

**CMU's Motion for Permanent Injunction, Post-
Judgment Royalties, and Supplemental Damages
[Dkt. 786]**

May 2, 2013

**United States District Court
Western District of Pennsylvania
Civ. No. 2:09-cv-00290-NBF**

**Marvell Technology Group, Ltd.
Marvell Semiconductor, Inc.**

Required Test for Permanent Injunction



For a permanent injunction to issue, CMU “must demonstrate that: (1) it has suffered an irreparable injury; (2) legal remedies, such as money damages are inadequate compensation; (3) the balance of hardships warrants an injunction; and (4) the public interest would not be disserved by an injunction.”

ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc., 694 F.3d 1312, 1337 (Fed. Cir. 2012)
(citing *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 391 (2006)).

Permanent Injunction Would Be Unprecedented

- **CMU does not deny** that in the seven years since *eBay*, **not a single permanent injunction has been granted and affirmed** by the Federal Circuit in favor of a **non-practicing entity** like CMU that has a history of **willingness to license** its patents **against a multi-feature product** of which the accused technology is but one feature.

1. CMU will suffer no irreparable injury absent an injunction.
 - CMU is not a competitor of Marvell.
 - CMU cannot establish a causal nexus.
2. Adequate legal remedies exist.
 - CMU admits its own “willingness to license its inventions” (Reply 4).
 - Marvell is well positioned to pay whatever damages might ultimately be awarded.
3. The balance of hardships favor Marvell.
 - Marvell’s business and customers would suffer in the event of an injunction.
 - CMU would be made whole without an injunction.
 - CMU’s unexplained delay weighs heavily against an injunction.
4. An injunction would harm the public interest.
 - Customers would be deprived of a product that contains an array of non-accused technologies.

CMU Fails To Establish Irreparable Harm



CMU “must make a clear showing that it is at risk of irreparable harm, which entails showing a likelihood of substantial and immediate irreparable injury.”

Apple Inc. v. Samsung Elecs. Co., 695 F.3d 1370, 1374 (Fed. Cir. 2012) (“*Apple II*”) (quoting *Apple Inc. v. Samsung Elecs. Co.*, 678 F.3d 1314, 1325 (Fed. Cir. 2012) (“*Apple I*”).

No Irreparable Harm: CMU Does Not Compete Against Marvell



“The best case for obtaining a permanent injunction often occurs when the plaintiff and defendant are *competing in the same market*” and there is a showing of harm to a “patentee’s market share, revenues, and brand recognition.”

LaserDynamics, Inc. v. Quanta Computer, Inc., 2010 WL 2574059, *2 (E.D. Tex. June 22, 2010).

- Here, no harm to CMU’s market share, revenues, or brand recognition.

CMU Failed to Satisfy “Causal Nexus” Requirement



“[W]here the accused product includes many features of which only one (or a small minority) infringe,” a patentee *must show* “that a *sufficiently strong causal nexus relates the alleged harm to the alleged infringement,*” meaning that “the infringing feature *drives consumer demand* for the accused product.”

Apple II, 695 F.3d at 1374-75.

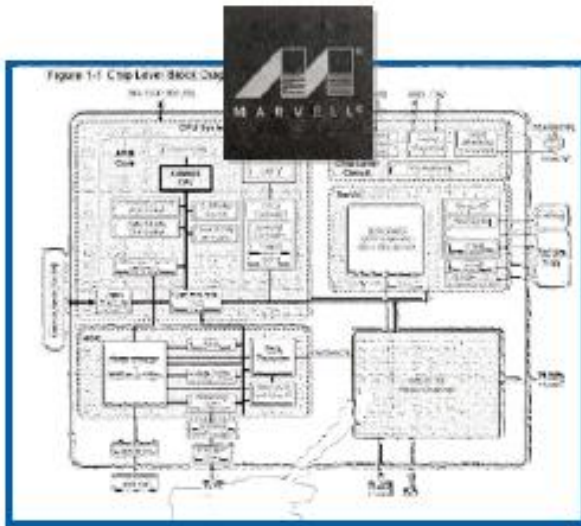


“[T]hat an application may sell in part because it incorporates a feature does not necessarily mean that the feature would *drive sales* if sold by itself.”

