

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

CARNEGIE MELLON UNIVERSITY,  
5000 Forbes Avenue, Pittsburgh, PA 15213,

Plaintiff,

v.

MARVELL TECHNOLOGY GROUP, LTD.,  
Canon's Court  
22 Victoria Street  
Hamilton HM 12, Bermuda,

and

MARVELL SEMICONDUCTOR, INC.,  
5488 Marvell Lane  
Santa Clara, CA 95054.

Defendants.

Civil Action No.

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Carnegie Mellon University, by its undersigned counsel, K&L Gates LLP, files this Complaint against the Defendants Marvell Technology Group, Ltd. and Marvell Semiconductor, Inc. (collectively "Marvell" or "Defendant").

**NATURE OF THE ACTION**

1. This action arises under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.*, from the Defendant's direct infringement and indirect infringement of United States Patent No. 6,201,839 B1 ("the '839 patent") and United States Patent No. 6,438,180 B1 ("the '180 patent") (collectively, the "Patents").

## **PARTIES**

2. Plaintiff Carnegie Mellon University (“CMU”) is a Pennsylvania not-for-profit corporation with its principal place of business at 5000 Forbes Avenue, Pittsburgh, PA 15213.

3. CMU is a global research university of more than 10,000 students, 70,000 alumni, and 4,000 faculty and staff.

4. CMU has been recognized for its world-class arts and technology programs, collaboration across disciplines, and innovation leadership in education.

5. CMU is consistently one of the top-ranked universities in the United States according to the U.S. News & World Report’s “Best Colleges” rankings.

6. Defendant Marvell Technology Group, Ltd. (“MTGL”) is a Bermuda corporation with a place of business listed at Canon’s Court, 22 Victoria Street, Hamilton HM 12, Bermuda. Notwithstanding the foregoing, MTGL’s headquarters is in Santa Clara, California, and through its officers, employees, agents and subsidiaries, transacts business throughout the United States, including this District.

7. Defendant Marvell Semiconductor, Inc. (“MSI”) is a California corporation with its principal place of business at 5488 Marvell Lane, Santa Clara, CA 95054. According to public filings with the Securities Exchange Commission (“SEC”), MSI is a wholly owned subsidiary of MTGL. MSI specializes in the design, development, sale, and marketing of high performance, mixed signal and digital integrated circuits aimed at the high speed computer, storage, communications, and multimedia markets. In addition, MSI designs and develops products for a number of MTGL’s other subsidiaries, specifically including, Marvell International, Ltd. and Marvell Asia Pte Ltd.

## **JURISDICTION AND VENUE**

8. This is an action for patent infringement arising under the patent laws of the United States 35 U.S.C. § 271.

9. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331, 1332 and 1338(a).

10. This Court has personal jurisdiction over the Defendant because, among other things, the Defendant, either directly or through its respective agents, has minimum contacts with this forum as a result of business regularly conducted within the Commonwealth of Pennsylvania and within the Western District of Pennsylvania (“this District”), which business activities introduce products and/or components of products into the stream of commerce that infringe the Patents.

11. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b)-(c) because the Defendant resides in this judicial district and, separately, pursuant to 28 U.S.C. § 1400(b) because the Defendant has committed acts of infringement in this judicial district.

#### **COUNT I – INFRINGEMENT OF THE '839 PATENT**

12. CMU realleges and incorporates herein paragraphs 1-11 above as if fully set forth herein.

13. On March 13, 2001, the United States Patent and Trademark Office (“USPTO”) issued the '839 patent, entitled “Method and Apparatus for Correlation-Sensitive Adaptive Sequence Detection,” with Aleksandar Kavcic and José M. F. Moura named as inventors. A true and correct copy of the '839 patent is provided at Exhibit A.

