

Marvell's Motion For Judgment As A Matter Of Law, New Trial And/Or Remittitur With Respect to Damages [Dkt. 807]

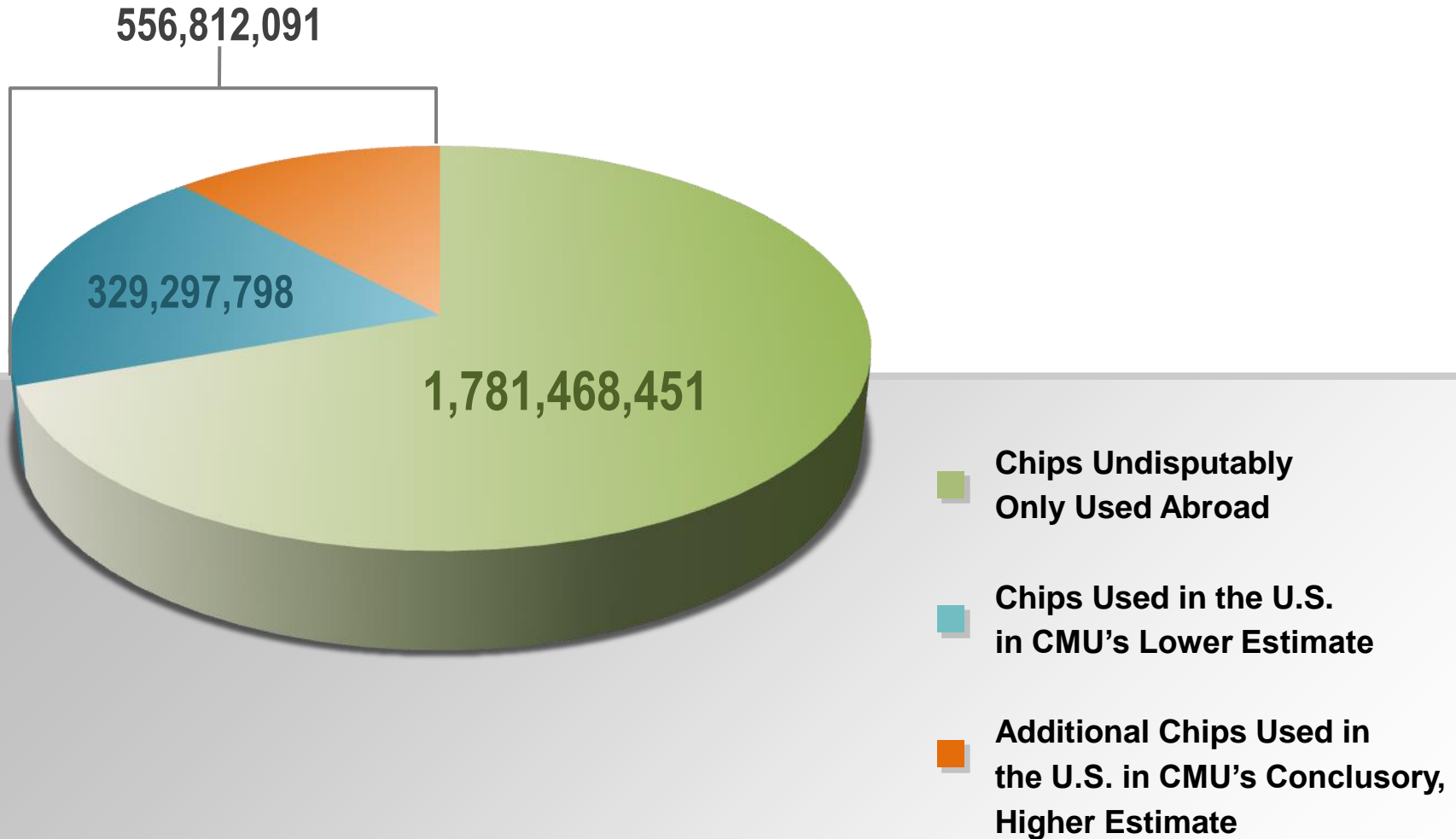
May 1, 2013

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

Marvell Technology Group, Ltd.
Marvell Semiconductor, Inc.