Apple II, 695 F.3d at 1376.

CMU Failed to Satisfy "Causal Nexus" Standard

4 Considerations



Speed



Power



Cost



SNR Performance



D-Demo 9-7

Testimony of Dr. Bajorek

CMU Failed to Satisfy "Causal Nexus" Standard

21 Now, there are a lot of features that drive the sales
22 of read channel chips; right?

23 A. Correct. But the most important ones are the ones that
24 deliver signal to noise ratio.

12/4/12 Tr. (Bajorek) at 178:21-24

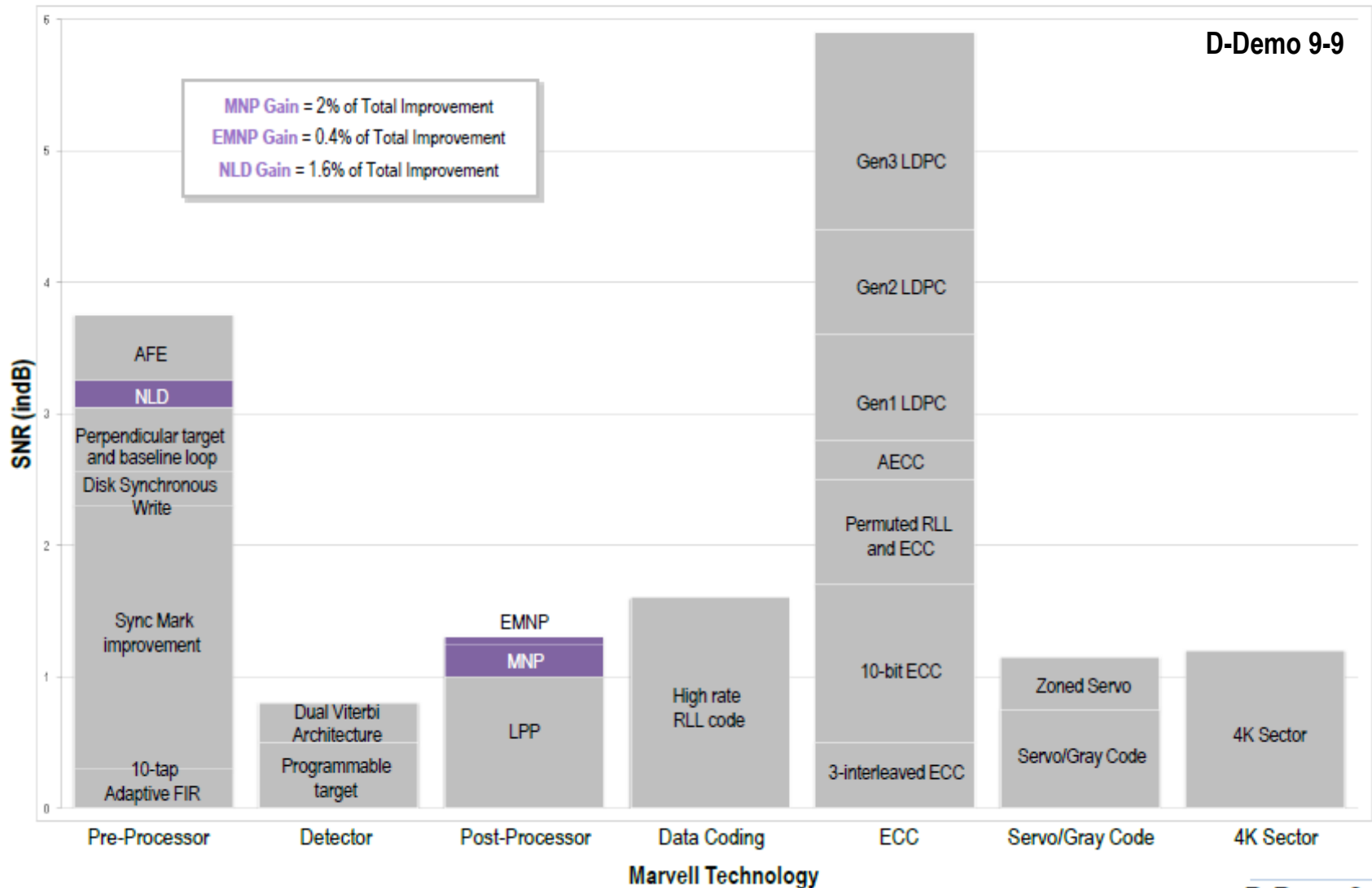
9 Q. And all of these that we've just talked about are key
10 factors that Marvell's customers consider to be vital when
11 purchasing chips?

