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10 *Attorneys for Plaintiff*  
11 *Complex Memory LLC*

12 **UNITED STATES DISTRICT COURT**  
13 **NORTHERN DISTRICT OF CALIFORNIA**

14 COMPLEX MEMORY LLC,

15 Plaintiff

16 v.

17 WAVE COMPUTING, INC. and MIPS  
18 TECH., INC. a/k/a MIPS TECHNOLOGIES,  
19 INC.,

20 Defendants

**Case No.: 4:19-cv-4239-JST**

**FIRST AMENDED COMPLAINT  
FOR PATENT INFRINGEMENT**

**DEMAND FOR JURY TRIAL**

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1 Plaintiff Complex Memory LLC (“Complex Memory”), for its First Amended  
2 Complaint against Defendants WAVE Computing, Inc. (“Wave”) and MIPS Tech., Inc., a/k/a  
3 MIPS Technologies, Inc. (“MIPS”) (collectively, “Defendants”), hereby alleges as follows:

4 **PARTIES**

5 1. Plaintiff Complex Memory is a limited liability company organized and existing  
6 under the laws of the State of Texas, having its principal place of business at 17330 Preston  
7 Road, Suite 200D, Dallas, Texas 75252.

8 2. On information and belief, Defendant Wave is a Delaware corporation with a  
9 principal place of business at 300 Orchard City Drive, Campbell, CA 95008.

10 3. On information and belief, Defendant MIPS is a Delaware corporation with a  
11 principal place of business at 3201 Scott Boulevard, Santa Clara, CA 95054.

12 **JURISDICTION AND VENUE**

13 4. This is an action under the patent laws of the United States, 35 U.S.C. §§ 1, et  
14 seq., for infringement by Defendants of claims of U.S. Patent Nos. 6,658,576 and 8,140,872  
15 (“the Patents-in-Suit”).

16 5. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and  
17 1338(a).

18 6. Wave is subject to personal jurisdiction of this Court because, inter alia, on  
19 information and belief, (i) Wave is headquartered in the State of California, (ii) Wave maintains  
20 office locations in the State of California; (iii) Wave is registered to transact business in the State  
21 of California; and (iv) Wave has committed and continues to commit acts of patent infringement  
22 in the State of California, including by making, using, offering to sell, and/or selling accused  
23 products and services in California, and/or importing the Accused Products into California.

24 7. MIPS is subject to personal jurisdiction of this Court because, inter alia, on

1 information and belief, (i) MIPS is headquartered in the State of California, (ii) MIPS maintains  
2 office locations in the State of California; (iii) MIPS has listed an address in the State of  
3 California with the California Secretary of State; and (iv) MIPS has committed and continues to  
4 commit acts of patent infringement in the State of California, including by making, using,  
5 offering to sell, and/or selling accused products and services in California, and/or importing the  
6 Accused Products into California.  
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8 8. Venue is proper as to Wave in this district because, inter alia, on information and  
9 belief, Wave is headquartered in, and maintains a regular and established place of business, in  
10 this judicial district, and Wave has committed and continues to commit acts of patent  
11 infringement in this judicial district, including by making, using, offering to sell, and/or selling  
12 accused products and services in this district, and/or importing accused products and services  
13 into this district.  
14

15 9. Venue is proper as to MIPS in this district because, inter alia, on information and  
16 belief, MIPS is headquartered in, and maintains a regular and established place of business, in  
17 this judicial district, and MIPS has committed and continues to commit acts of patent  
18 infringement in this judicial district, including by making, using, offering to sell, and/or selling  
19 accused products and services in this district, and/or importing accused products and services  
20 into this district.  
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### 22 **BACKGROUND**

23 10. On March 20, 2012, the United States Patent and Trademark Office duly and  
24 lawfully issued U.S. Patent No. 8,140,872 (“the ’872 Patent”), entitled “Restoring Processor  
25 Context In Response To Processor Power-Up.” A copy of the ’872 Patent is attached as Exhibit  
26 A hereto.

27 11. On December 2, 2003, the United States Patent and Trademark Office duly and  
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1 lawfully issued U.S. Patent No. 6,658,576 (“the ’576 Patent”), entitled “Energy-Conserving  
2 Communication Apparatus Selectively Switching Between A Main Processor With Main  
3 Operating Instructions And Keep-Alive Processor With Keep-Alive Operating Instruction.” A  
4 copy of the ’576 Patent is attached as Exhibit B hereto.

5  
6 12. Complex Memory is the assignee and owner of the right, title, and interest in and  
7 to the Patents-in-Suit, including the right to assert all causes of action arising under said patents  
8 and the right to any remedies for infringement.

9 **NOTICE**

10 13. Defendants have had notice of the Patents-in-Suit at least as of the time of the  
11 filing of the original complaint in this action.