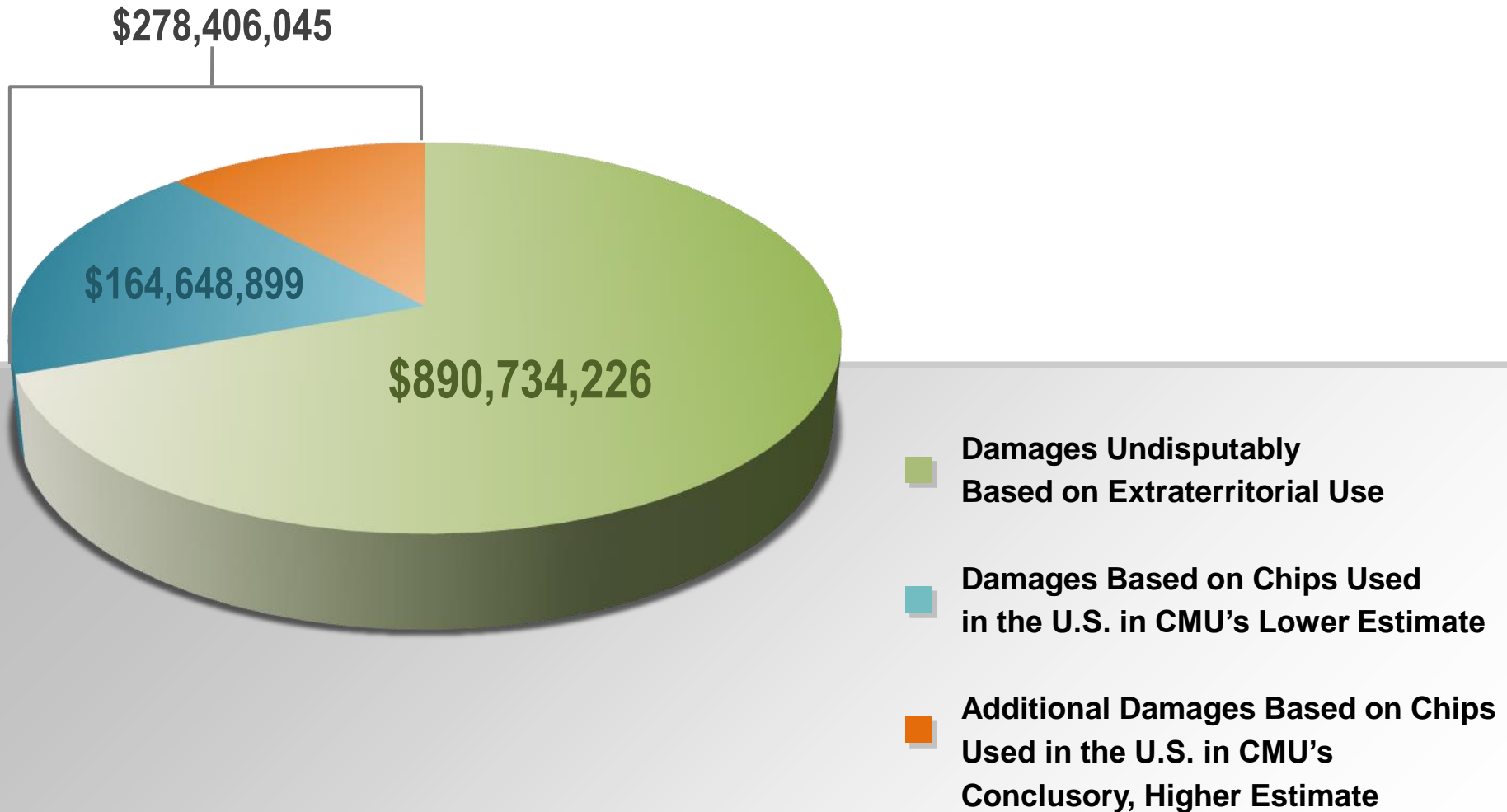
Royalty Base

Marvell Chips in Royalty Base



Royalty Base

Damages



- Patent damages based on sales of chips only used abroad are legally foreclosed.
- Even if not legally foreclosed, CMU failed to offer evidence that would satisfy any required causal nexus between domestic use and foreign use.
 - Evidence fails to show that any customer purchased any chip from Marvell “**only**” because of the patented method.
 - Evidence fails to show that the patented method **drove consumer demand**.
 - Evidence does not support even **but-for causation**.
- CMU's theory is not supported by substantial evidence that sales took place in the U.S.
- The jury instructions failed to restrict the royalty base to chips with a causal nexus to U.S.-based infringing activity.

Damages Based on Foreign Chips Are Legally Foreclosed

United States Court of Appeals for the Federal Circuit

As legal authority for its position, Power Integrations recites 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.⁵ *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 654–55 (1983). According to Power Integrations, this principle of "full compensation" has no inherent, per se geographical limits.

Leonard P. Stark.

Decided: March 26, 2013

FRANK E. SCHERKENBACH, Fish & Richardson P.C., Boston, Massachusetts, argued for plaintiff-cross appellant. With him on the brief were CRAIG E. COUNTRYMAN, of San Diego, California, and HOWARD G. POLLACK, MICHAEL R. HEADLEY, of Redwood City, California.

BLAIR M. JACOBS, McDermott Will & Emery LLP, of Washington, DC, argued for defendants-appellants. With

Case 2:09-cv-00290-NBF Document 829 Filed 03/25/13 Page 1 of 36

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

CARNEGIE MELLON UNIVERSITY,

Plaintiff,

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

Defendants.

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

CARNEGIE MELLON UNIVERSITY'S OPPOSITION TO MARVELL'S
MOTION FOR JUDGMENT AS A MATTER OF LAW, NEW TRIAL AND/OR
REMITTANCE WITH RESPECT TO DAMAGES (DKT. 807, 809)

Marvell cites no legal authority to support its argument

that the jury could not use Marvell's sales to measure damages resulting from infringing U.S. use of a patented method.⁶ Section 284 plainly permits the jury to consider... 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) (emphasis added).

Damages Based on Foreign Chips Are Legally Foreclosed

United States Court of Appeals for the Federal Circuit

Power Integrations' argument that the broad principles of "full compensation," extend to cover Fairchild's worldwide sales is not persuasive.

CORPORATION,
Defendants-Appellants.

2011-1218, -1238

Appeals from the United States District Court for the District of Delaware in case No. 04-CV-1371, Judge Leonard P. Stark.

Decided: March 26, 2013

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

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

PLAINTIFF CARNEGIE MELLON UNIVERSITY'S OPPOSITION TO MARVELL'S
MOTION FOR JUDGMENT AS A MATTER OF LAW, NEW TRIAL AND/OR
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Second, Marvell's sales are an appropriate metric for assessing the value of Marvell's U.S. uses of the patented methods.

Damages Based on Foreign Chips Are Legally Foreclosed

United States Court of Appeals for the Federal Circuit

POWER INTEGRATIONS, INC.,
Plaintiff-Cross Appellant,

Our patent laws allow specifically “damages adequate to compensate *for the infringement*.” 35 U.S.C. § 284 (emphasis added). They do not thereby provide compensation for a defendant’s foreign exploitation of a patented invention, which is not infringement at all.

Decided: March 26, 2013

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Slip Op. 37

Damages Based on Foreign Chips Are Legally Foreclosed

United States Court of Appeals for the Federal Circuit

POWER INTEGRATIONS, INC.,
Plaintiff-Cross Appellant,

Power Integrations' "foreseeability" theory of world-wide damages sets the presumption against extraterritoriality in interesting juxtaposition with the principle of full compensation. Nevertheless, Power Integrations' argument is not novel, and in the end, it is not persuasive. Regardless of how the argument is framed 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. The answer is no.

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Damages Based on Foreign Chips Are Legally Foreclosed

United States Court of Appeals for the Federal Circuit

POWER INTEGRATIONS, INC.,
Plaintiff-Cross Appellant,

To the contrary, the entirely extraterritorial production, use, or sale of an invention patented in the United States is an independent, intervening act that, under almost all circumstances, cuts off the chain of causation initiated by an act of domestic infringement.

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Damages Based on Foreign Chips Are Legally Foreclosed

United States Court of Appeals for the Federal Circuit

POWER INTEGRATIONS, INC.,
Plaintiff-Cross Appellant,

We thus reject Power Integrations' argument that there exists a legal basis sufficient to uphold the jury's original damages award, which was based on worldwide sales and hold that the district court correctly decided that the jury's original damages award was contrary to law.