12 A. They are important, yes.

12/4/12 Tr. (Bajorek) at 183:9-12

CMU Failed to Satisfy "Causal Nexus" Requirement

Development of Marvell's Technology to Improve SNR Performance



CMU Failed to Satisfy "Causal Nexus" Standard

9 Q. I want you to set aside the MNP and NLD technology for
10 a second, and let me just ask you generally.

11 A. Okay.

12 Q. All these other technologies that you've been talking
13 about that contribute to SNR gain, none of those are involved
14 or accused in this lawsuit; right?

15 A. That is correct.

12/11/12 Tr. (Wu) at 280:9-15

CMU Failed to Satisfy Causal-Nexus

16 | Q. Do you have an understanding as to how much gain in
17 | decibels has been attained in Marvell's chips from the
18 | beginning, back in 1995, until the present?

19 | A. Over this past 17 years we got more than 12 dB's SNR
20 | gain.

21 | Q. Do you have an understanding of how much of that gain
22 | is attributed to MNP?

23 | A. 0.3 dB.

...

3 | Q. And how much of that gain is attributed to NLD
4 | technology?

5 | A. 0.3 dB.

12/11/12 Tr. (Wu) at 280:16-23, 281:3-5

Testimony of Mr. Baqai CMU Failed to Satisfy Causal-Nexus

7 Q. And so, this may be self evident, but can you tell is,
8 was something called the MNP a factor of any weight in Western
9 Digital's decision to make Marvell the exclusive supplier of
10 read channel chips?

11 A. No, it was not.

12 Q. And I want to ask you the same question with regard to
13 something that we've heard described as NLV, nonlinear
14 Viterbi, or NLD, nonlinear detector. Are you familiar with
15 those terms?

16 A. I'll familiar with those terms, yes.

17 Q. And, so the same questions. Were those -- was that
18 technology something that was in your mind at the time you
19 decided to recommend Marvell as the exclusive supplier for
20 Western Digital?

21 A. No, it was not.

12/13/12 Tr. (Baqai) at 156:7-21

CMU Has Not Demonstrated That Monetary Damages Are Inadequate

- CMU has been **willing to license** its patented inventions.
 - CMU granted non-exclusive licenses to Seagate, IBM, 3M, and Hitachi for \$250k yearly membership payment to the DSSC;
 - CMU granted Intel the option to license the patents for \$200k per patent;
 - CMU sent letters to the hard disk drive industry to solicit interest in licensing the patents;
 - CMU estimated annual royalties (of \$2M) that it might be able to obtain from Marvell.

CMU's Concern About The Risk Of Non-Payment Is Baseless

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

CARNEGIE MELLON UNIVERSITY,
Plaintiff,

v.

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and MARVELL

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Semiconductor, Inc.'s Opposition to CMU's Motion for Permanent Injunction, Post-Judgment
Royalties, and Supplemental Damages. I have personal knowledge of the facts set forth in
this affidavit and, if called as a witness, could and would competently testify to them.

2. I understand CMU has sought a permanent injunction against MTGL and MSI
(collectively, "Marvell") because it believes Marvell is a collection risk and will attempt to
evade paying a judgment against it. As Marvell's CEO, I submit this declaration to assure the
Court that Marvell is not a collection risk and will not attempt to evade paying a judgment
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02815.51757/5207654.3

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Affidavit of Sutardja at ¶ 2

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3. CMU gives three reasons for its concerns. The first reason CMU gives is that Marvell has organized its business to evade payment of judgments entered by U.S. courts. As Marvell's CEO, I can assure the Court that this is not the case. Marvell, like many other companies, organized its business in the way it did for a variety of reasons, none of which includes the idea of being able to evade the payment of judgments entered by U.S. courts.

