with our internal patent attorney." 12/11/12 Tr. at 323:9-

24. The Court's observation (Dkt. 753) that Dr. Wu's testimony did "not establish that he received an opinion of counsel, favorable or unfavorable," is not to the contrary.

Finally, CMU is incorrect in now claiming (Opp. at 14) that the "Court's order . . . precluded Marvell—not CMU—from making an opinion of counsel argument during closing." CMU's motion was not so limited and in any event, as this Court "often repeated during this trial, 'what's good for the goose, is good for the gander.'" (Dkt. 819 at 6.) It would have been neither sensible nor fair for the Court to have prohibited one side but not the other from making an argument about advice from counsel, and CMU has never before suggested that it understood the Court's order as having done so.¹

* * *

CMU's pattern of misconduct in closing, up to the Court's discharge of the jury to deliberate, warrants a mistrial, especially considering the jaw-dropping \$1.17 billion verdict that followed.

CONCLUSION

For the foregoing reasons and those stated in Marvell's motion and memorandum, Marvell should prevail on its argument for judgment as a matter of law on non-infringement and invalidity, objective willfulness and subjective willfulness; and in the alternative, on its motion for new trial based on CMU's misconduct in closing argument..

¹ Similarly, although CMU argues in passing (Opp. at 15) that its argument about advice of counsel "was proper and relevant to establishing intent for inducement" as distinct from direct infringement, the Court's order (Dkt. 753) made no such distinction and CMU never suggested any such distinction, much less cleared it with the Court.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on April 12, 2013, the foregoing was filed electronically on ECF. I also hereby certify that on April 12, 2013, this filing will also be served on counsel for CMU by electronic mail.

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