Decided: March 26, 2013

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Slip Op. 39

Prohibition Against Inclusion of Foreign Chips Applies *A Fortiori* Here

- Sales are non-infringing and do not provide a measure of U.S. use of the patented method.
- Assuming sales are the right proxy, the **same extraterritorial limits must govern** as would if a device patent were at issue.
- Thus, the reasonable royalty base would be limited to U.S. chips.
- Otherwise, CMU would recover in excess of what it could recover if the device itself infringed simply because it made a **more attenuated leap** from U.S. infringement to everything that follows abroad.

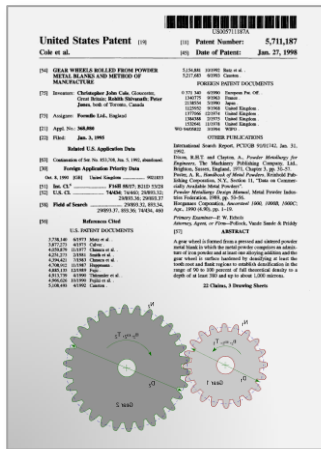
Prohibition Against Inclusion of Foreign Chips Applies *A Fortiori* Here



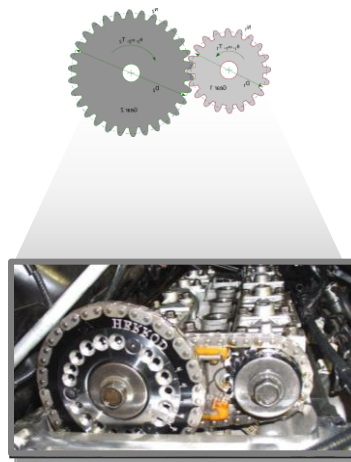
Device Patent



Sales Infringe



Method Patent



Use Infringes

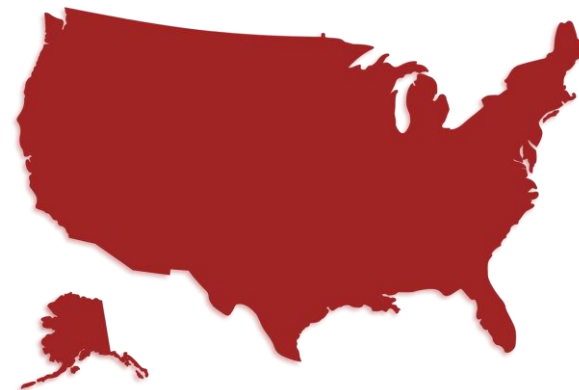
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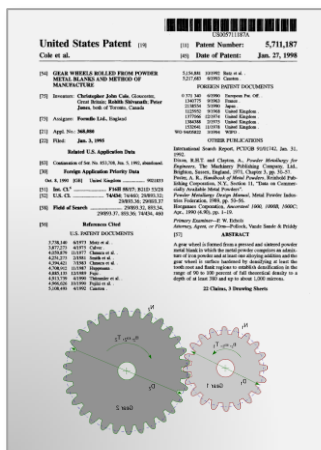
Device Patent



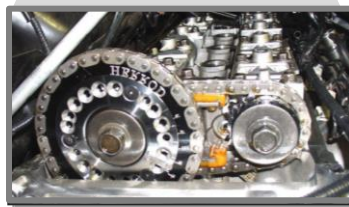
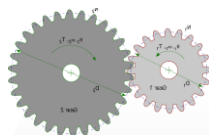
Sales Infringe



Limited to U.S. Sales



Method Patent



Use Infringes

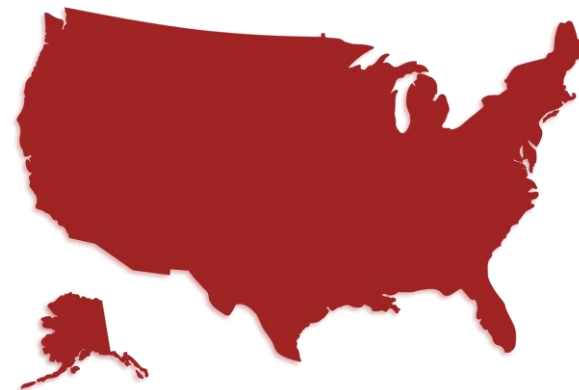
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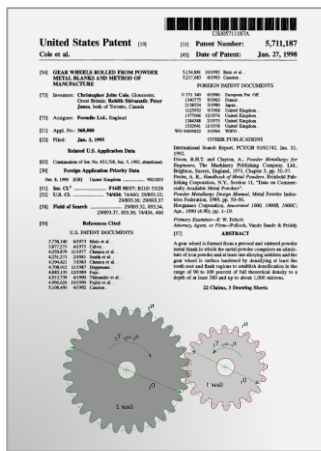
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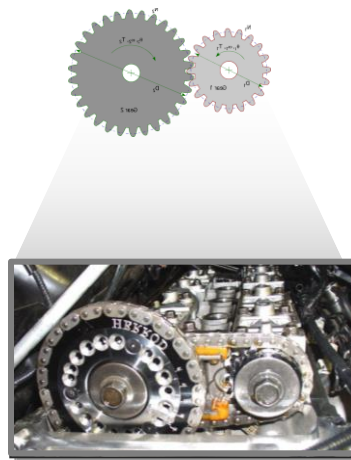
Sales Infringe



Limited to U.S. Sales



Method Patent



Use Infringes



A Fortiori Limited to U.S. Sales When Sales Used as a Mere Proxy for Use

United States Court of Appeals
for the Federal Circuit

Thus, Power Integrations argues, the law supports an award of damages for the lost foreign sales which Power Integrations would have made but for Fairchild's domestic infringement.

2011-1218, -1238

Appeals from the United States District Court for the District of Delaware in case No. 04-CV-1371, *Marvell Technology Group, Ltd. v. Power Integrations, Inc.*, Leonard P. Stark.

Decided: March 26, 2013

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Case 2:09-cv-00290-NBF Document 829 Filed 03/25/13 Page 1 of 36

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

CARNEGIE MELLON UNIVERSITY,

Plaintiff,

TECHNOLOGY GROUP, LTD.,
PL SEMICONDUCTOR, INC.,

Defendants.

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

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

Marvell must use those methods during the sales cycle to achieve "design wins" that are a prerequisite to the sale of even a single chip.