Affidavit of Sutardja at ¶ 3

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4. The next reason it gives is that MTGL recently authorized stock repurchases and dividends, which CMU says shows that MTGL plans to dissipate its assets to avoid paying a judgment. I can assure the Court that Marvell has no intention of attempting to dissipate its assets to avoid paying a judgment. MTGL has been authorizing stock repurchases for years. The stock repurchase authorizations and dividends are for the benefit of MTGL's shareholders and have nothing to do with this case and certainly are not part of some plan to avoid paying a judgment.

Affidavit of Sutardja at ¶ 4

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5. The last reason CMU gives is its concern that MTGL has not set aside reserves to pay the judgment in this case. As I understand, if the Court rules against Marvell on its post-trial motions, the Court may order Marvell to post a bond to stay the judgment pending an appeal. Marvell is willing to post such a bond if the Court determines one is necessary. I can assure the Court that if the Court were to rule against Marvell, after exhausting its appellate rights, Marvell could and would pay the significant monetary judgment in this case.

Affidavit of Sutardja at ¶ 5

The Balance Of Hardships Weighs Against An Injunction



“An *injunction that imposes greater costs on the defendant than it confers benefits on the plaintiff reduces net social welfare*. That is the insight behind the ‘balance of hardships’ component of the *eBay* standard for injunctive relief in patent cases.”

Apple, Inc. v. Motorola, Inc., 869 F. Supp. 2d 901, 922 (N.D. Ill. 2012) (Posner, J.).

The Balance Of Hardships Weighs Against An Injunction: Harm to Marvell and Marvell's Customers

Case 2:09-cv-00290-NBF Document 876-4 Filed 05/03/13 Page 20 of 35

Once a customer designs and optimizes their hard disk drives for a specific Marvell chip, that chip becomes part of the design of the disk drive. Were Marvell required to disable the accused features in chips currently sold to its hard-disk drive makers customers, those Marvell customers (and potentially their own customers, computer manufacturers) would have to alter the design of their own products that have already been designed and tested to work with Marvell's chips that incorporate the accused features. Those customers would then have to re-qualify the hard disk drives for use in the products of their own customers (computer manufacturers).

Affidavit of Wu at ¶ 9

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iterative detection for magnetic recording channels.
02815.51757;5231050.3

The Balance Of Hardships Weighs Against An Injunction: CMU Will Suffer No Irreparable Harm

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IN THE UNITED STATES DISTRICT COURT
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6. With respect to the accused NLD feature in Marvell's products, I have directed our engineers to permanently and irreversibly disable the NLD feature in Marvell's next generation C11000 chips. I have instructed Zining Wu to supervise and implement this change, and in his own declaration Dr. Wu describes the status and timing for this change to the C11000 chips.

Affidavit of Sutardja at ¶ 6

The Balance Of Hardships Weighs Against An Injunction: CMU Will Suffer No Irreparable Harm

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IN THE UNITED STATES DISTRICT COURT

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11. At Marvell, we are currently taking steps to remove the NLD features from our newest generation of chips that is currently under design (the design process began last year). That generation is using a “C11000” (and/or C11010) read channel, and chips having that read channel are numbered i1146, i1148, i1160, i1161 and i1068. Marvell is altering the design of the C11000 read channel to have the NLD circuitry permanently and irreversibly disabled.

Affidavit of Wu at ¶ 11

2. I received a bachelor's degree in electrical engineering from Tsinghua University in Beijing, China in 1994. After receiving my bachelor's degree, I decided to come to the United States for my graduate studies because of the wide variety of quality programs available in electrical engineering. I received my Ph.D. in Electrical Engineering from Stanford University in 1999. I specialized in signal processing, digital communication technology, coding and detection for read channels. My Ph.D. thesis was on coding and iterative detection for magnetic recording channels.

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An Injunction Would Be Contrary to the Public Interest



“For a permanent injunction to issue, the party requesting an injunction must demonstrate that . . . the *public interest would not be disserved* by an injunction.”

ActiveVideo, 694 F.3d at 1337.