14. CMU is the owner of the '839 patent by assignment.

15. Marvell is now and/or has been directly, indirectly, contributorily, and/or by inducement infringing the '839 patent, literally and/or under the doctrine of equivalents, as proscribed by 35 U.S.C. § 271, *et seq.*, by, without permission or authority from CMU, importing into the United States, and selling, offering to sell, making, using, contributing to others' use and sale of, and/or inducing others to use and sell within the United States, including this District, products and/or components of products and/or services that infringe at least one claim of the '839 patent, including but not limited to read-channel integrated circuit devices, or

products that incorporate read-channel integrated circuit devices, including but not limited to Marvell's 88C3000, 88C3100, 88C4200, 88C4300, 88C5500, 88C5520, 88C7500, 88C7500M, and 88i5520 series of products and/or any additional Marvell hardware and/or software components that incorporate or implement noise predictive detection including, but not limited to, pattern dependent noise prediction, signal dependent noise prediction, data dependent noise prediction, and/or branch label noise prediction, for detecting data stored on a hard-disk drive.

16. Marvell is not, and has not been at any time, licensed under the '839 patent.

17. Upon information and belief, Marvell's foregoing acts of infringement have been and continue to be willful and deliberate.

18. CMU has been damaged by the foregoing acts of infringement of its patents by the Defendant and will continue to be damaged by such infringement unless enjoined by this Court.

## **COUNT II - INFRINGEMENT OF THE '180 PATENT**

19. CMU realleges and incorporates herein paragraphs 1-11 above as if fully set forth herein.

20. On August 20, 2002, the USPTO issued the '180 patent, entitled "Soft and Hard Sequence Detection in ISI Memory Channels," with Aleksandar Kavcic and José M. F. Moura named as inventors. A true and correct copy of the '180 patent is provided at Exhibit B.

21. CMU is the owner of the '180 patent by assignment.

22. Upon information and belief, Marvell is now and/or has been directly, indirectly, contributorily, and/or by inducement infringing the '180 patent, literally and/or under the doctrine of equivalents, as proscribed by 35 U.S.C. § 271, *et seq.*, by, without permission or authority from CMU, importing into the United States, and selling, offering to sell, making, using, contributing to others' use and sale of, and/or inducing others to use and sell within the United States, including this District, products and/or components of products and/or services

that infringe at least one claim of the '180 patent, including but not limited to read-channel integrated circuit devices, or products that incorporate read-channel integrated circuit devices, including but not limited to Marvell's 88C3000, 88C3100, 88C4200, 88C4300, 88C5500, 88C5520, 88C7500, 88C7500M, and 88i5520 series of products and/or any additional Marvell hardware and/or software components that incorporate or implement noise predictive detection including, but not limited to, pattern dependent noise prediction, signal dependent noise prediction, data dependent noise prediction, and/or branch label noise prediction, for detecting data stored on a hard-disk drive.

23. Marvell is not, and has not been at any time, licensed under the '180 patent.

24. Upon information and belief, Marvell's foregoing acts of infringement have been and continue to be willful and deliberate.

25. CMU has been damaged by the foregoing acts of infringement of its patents by the Defendant and will continue to be damaged by such infringement unless enjoined by this Court.

### **RELIEF REQUESTED**

Wherefore, CMU respectfully requests that this Court enter judgment against Marvell as follows:

- A. That the '839 and '180 patents have been infringed by Marvell;
- B. That infringement of the '839 and '180 patents by Marvell has been willful;
- C. A preliminary and permanent injunction against further infringement of the '839 and '180 patents by Marvell;
- D. An award of damages sufficient to compensate CMU for the patent infringement that has occurred, together with pre-judgment interest and costs;

E. An award of all other damages permitted by 35 U.S.C. § 284, including increased damages up to three times the amount of compensatory damages found;

F. That this in an exceptional case and an award to CMU of its costs and reasonable attorneys' fees incurred in this action as provided by 35 U.S.C. § 285; and

G. Such other relief that this Court deems just and proper.

### **JURY DEMAND**

Pursuant to Federal Rule of Civil Procedure 38(b), CMU hereby demands a trial by jury on all issues triable of right by a jury

Respectfully submitted,

Dated: March 6, 2009

s/Patrick J. McElhinny  
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