The Court properly rejected that request because a "but-for" link between Marvell's infringement and CMU's damages is a proper for those damages and there can be more than one "but for" cause for a sale. *Id.*; see also *supra* note 11.

United States Court of Appeals
for the Federal Circuit

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If Marvell does not participate in the sales

cycle, use the patented methods and urge its customers to do the same, it makes no sales. Dr.

Bajorek's testimony and Marvell's SEC filings could not be clearer on this point, and Marvell presented nothing to the contrary. *See id.* Standing alone, this evidence demonstrates that

Marvell's sales "result from" its U.S. use of the patented methods.

Power Integrations: Tight Causal Nexus Required

United States Court of Appeals for the Federal Circuit

POWER INTEGRATIONS, INC.,
Plaintiff-Cross Appellant,

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.

Decided: March 26, 2013

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Slip Op. 38

Required Causal Nexus?

Case 2:09-cv-00290-NBF Document 876-1 Filed 05/03/13 Page 21 of 65

Customers Purchased Chips “Only” Because Of Patented Method

Case 2:09-cv-00290-NBF Document 672 Filed 11/29/12 Page 6 of 6

theory, are a proxy at least as reasonable as estimated hours of use. *see Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075, 1080-81 (Fed. Cir. 1983) or the sale of products entirely unrelated

Indeed, sales which arise *only* due to infringement, as in CMU's theory, are a proxy at least as reasonable as estimated hours of use.

examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Simon v. Weissmann*, 301 F. App'x 107, 116 (3d Cir. 2008) (quoting *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993)); (Docket Nos. 610, 614).

Therefore, Marvell's motion (Docket No. 496) is DENIED.

s/ Nora Barry Fischer
Nora Barry Fischer
U.S. District Judge

Date: November 29, 2012
cc/ecf: All counsel of record.

is a legitimate aid to the appraisal of the value of the patent at the time of the breach.”).
at 1333. Accordingly evidence of the usage of the patented technology to drive certain sales, can be a helpful to the jury in assessing the damage for infringement.

Dkt. 672, at 5-6

Injunction Analogy—Patented Method Drives Consumer Demand



“Sales lost to an infringing product cannot irreparably harm a patentee if consumers buy that product for reasons other than the patented feature. *If the patented feature does not drive the demand for the product, sales would be lost even if the offending feature were absent from the accused product.* Thus, a likelihood of irreparable harm cannot be shown if sales would be lost regardless of the infringing conduct.”

Apple Inc. v. Samsung Elecs. Co., Ltd., 678 F.3d 1314, 1324 (Fed. Cir. 2012).

Injunction Analogy—Patented Method Drives Consumer Demand



“The causal nexus requirement is not satisfied simply because removing an allegedly infringing component would leave a particular feature, application, or device less valued or inoperable. A laptop computer, for example, will not work (or work long enough) without a battery, cooling fan, or even the screws that may hold its frame together, and its value would be accordingly depreciated should those components be removed. That does not mean, however, that every such component is ‘core’ to the operation of the machine, let alone that each component is the driver of consumer demand.”

Apple Inc. v. Samsung Elecs. Co., Ltd., 695 F.3d 1370, 1376 (Fed. Cir. 2012).

EMVR Analogy—Patented Method Drives Consumer Demand



“LaserDynamics failed to present evidence showing that the patented disc discrimination method ***drove demand*** for the laptop computers. It is ***not enough*** to merely show that the disc discrimination method is viewed as ***valuable, important, or even essential*** to the use of the laptop computer. . . . ***[P]roof that consumers would not want a laptop computer without [its many] features is not tantamount to proof that any one of those features alone drives the market for laptop computers.***”

LaserDynamics Inc. v. Quanta Comp., Inc., 694 F.3d 51, 68 (Fed. Cir. 2012).

Testimony of Dr. Bajorek

CMU Failed to Satisfy Causal-Nexus

4 Q. So it wasn't "must have" for Western Digital, Hitachi,
5 Fujitsu, or Toshiba; was it?

6 A. It was "must have" for Marvell. I don't know how they
7 would have characterized it, because I didn't, didn't study
8 the status of their technology and which other chips they had
9 at their disposal for use in the drives.

10 Q. So, I just want, want to go back. It was not "must
11 have" for Western Digital, Toshiba, Fujitsu, or Hitachi; was
12 it?

13 A. I don't know that, and I didn't testify to that effect,
14 and I just didn't want you to mischaracterize my testimony.

12/4/12 Tr. at 123:4-14

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.

3 Q. And so, was MNP ever a factor of any weight in your
4 decision to procure read channel chips from Marvell?

5 A. No. It was not. My focus was to ensure that we were
6 seeing improvements in data rate capability and SNR, and as
7 long as we were seeing some roadmap to achieve those features,
8 that was adequate for my purposes.

12/13/12 Tr. at 159:3-8

21 Q. So, as the person that was selecting the chip
22 suppliers, can you tell us whether MNP, or NLV/NLD were a
23 factor at all in the sales from Marvell to Western Digital
24 during the time that you were responsible?

25 A. No, it was not.

12/13/12 Tr. at 164:21-25

3 Q. Now, do you recall in your position, learning what the
4 results were of Western Digital's evaluation of the first read
5 channel chips from Marvell that had this MNP?

6 A. Yes, I do.

7 Q. Can you tell us what you recall about that?

8 A. Actually, that was one of the difficult points in my
9 dealings with Marvell, because Marvell had claimed this
10 specific feature was going to provide us with a signal to
11 noise ratio improvement, and our evaluation, that did not bear
12 out. We did not see any improvement as a result of that
13 feature.

12/13/12 Tr. at 160:3-13

Testimony of Mr. Baqai

CMU Failed to Satisfy Causal-Nexus

23 Q Okay. It's dated May 1, 2003. And so as of that time
24 did you have an understanding in the position that you've told
25 us about, about whether MNP was a benefit to Western Digital?

1 A Yes, I do, that we -- that we concluded, based on our
2 evaluation, that this particular feature did not add any value
3 in terms of SNR gain for us.

12/13/12 Tr. at 173:23-174:3

18 Q Yes. When the transition was made from read channel
19 chips to SOC chips, what was your opinion during that time
20 frame, from 2003 to the end of 2005, as to whether there was
21 value to Western Digital in MNP and NLV?

22 A I continued to have the same opinion that MNP did not
23 provide any benefits in terms of its SNR performance to us.
24 So, hence, it was of no use as far as that feature is
25 concerned.