- The public interest would be disserved by issuance of an injunction against Marvell.
 - Marvell’s customers have already designed Marvell’s chips into their hard disk drives. (Affidavit of Wu at ¶¶ 9 , 10.)
 - Once a customer designs and optimizes their hard disk drives for a specific Marvell chip, that chip becomes part of the design of the disk drive. (*Id.*)

An Injunction Would Be Contrary to the Public Interest



“[W]hen the *patented invention is but a small component* of the product the companies seek to produce and the threat of an injunction is employed simply for undue leverage in negotiations, legal damages may well be sufficient to compensate for the infringement and an *injunction may not serve the public interest.*”

Apple Inc. v. Motorola, Inc., 869 F. Supp. 2d 901, 918 (N.D. Ill. 2012).

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1. Starting on the date of _____, 2013 and extending through until April 3, 2018 (the expiration date of the CMU Patents), both Marvell Technology Group, Ltd. ("MTGL") and Marvell Semiconductor, Inc. ("MSI"), and their respective officers, directors, agents, servants, employees, attorneys, subsidiaries, and those persons acting in concert or participation with any of them who receive actual notice hereof (collectively "the Enjoined Parties"), are hereby permanently restrained and enjoined, pursuant to 35 U.S.C. § 283 and Fed. R. Civ. P. 65(d), from directly infringing under 35 U.S.C. § 271(a), contributing to the infringement of under 35 U.S.C. § 271(c), or inducing the infringement of under 35 U.S.C. § 271(b), any of the '839 Patent and the '180 Patent. In particular, during the time period that

that use of Marvell's MSI-type chips and simulators in the United States in certain normal operating modes directly infringes claim 4 of the U.S. Patent 6,201,839 ("the '839 Patent") and claim 2 of U.S. Patent 6,438,180 ("the '180 Patent") (collectively "the Asserted Claims of the CMU Patents");

12. We estimate that it will take approximately six months and eight Marvell designers working full time to re-design the C11000 chips. The C11000 chips without the NLD functionality are scheduled to be taped-out (fabrication of the actual semiconductor chips) in October of this year and are slated for volume production toward the end of 2014. Prior to volume production, Marvell will work with its customers to test and incorporate the chips into their hard disk drives.

13. Because the newest generation C11000 chips have not yet been taped-out, samples have not yet been shipped to customers. Also, our customers have not yet designed and optimized any hard disk drives that will use the C11000 chips.

Affidavit of Wu at ¶ 12-13

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- In the event that the Court concludes that injunctive relief is warranted or necessary, Marvell respectfully requests that CMU be required to post a bond to protect Marvell's interests if any injunction is overturned on appeal.
 - If a bond does not issue now, then Marvell may have no recourse later for the damages it sustains from a wrongful injunction. *W.R. Grace & Co. v. Local Union 759 et al.*, 461 U.S. 757, 770 n.14 (1983); *Sprint Commc'ns Co. L.P. v. CAT Commc'ns Int'l, Inc.*, 335 F.3d 235, 240 (3d. Cir. 2003).
 - When setting the amount of an injunction bond, district courts should err on the high side. *Mead Johnson & Co. v. Abbott Labs.*, 201 F.3d 883, 888 (7th Cir. 2000).

- For the first time in its Reply, CMU demands “monitoring rights to police compliance” with any permanent injunction.
 - CMU waived this argument.
 - If considered, any access should be limited to a review of Marvell’s final circuit schematics for its next generation chips designed to permanently disable the NLD feature.
- CMU’s proposed compliance procedures would monitor for potential infringement of unasserted, non-infringed, and unrelated claims.
 - It is not within the jurisdiction of this Court to undertake such monitoring or enforcement. *See, e.g., Streck, Inc. v. Research & Diagnostic Sys., Inc.*, 665 F.3d 1269, 1282-83 (Fed. Cir. 2012).
 - This is precisely the type of broad injunctive relief that the Federal Court has flatly rejected. *Int’l. Rectifier Corp. v. IXYS Corp.*, 383 F.3d 1312,1315-18 (Fed. Cir. 2004).