12 **COUNT I: INFRINGEMENT OF THE ’872 PATENT**

13 14. Plaintiff incorporates the preceding paragraphs as if fully set forth herein

14  
15 15. On information and belief, Defendants have infringed, and continue to infringe,  
16 the ’872 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by  
17 making, using, offering to sell, selling in the United States or importing into the United States  
18 MIPS interAptiv, proAptiv, microAptiv, M-Class M51xx, M-Class M62xx, P5600, and P6600  
19 processing systems, and development boards incorporating the above-mentioned processing  
20 systems, including the Malta development boards and the SEAD development boards (“Accused  
21 MIPS Products”).

22  
23 16. For example, on information and belief, Defendants infringe at least Claim 1 of  
24 the ’872 Patent by performing the claimed method, including during the development, design,  
25 testing, and verification of the Accused MIPS Products. Defendants execute, with a processor in  
26 an interAptiv Core, a first instruction in an instruction set. *See* Ex. 1, p. 30-32. Subsequent to  
27 said executing and before executing a next instruction in said instruction set following said first

1 instruction, and in response to detecting a command to remove a clock input from said processor,  
2 Defendants save context information from said processor's internal memory to a second memory  
3 and then remove power from said processor, such as during procedures described in "interAptiv  
4 Core Power Gating." *See* Ex. 1, p. 367-369. In response to returning power to said processor,  
5 Defendants restore said saved context information from said second memory to said internal  
6 memory before executing said next instruction. *See id.* Subsequent to said restoring, Defendants  
7 execute said next instruction. *See id.*

9       17. On information and belief, Defendants have induced, and continue to induce,  
10 infringement of the '872 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly  
11 inducing, directing, causing, and encouraging others, including, but not limited to, their partners,  
12 software developers, customers, distributors, and end users, to make, use, sell, and/or offer to sell  
13 in the United States, and/or import into the United States, the Accused MIPS Products by, among  
14 other things, providing instructions, manuals, and technical assistance relating to the integration,  
15 set up, programming, use, operation, updates, and maintenance of said products, such as  
16 hardware manuals, software manuals, and other technical documentation available on the Wave  
17 and/or MIPS websites.

19       18. On information and belief, Defendants have committed the foregoing infringing  
20 activities without a license.

21                   **COUNT II: INFRINGEMENT OF THE '576 PATENT**

22       19. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

23       20. On information and belief, Defendants have infringed the '576 Patent pursuant to  
24 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to  
25 sell, selling in the United States or importing into the United States the Accused MIPS Products.

26       21. For example, on information and belief, Defendants have infringed at least claim  
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1 25 of the '576 Patent by performing steps of an energy-conserving operating system, including  
2 during the development, design, testing, and verification of the Accused MIPS Products. For  
3 example, on information and belief, interAptiv platforms are energy-conserving operating  
4 systems. *See* Ex. 1 at p. 27 (“The interAptiv Multiprocessing System is a high performance  
5 multi-core microprocessor with best in class power efficiency for use in system-on-chip (SoC)  
6 applications.”). The Accused MIPS Products activate a set of keep-alive operating instructions  
7 for providing an energy-conserving operation that utilizes keep-alive microprocessor circuitry,  
8 such as the Cluster Power Controller. *Id.* at 27-28 and 41-42. If detecting a power-up signal, the  
9 Accused MIPS Products power up to provide a main operation that utilizes main microprocessor  
10 circuitry, such as the main processing CPUs. *Id.* The Accused MIPS Products power down to  
11 provide said energy-conserving operation in which said main microprocessor circuitry is  
12 deactivated, if detecting a power-down signal. In the Accused MIPS Products, said keep-alive  
13 operating instructions provide said energy-conserving operation requiring less computation  
14 power as compared with said main operating instructions. *Id.*

17 22. On information and belief, Defendants have induced infringement of the '576  
18 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing,  
19 and encouraging others, including, but not limited to, their partners, software developers,  
20 customers, distributors, and end users, to make, use, sell, and/or offer to sell in the United States,  
21 and/or import into the United States, the Accused Products by, among other things, providing  
22 instructions, manuals, and technical assistance relating to the integration, set up, programming,  
23 use, operation, updates, and maintenance of said products, such as hardware manuals, software  
24 manuals, and other technical documentation available on the Wave and/or MIPS websites.

26 23. Upon information and belief, Defendants have committed the foregoing infringing  
27 activities without a license.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff Complex Memory prays for the judgment in its favor against Defendants, and specifically, for the following relief:

- A. Entry of judgment in favor of Complex Memory against Defendants on all counts;
- B. Entry of judgment that Defendants have infringed the Patents-in-Suit;
- C. Award of compensatory damages adequate to compensate Complex Memory for Defendants' infringement of the Patents-in-Suit, in no event less than a reasonable royalty as provided by 35 U.S.C. § 284;
- D. Award of Complex Memory's costs;
- E. Pre-judgment and post-judgment interest on Complex Memory's award; and
- F. All such other and further relief as the Court deems just or equitable.

**DEMAND FOR JURY TRIAL**

Pursuant to Rule 38 of the Fed. R. Civ. P., Plaintiff Complex Memory hereby demands trial by jury in this action of all claims so triable.

Dated: December 26, 2019

Respectfully submitted,

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*Attorneys for Plaintiff  
Complex Memory LLC*