12/13/12 Tr. at 176:18-25

9 Q Did you have a view as to what Western Digital would be
10 willing to pay at that time for MNP?

11 A I specifically requested --

12 MR. McELHINNY: Objection.

13 THE COURT: Overruled.

14 MR. MADISON: You may answer, sir.

15 THE COURT: Go ahead.

16 THE WITNESS: I specifically requested Marvell to
17 re-move MNP feature out of our read channel devices that they
18 were providing us, so obviously to me because the feature did
19 not offer any -- any tangible benefit. I was totally in
20 support of taking that feature out of our devices, so I would
21 not want to pay anything for something that is not accruing
22 any benefit to me.

12/13/12 Tr. at 177:9-22

Testimony of Mr. O'Dell

CMU Failed to Satisfy Causal-Nexus

7 || A Yes. Several of the customers reacted very negatively
8 || to the MNP.

12/17/12 Tr. at 225:7-8

13 || Q Did Marvell consider removing the MNP from its chips?

14 || A We were requested to remove it by several customers,
15 || but we ultimately decided that it would be not a good thing to
16 || do for our customers and for the company as well.

12/17/12 Tr. at 225:13-16

17 || Q Did Marvell win any sales because of the MNP or NLD?

21 || THE WITNESS: No.

12/17/12 Tr. at 228:17, 228:2121

Testimony of Dr. Bajorek

CMU Failed to Satisfy Causal-Nexus

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. 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. at 9-12

Jury Instructions

No Evidence or Finding of Sales in the U.S.

1 Marvell cannot be found to have directly or
2 indirectly infringed in connection with chips that are never
3 used in the United States. To the extent, however, that
4 Marvell achieved sales resulting from Marvell's alleged
5 infringing use during the sales cycle, you may consider them
6 in determining the value of the infringing use.

12/21/12 Tr. at 63:1-6

No Evidence or Finding of Sales in the U.S. For Chips Used Abroad

Case 2:09-cv-00290-NBF Document 762 Filed 12/26/12 Page 4 of 9

12. Has CMU proven by a preponderance of the evidence that Marvell has contributed to the infringement, by at least one of its customers or an end user, of Claim 4 of the '839 Patent in the United States with the following products?

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United States with the following products?

"Yes" finds for CMU and "No" finds for Marvell.

MNP-Type chips	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
NLD-Type chips	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>

Proceed to Question #14.

14. Has CMU proven by a preponderance of the evidence that Marvell has contributed to the infringement, by at least one of its customers or an end user, of Claim 2 of the '180 Patent in the United States with the following products?

14. Has CMU proven by a preponderance of the evidence that Marvell has contributed to the infringement, by at least one of its customers or an end user, of Claim 2 of the '180 Patent in the United States with the following products?

Jury Instructions

Failed to Enforce Causal-Nexus Requirement

1 Marvell cannot be found to have directly or
2 indirectly infringed in connection with chips that are never
3 used in the United States. To the extent, however, that
4 Marvell achieved sales resulting from Marvell's alleged
5 infringing use during the sales cycle, you may consider them
6 in determining the value of the infringing use.

12/21/12 Tr. at 63:1-6

Royalty Base: Remittitur Based on CMU's Estimates of Chips Used in the U.S.

Number of Chips Used in the U.S. According to CMU	Disputed Royalty Rate	JMOL/Remittitur
556,812,091	\$0.50	\$278,406,045
329,297,798	\$0.50	\$164,648,899

Testimony of Ms. Lawton

Base of 556,812,091 U.S. Chips is Unsupported

25 Q. How did you do the estimate of the number of chips
1 import into the US?

2 A. I relied on industry analyst data regarding the number
3 of PC's that are imported into the United States, as the
4 number of PC's imported to the United States, as the vast
5 majority of the hard drives that end up in the United States.

12/10/12 Tr. at 164:25-165:5

Base of 556,812,091 U.S. Chips is Unsupported

United States Court of Appeals for the Federal Circuit

POWER INTEGRATIONS, INC.,
Plaintiff-Cross Appellant,

As a result, Dr. Troxel's assumption that all purported U.S. sales included infringing circuits amounts to pure speculation. Although direct evidence of infringement is not required, we consistently require that the record demonstrate something more than speculation that infringing activity has occurred.

Decided: March 26, 2013

FRANK E. SCHERKENBACH, Fish & Richardson P.C., of Boston, Massachusetts, argued for plaintiff-cross appellant. With him on the brief were CRAIG E. COUNTRYMAN, of San Diego, California, and HOWARD G. POLLACK and MICHAEL R. HEADLEY, of Redwood City, California.

BLAIR M. JACOBS, McDermott Will & Emery LLP, of Washington, DC, argued for defendants-appellants. With

Slip Op. 43

Base of 556,812,091 U.S. Chips is Unsupported

United States Court of Appeals for the Federal Circuit

POWER INTEGRATIONS, INC.,
Plaintiff-Cross Appellant,

In sum, Dr. Troxel did not present evidence linking Samsung's mobile phone sales data to Fairchild's infringing power circuits, other than to say that Fairchild sold its infringing components to Samsung. There is no evidence that the imports of Samsung products included chargers, nor is there evidence that any included chargers incorporated Fairchild's infringing circuits. Accordingly, the amount of the district court's remittitur is not supported by substantial evidence, and we hold that the district court erred in relying on Dr. Troxel's inherently speculative 18% figure.

Washington, DC, argued for defendants-appellants. With

Slip Op. 47

1 Q. Okay. Now, you also did a second calculation in
2 addition to that, that wasn't presented either to the jury,
3 which was based on the numbers of Marvell's four largest
4 actual customers reporting what the chips they have imported
5 into the US; is that right?

6 A. Yes. The chips that they, as companies, have imported
7 into the United States.

12/10/12 Tr. at 208:1-7

12 Q. Now, this is another number that was not discussed on
13 your direct; is that right, Miss Lawton?

14 A. Yes. This is another analysis that I undertook. It's
15 a secondary analysis on the US sales.

16 Q. Okay. But it is one of your --

17 A. Sorry, the chips that were imported into the US.

12/10/12 Tr. at 208:12-17

- “Excess profits” analysis fails to value the patented method.
- “Operating profit premium” analysis based on unrepresentative data set and fails to value the patented method.
- Non-infringing alternatives not taken into account.
- No evidence supports a running royalty.
- Royalty rate of \$.50 plainly excessive in light of the uncontroverted evidence at trial.