The Court Should Hold An Evidentiary Hearing To Determine Ongoing Royalties

- CMU's request for a "post-judgment ongoing royalty rate" is premature.
- The rate of any ongoing royalty must be informed by a *Georgia-Pacific* analysis conducted with reference to "a new hypothetical negotiation" assumed to take place on the date of entry of judgment. See, e.g., *Paice LLC v. Toyota Motor Corp.*, 609 F. Supp. 2d 620, 625 (E.D. Tex. 2009).
- This analysis is typically the subject of an evidentiary hearing regarding the "changed circumstances" that would impact the new hypothetical negotiation and thus the determination of an ongoing royalty.
- The circumstances affecting the outcome of a **2012** hypothetical negotiation between Marvell and CMU regarding an ongoing royalty are different from the circumstances surrounding the **2001** hypothetical negotiation considered by the jury.

Any Ongoing Royalty Should Be Small

- A variety of circumstances over the last 11 years would drive down whatever royalty rate would have resulted from a 2001 negotiation.
- CMU has been unable to get **anyone** to pay for or use the technology during the more than eleven years that has elapsed since the date of the hypothetical negotiation considered by the jury.
- CMU does not commercialize any products, does not compete with Marvell, and would not generate any sales revenue as a result of Marvell's removal of the NLD circuit from its chips.
- The only revenue CMU could hope to generate from the patents is an ongoing royalty from Marvell.
- *Univ. of Pittsburgh*, 2012 WL 1436569, at *12 (noting, in setting a royalty rate, that the patentee and infringer were not “direct competitors” and thus that the patentee “would be harmed if [the infringer] stopped selling the infringing products”).

Marvell's Profit Margins Provide No Basis For An Ongoing Royalty

- CMU argues that any ongoing royalty should be at least \$0.50 because “Marvell’s profit margins on read channel and SoC products containing CMU’s patented technology have increased over time.”
- But CMU’s argument fails to address the fact that Marvell is continuously adding features to its chips.
- Marvell’s margins are generated by these additional features related to SNR as well as other chip attributes.
- Each feature must necessarily be responsible for a smaller portion of that margin over time.

Marvell's Removal of Accused Technology Counsel in Favor of a Reduced Royalty

- Perhaps the most significant changed circumstance for the 2012 hypothetical negotiation is Marvell's plan to remove the accused NLD feature from its newest generation of chips.
- Marvell's ability and willingness to disable the feature demonstrates that it has a non-infringing alternative and that the accused technology is not “must have”—factors that, as matter of law, reduce any ongoing royalty rate here.

See, e.g., ActiveVideo Networks, Inc. v. Verizon, 694 F.3d 1312, 1342 (Fed. Cir. 2012)

- For the 2001 hypothetical negotiation, CMU contended that Marvell had no choice but to include the patented technology in all of its read channel chips.
- At the 2012 hypothetical negotiation, the parties would recognize Marvell had the option to remove the accused NLD feature from future products, which would support a lower royalty rate.

Marvell's Removal of Accused Technology Counsel in Favor of a Reduced Royalty

- CMU contends that because “Marvell has no present intention of using CMU’s technology in future products,” “CMU would seek to maximize royalties over th[e] short period” remaining before Marvell disables the NLD feature.
- CMU ignores the fundamental premise of the hypothetical negotiation—the willing licensor, willing licensee rule.
- The assumption must be that any hypothetical negotiation in 2012 would result in a royalty that Marvell would be willing to pay to continue to use the infringing technology ***rather than disable it.***

There Is No Basis For A Ongoing Royalty Greater Than \$0.50

- CMU's remaining argument for a \$.50 or greater royalty rate is its assertion that future infringement would be "willful" and thus CMU would have greater bargaining power in 2012 than it would have in 2001.
- Courts routinely find that an infringement verdict does not warrant any increase in the royalty rate otherwise produced by the post-judgment hypothetical negotiation.
- Here, the "changed circumstance" that Marvell is willing and able to proceed without the accused feature (contrary to CMU's theory regarding Marvell's position in 2001) more than blunts any marginal increase in CMU's bargaining power resulting from the infringement finding.

Supplemental Damages

- Marvell does not dispute that at some point an accounting for supplemental damages is to be made.
- Marvell stands ready to provide whatever additional sales information the Court deems appropriate.
- Marvell believes that supplemental damages should be determined after conclusion of the appeal in this case.