“Excess Profits” Analysis Fails to Value the Patented Method

7 Q Okay. And when you're speaking of excess profits, you
8 mean any amount of money that Marvell makes over its goal of
9 50 percent; is that putting it basically, right?

10 A Right, the dollar amount of gross margin that's over
11 the fifty percent gross margin target.

12/10/12 Tr. at 242:7-11

“Excess Profits” Analysis Fails to Value the Patented Method

19 Q Okay. So, Miss Lawton, having taken a look at your
20 testimony under oath in the deposition, do you recall now that
21 you answered "right" to the question: The non-accused SOC
22 products had better gross margins than the accused SOC
23 products, is that right? And you answered right, is that
24 correct?

25 A Yes.

12/10/12 Tr. at 240:19-25

“Excess Profits” Analysis Fails to Value the Patented Method

12 Q Okay. And that is the case even though you've
13 testified also in that deposition that that amount -- the rest
14 of those profits where they go over their goal or their hope
15 of getting over 50 percent is not necessarily attributable to
16 the patented technology; is that correct?

17 A Right. I'm not saying it's directly related.

12/10/12 Tr. at 242:12-17

12 A The excess profits analysis goes to the issue of what
13 does Marvell say is adequate profit for its business. And, in
14 fact, Dr. Armstrong testified that if they achieved a
15 50 percent gross margin in storage, that they would be doing
16 their jobs really, really well in terms of both price and
17 cost. So that's a benchmark -- a relevant benchmark as to
18 what we call the adequate return.

19 What is the adequate return? What kind of profits do I
20 have to earn in my business in order to make it worth my
21 while? And Dr. Armstrong's testimony was fifty percent. And
22 so that's everything, that's all in, that's -- that's
23 everything Marvell does. They get a fifty percent gross
24 margin, they're good.

12/10/12 Tr. at 259:12-24

"Operating Profits" Analysis Based on Unrepresentative Data Set

1 | dollar, Marvell's accounting records show that there were
2 | 9,855 chips that Maxtor paid the One dollar price delta for.

12/10/12 Tr. at 105:1-2

25 | Q Yes, ma'am. And then in terms of computing the one
1 | dollar price premium that you told the jury about, you based
2 | that on 9,855 chips out of that entire 2.3 billion?

3 | A Yes.

4 | Q So the number of chips that that price premium is based
5 | on is .0004 percent, is that right?

6 | A If your math is correct, that would be correct, yes.

7 | Q Thank you, thank you.

12/10/12 Tr. at 246:25-247:7

"Operating Profits" Analysis Based on Unrepresentative Data Set

19 Now, you presented no testimony to this jury and you
20 have no figures in your report, do you, that Western Digital
21 by far on this chart Marvell's largest customer, ever paid a
22 dollar price premium; do you?

23 A There -- they didn't. They weren't a customer that was
24 in that window of transition on those two parts that are the
25 only two parts that are available for this type of comparative
1 analysis.

2 Q Well, let's just be clear for the jury. They bought
3 half of the MNP and NLD units up on your calculations taken
4 from Table 2B, is that right?

5 A That's right.

12/10/12 Tr. at 244:19-245:5

“Operating Profits” Analysis Based on Unrepresentative Data Set

7 Now, do you recall testimony that was played by CMU,
8 your side of the room, on Western Digital from Mr. Brennan in
9 which he said that not only did Western Digital not pay a
10 dollar premium or a 72 cent premium, but this customer at
11 almost 50 percent of Marvell's sales wanted a price reduction
12 because the MNP was in it?

13 A I remember that testimony, yes.

12/10/12 Tr. at 245:7-13

“Operating Profits” Analysis Based on Unrepresentative Data Set

Second Update to Lawton Report, Table 2B

End Customer	MNP/NLD Units	% of Total
Fujitsu	165,223,758	7.06
Hitachi	111,618,446	4.77
Maxtor	8,710,931	0.37
Samsung	381,776,541	16.32
Seagate	159,544,715	6.82
Toshiba	408,973,372	17.49
Western Digital	1,101,968,995	47.12
Other Customers	463,784	0.01
Total	2,338,280,542	100%

Table 2B

CL-11

"Operating Profits" Analysis Based on Unrepresentative Data Set

16 to be ambivalent. On this slide right here, Maxtor -- just to
17 be clear -- is the only one of these customers, Miss Lawton,
18 who, during the sample chip sale, had the one dollar
19 differential between the chip with the MNP and the one without
20 it; is that correct?

21 A Based on the entirety of Marvell's data and the data
22 available for analysis, that's true, yes.

23 Q So that's a yes.

24 A Yes.

25 Q Thank you. But you still applied the 50 cent royalty
1 to Fujitsu, to Hitachi, to Samsung, to Seagate, to Toshiba and
2 to Western Digital. All those -- all those \$2.3 billion
3 sales, is that correct? The 50 cents is supposed to apply
4 you're telling this jury all the way across.

5 A Yes, to all 2.34 billion chips.

12/10/12 Tr. at 244:19-245:5

“Operating Profits” Analysis Based on Unrepresentative Data Set

6 A. Dr. Armstrong talked about how price varies from chip
7 to chip. It depends on a lot of different factors. But one
8 of the big things to consider is data rate. So, you need to
9 know what the data rate of the chip is, because the price
10 going to vary based on data rate. And the price also varies
11 based on packaging. So you got to know what the packaging is
12 for the particular chip. And the price will also vary by
13 customer. So you need to know who the customer is. And the
14 price will vary based on time. So you need to know what the
15 time is.

12/10/12 Tr. at 88:6-15

“Operating Profits” Analysis Based on Unrepresentative Data Set

Category	Customer	Infringing Chip	Infringing Chip Sales Price	Sales Price Delta	Sales Price Delta %	Gross Margin Delta	Est. Operating Profit Delta
Quote & Sales Data	Maxtor	88C7500MA1-LFE-C00E (1300 Mhz)	\$ 5.95	\$ 1.00	17%	\$ 0.86	\$ 0.72
	Maxtor	88C7500MB0-LAE1C00E (1300 Mhz)	\$ 5.95	\$ 1.00	17%	\$ 0.86	\$ 0.72
	Maxtor	88C7500MA1-LFE-C00T-M140 (1500 Mhz)	\$ 6.40	\$ 1.00	16%	\$ 0.86	\$ 0.72
	Maxtor	88C7500M (1300 Mhz)	\$ 5.65	\$ 0.70	12%	\$ 0.57	\$ 0.47
	Maxtor	88C7500M (1500 Mhz)	\$ 6.10	\$ 0.70	11%	\$ 0.57	\$ 0.47
Sales Data Only	Toshiba	88C5575MA3-TJC-C000	\$ 2.70	\$ 0.10	4%	\$ 0.07	\$ 0.06

Maxtor	88C7500MA1-LFE-C00E (1300 Mhz)	\$ 5.95	\$ 1.00	17%	\$ 0.86	\$ 0.72
Maxtor	88C7500MB0-LAE1C00E (1300 Mhz)	\$ 5.95	\$ 1.00	17%	\$ 0.86	\$ 0.72
Maxtor	88C7500MA1-LFE-C00T-M140 (1500 Mhz)	\$ 6.40	\$ 1.00	16%	\$ 0.86	\$ 0.72
Toshiba	88C5575MA3-TJC-C000	\$ 2.70	\$ 0.10	4%	\$ 0.07	\$ 0.06

Table 13

Testimony of Ms. Lawton

Non-infringing Alternatives Not Taken into Account

15 Q Let me just move on, Ms. Lawton. Instead of developing
16 their own solution in-house, in the company at Marvell,
17 Marvell could have also licensed some other companies'
18 technology for dealing with media noise, correct? That's a
19 choice companies sometimes make, correct?

20 A Yes.

21 Q Thank you. And it was your testimony I think on Friday
22 that you would need more facts to determine whether Marvell
23 could have used the proprietary design of another company, is
24 that right?

25 A Yes.

12/10/12 Tr. at 15-25

Running Royalty of \$.50 Against the Weight of the Evidence

CARNEGIE-MELLON UNIVERSITY
MAGNETICS TECHNOLOGY CENTER
ASSOCIATES AGREEMENT

This Agreement is made this 18th day of July, 1983, by and

This Agreement is made this 18th day of July, 1983, by and between Carnegie-Mellon University (hereinafter referred to as the "University") and International Business Machines Corporation (hereinafter referred to as the "Corporation").

Whereas the University seeks to have those entities who have

twelve months following its payment. The annual fee of \$250,000 is guaranteed for three years for those entities becoming Associates prior to August 1, 1983. Fees after August 1, 1983, for new Associates will in no event be less than \$250,000 per annum.

Running Royalty of \$.50 Against the Weight of the Evidence

CARNEGIE MELLON UNIVERSITY
DATA STORAGE SYSTEMS CENTER
ASSOCIATES AGREEMENT

THIS AGREEMENT is made this 1st day of October, 1992, by and

THIS AGREEMENT is made this 1st day of October, 1992, by and between Carnegie Mellon University (hereinafter referred to as the "University") and SEAGATE TECHNOLOGY (hereinafter referred to as the "Corporation").

to primarily address research problems in data storage technology and,

The annual fee of \$250,000 per year is guaranteed for five years.

association.



Running Royalty of \$.50 Against the Weight of the Evidence

June 9, 1993

CARNEGIE MELLON UNIVERSITY
DATA STORAGE SYSTEMS CENTER
ASSOCIATE MEMBER AGREEMENT



THIS AGREEMENT is made this 30th day of June, 1993, by and between Carnegie Mellon University (hereinafter referred to as the "University") and Minnesota Mining and Manufacturing Company, having its principal place of business at 3M Center, Saint Paul, Minnesota 55144 (hereinafter referred to as "3M").

WHEREAS, 3M is interested in becoming an Associate Member of the Center, contributing to the financial support of the research,

and

The annual fee of \$250,000 per year is guaranteed for three years.

payments due after the termination date shall be cancelled and the right to retain and use reports and other information earlier provided to 3M shall survive.

2. In exchange for said sum, the University, during such time as 3M remains an Associate Member in said Center, agrees to make available to 3M the following:

SUBSCRIPTION AGREEMENT

Effective as of July 27, 2004 (the "Effective Date"), Carnegie Mellon University, a not-for-profit educational institution located at 5000 Forbes Avenue, Pittsburgh, Pennsylvania 15213 ("University"), and Intel Corporation, a Delaware corporation, having a principal place of business at 2200 Mission College Blvd., Santa Clara, California 95052, enter into this Subscription Agreement ("Agreement") and agree as follows:

Effective as of July 27, 2004 (the "Effective Date"), Carnegie Mellon University, a not-for-profit educational institution located at 5000 Forbes Avenue, Pittsburgh, Pennsylvania 15213 ("University"), and Intel Corporation, a Delaware corporation, having a principal place of business at 2200 Mission College Blvd., Santa Clara, California 95052, enter into this Subscription Agreement ("Agreement") and agree as follows:

2.2 "Confidential Information" means any written disclosure of information, which is identified as "confidential" at the time of disclosure, which is not publicly disclosed or otherwise in the public domain and is provided to Intel by University. Examples include invention disclosures, unpublished papers, and patent applications before issuance.

2.3 "Excluded Patent" means:

- (a) Any Patent to which University has granted to a third party an Exclusive License; or
- (b) Any Patent for which University is in active and good faith negotiations to grant to a third party an Exclusive License; or
- (c) Any Patent for which University is, in good faith, pursuing the technology, and seeking third parties for purposes of entering into negotiations of the type set forth in Section 2.3(b), including situations where University is considering licensing a Patent to a start-up entity yet to be created; or

COPY

Intel CMU Subscription Agreement FINAL

CONFIDENTIAL

2 Q And so those, if they were put into the pool, they'd be
3 available to Intel for a one time royalty payment of \$200,000.

4 Correct?

5 A Yes.

6 Q And in the opening you probably heard me describe that
7 as out-the-door license, fees, registration, tax, everything.
8 One time, \$200,000; Intel now has a license to it. Correct?

9 A Yes.

12/5/12 Tr. at 184:2-9

Running Royalty of \$.50 Against the Weight of the Evidence

> To: Anthony Gillespie
 > Cc: 'Aleksander Kavcic'; Carl Mahler
 > Subject: Re: Intel University Subscription Program at Carnegie Mellon
 > University
 >
 > Anthony
 > any reason you did not include in this deal the other patent # 6,201,839
 > issued March 13, 2001, "Methods and apparatus for correlation-sensitive
 > adaptive sequence detection"?
 >

> any reason you did not include in this deal the other patent # 6,201,839
 > issued March 13, 2001, "Methods and apparatus for correlation-sensitive
 > adaptive sequence detection"?
 >
 > The inventors are the same (Kavcic and Moura) and we both would like
 > this included.

>> SUBJECT: Intel University Subscription Program at Carnegie Mellon
 >> University
 >>
 >> We are pleased to announce that Intel has selected Carnegie Mellon as
 >> one of only eight schools[1] <#_ftn1> to be a part of their University
 >> Subscription Program. Carnegie Mellon was selected because they
 >> consider the research developed by our faculty and staff in the areas
 >> of engineering and computer science to be outstanding and among the
 >> best in the nation. Intel is making this investment because it will
 >> offer an opportunity for them to develop a closer interaction with
 >> Carnegie Mellon and allow them to obtain a license for our
 >> technologies by using a simple, pre-negotiated licensing process with
 >> a one-time, upfront cash fee. For our inventors, the advantage of this
 >> program is that it will offer an increased opportunity to license your
 >> inventions to Intel.
 >>
 >> The following is a summary of the terms and conditions for the Intel
 >> University Subscription Program:
 >>
 >> . Carnegie Mellon will create a pool of patents to be offered to Intel

Confidential

KAVCIC010207

Running Royalty of \$.50 Against the Weight of the Evidence

From: Aleksandar Kavcic
 To: Jose' M. F. Moura
 Cc:
 Bcc:
 Subject: RE: Intel University Subscription Program at Carnegie Mellon University.

Sent: 2/15/2005 10:43 AM.

Hi Jose,

The only thing that I find strange is that the patent that is included is a sequel to the patent that is excluded. Please feel free to convey this opinion, but I will not get into the discussions myself.

Hi Jose,

The only thing that I find strange is that the patent that is included is a sequel to the patent that is excluded. Please feel free to convey this opinion, but I will not get into the discussions myself.

Cheers
 Alek

> consulted with Ed concerning regarding which DSSC patents to
 > include on the
 > listing and as a subsequent step checked with the lead inventors. As part
 > of this process, Ed suggested that we should only initially
 > include some of
 > the DSSC patents to see what level of interest Intel has in the DSSC
 > inventors and to help encourage them to join the DSSC. This is the reason
 > why the 6,438,180 patent on the list, while the 6,201,839 is not.
 >
 > If you and Aleksander still feel that we should include on the
 > list, please
 > let me know.
 >
 > Thanks,
 > Anthony
 >
 > -----Original Message-----
 > From: Jose' M. F. Moura [mailto:moura@ece.cmu.edu]
 > Sent: Tuesday, February 15, 2005 9:27 AM

Confidential

KAVCIC010206

DX-263

10 Q. Well, the letters says, if you find the attached
11 patents to be of interest, please feel free to contact me.

12 So, let's say "taker", would be somebody who has an
13 interest in the '180 and '839 patents, and calls Mr. Mahler,
14 says, I'm interested. Let's talk. That's our definition of,
15 taker. 14 letters to seven companies, not one taker; right?

16 A. Yes.

12/5/12 Tr. at 169 at 10-16

6 Q. How much in royalty income -- if we were to go back to
7 those annual reports, how much money in royalty income has
8 been generated from licenses with companies that specifically
9 want a license in the '180 or '839 patents, and are using the
10 invention? It's the same answer, isn't it; zero, not one
11 dollar. Right?
12 A. Right.

12/5/12 Tr. at 132 at 6-12

Running Royalty of \$.50 Against the Weight of the Evidence

1	A	B	C	D	E	F	G	H
2	Highly Speculative Income Streams v1.0 1-16-06							
3								
4	Technology	Company	Licensee	Economic Value	Expected Ann. Royalties	Key Hurdle	Status	Project's Start of \$
5	ATRP	PPG	Y	\$75k for 1st addition, \$75k for 1st component, \$150k for 1st product, \$150k for 1st unit, etc.	\$ 5,000,000.00	ATRP was copied, it is a product of the PPG and for PPG (not for ATP)	New Biosecure Incubator is needed to take the level of C to be 100% - 1,000,000	2008

A Highly Speculative Income Streams v1.0 1-16-06

17		Client	N	\$25kg	\$ 7,000,000.00	Licensee, royalty based upon 50% of one bag's weight, it could be 2x or 4x that amount	Client evaluating cost market	2009
18								

Marvel	N		\$2,000,000.00	Possible Infringement
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Exhibit
Witness
Date *1/16/06* Rpt. *AKF*
AKF

DX-272

Running Royalty of \$.50 Against the Weight of the Evidence

	A	B	C	D	E	F
1	Highly Speculative Income Streams v1.5 01-19-07					
2	expenses as of 12/31/06					
3	Technology	Company	Licensed?	Economic Terms	Expected Ann. Royalties	Key Risks
4	ATRP	Dionex	Y	5% running	\$700,000	Incorporation of ATRP into chromatography columns
5	Dragon Runner	Automatix	Y	running royalty	\$ 50,000.00	price and terms for negotiations with UNO

1 Highly Speculative Income Streams v1.5 01-19-07

16	Hard Disk Head Spindle Reduction	Marvell	N		\$2,000,000.00	Possible Infringement
17	Lyons Patent	Marvell	N	used time	\$ 2,000,000.00	Possible Infringement
18	WU Perfusion Imaging	General Electric	Y	IA with U-Parm	\$ 200,000.00	GE sales

Marvell	N		\$2,000,000.00	Possible Infringement
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DX-299-00002

Remittitur to Avoid Excessive and Unsupported Running Royalty Rate

Potential Bases for Remittitur	Calculation	JMOL/Remittitur
Lump sum: Intel subscription agreement	\$200,000 x 2 patents	\$400,000
Lump sum: “Best-case” licensing projection	\$2,000,000 x 10 years	\$20,000,000
Running Royalty: Pricing to representative customers with lower estimate of U.S. chips	\$.03/chip x 329,297,798 chips	\$9,878,934
Running Royalty: Pricing to representative customers with higher estimate of U.S. chips	\$.03/chip x 556,812,091 chips	\$16,704,363
Running Royalty: Pricing to representative customers with U.S. and foreign chips	\$.03/chip x 2,338,280,542 chips	\$70,148,416