IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AVM TECHNOLOGIES, LLC, a Delaware Limited Liability Company, Plaintiff, v. INTEL CORPORATION, a Delaware Corporation, Defendant.	)	C.A. No. _____ **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

AVM Technologies, LLC hereby alleges for its complaint against Intel Corporation on personal knowledge as to its own activities and on information and belief as to the activities of others, as follows:

THE PARTIES

1. Plaintiff AVM Technologies, LLC ("AVM") is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business in Tigard, Oregon.

2. On information and belief, Defendant Intel Corporation ("Intel") is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in Santa Clara, California.

JURISDICTION

3. Jurisdiction is proper in this Court pursuant to 28 U.S.C. §§ 1331 and 1338(a), because this action arises under the patent laws of the United States, including, but not limited to, 35 U.S.C. §§ 271, 281, 284 and 285.

PERSONAL JURISDICTION AND VENUE

4. Personal jurisdiction and venue are proper in this Court pursuant to 28 U.S.C. §§ 1391(b)-(c) and/or 1400(b). Both generally and specifically in connection with the accused device, Intel has long-standing and substantial contacts with the State of Delaware and with this judicial district. Some but not all of these contacts are described herein.

5. Intel is a registered Delaware corporation, and thus resides in this district.

6. Through national advertising, Intel has deliberately placed its products, including the accused products, into the stream of commerce with the intent of exploiting business from the State of Delaware. Upon information and belief, Intel has facilitated and does facilitate offers for sale of processors and computers incorporating the accused products to individuals and businesses in the State of Delaware.

7. AVM previously asserted U.S. Patent No. 5,859,547 ("the '547 patent"), entitled "Dynamic Logic Circuit," against Intel in this Court, Civil Action No. 10-610-RGA. This Court issued a Memorandum Opinion regarding claim construction in that case on March 30, 2012 (Docket Item No. 148). The Court did not adjudicate infringement or invalidity in Civil Action No. 10-610-RGA. This case asserts the '547 patent against accused products that were not part of Civil Action No. 10-610-RGA.

GENERAL BACKGROUND

8. AVM owns by assignment the entire right, title, and interest in and to the '547 patent, which was duly and lawfully issued on January 12, 1999, a copy of which is attached as Exhibit A.

9. The ‘547 patent was invented by Joseph Tran and Mark Acuff, who were employees of Translogic Technology Inc. (“Translogic”) at the time they made the invention and assigned it to Translogic.

10. Translogic was founded by Mr. Tran in 1994 to provide semiconductor companies solutions for improving the performance, power consumption, and reliability of very small integrated circuits (submicron nanometer process). Translogic researched, tested, and licensed its proprietary solutions to semiconductor companies including well-known companies like Intel. Translogic established partnerships with some of the world’s largest semiconductor manufacturing foundries like Taiwan Semiconductor Manufacturing Company Limited (TSMC) and United Microelectronic Corporation (UMC), leading standard cell library providers like Aritisan and Virtual Silicon, and prominent intellectual property licensing companies like ARM Holdings Plc (ARM) and MIPS Computer System Inc (MIPS) to provide Translogic technology to their customers.

11. Mr. Tran was Chief Technology Officer of Translogic, which grew to over 30 employees in locations in California and Oregon. Translogic obtained numerous patents for its inventive solutions, including those useful for both static and dynamic logic circuits. Mr. Tran himself is an inventor or co-inventor on twelve U.S. patents, including the ‘547 patent.

12. The ‘547 patent is directed generally to implementing logic functions using high speed and low power dynamic logic circuits. The dynamic logic circuits of the ‘547 patent can provide multiple benefits over prior dynamic logic circuits, including but not limited to smaller size, reduced reliability problems associated with charge sharing, reduced power consumption, and/or higher speed operations. Moreover, the circuits of the’ 547 patent also can provide substantially constant power and substantially constant propagation delay. In one embodiment

of the invention, a dynamic logic circuit includes a dynamic logic block; a precharge transistor; an evaluation transistor between the dynamic logic block and the precharge transistor; and a delay coupled to the precharge transistor for simultaneously activating the precharge and evaluation transistors.

13. In 2006, Mr. Tran came across an article published by Intel entitled "Comparative Delay and Energy of Single Edge-Triggered & Dual Edge-Triggered Pulsed Flip-Flops for High-Performance Microprocessors," which describes technology similar to that disclosed in the '547 patent. Having previously licensed other Translogic technology to Intel, Mr. Tran contacted and met with Intel employees several times in 2006 to discuss a possible license to the '547 patent. Intel refused to enter into substantive discussions unless Translogic could show which specific Intel products infringed the '547 patent. Translogic did not have the resources or money to perform the extremely expensive infringement analyses demanded by Intel.

14. When Translogic wound down its business activities, Mr. Tran decided to obtain back from Translogic the rights to the '547 patent, and eventually all of his remaining Translogic patents, which were assigned to Plaintiff, AVM. Mr. Tran is President of AVM, which is a company he founded to, among other things, continue his research and development of his novel ideas for designing ultra-low power and very high speed logic circuitry and arithmetic processors for high performance semiconductor products.

GENERAL INFRINGEMENT ALLEGATIONS

15. Intel processors that include or are based upon Intel's Sandy Bridge core micro architecture design were first released in or around January 2011 and use a 32 nanometer process. The Sandy Bridge design includes circuitry that embodies dynamic logic circuits of the type claimed in the '547 patent, including but not limited to circuitry that comprises a dynamic logic

block, a precharge transistor, an evaluation transistor that is located between the dynamic logic block and the precharge transistor, and delay circuitry coupled to the precharge transistor. Upon information and belief, the delay circuitry causes the precharge and evaluation transistors to be simultaneously activated. The circuitry referenced in this paragraph is present in at least the core areas of Intel's Sandy Bridge design, including but not limited to 1) in one or more functional unit blocks (such as, e.g., upon information and belief, the register files, reservation stations, arithmetic logic unit, scheduler and/or caches), and/or 2) in the dynamic logic circuits that are associated with or function with one or more functional unit blocks. Upon information and belief, because of the advantages resulting from this circuitry, it is also present elsewhere in Intel's Sandy Bridge design.

16. On information and belief, the exemplary products listed in Exhibit B incorporate at least one Sandy Bridge design.

17. In general, the narrower the gate width of a transistor, the longer the activation time of the transistor and the greater the propagation delay of a signal that propagates through the transistor.

18. Upon information and belief, the delay circuitry in the infringing dynamic logic circuits includes transistors in the signal path leading to the pre-charge transistor that have narrower gate widths than the gate widths of the transistors in the path leading to the gate of the evaluation transistor. Therefore, the clock signal that triggers the precharge phase is delayed (*i.e.* takes longer to propagate) to the pre-charge transistor as compared to the evaluation transistor.

19. Upon information and belief, Intel processors that include or are based upon Intel's Ivy Bridge core micro architecture design also include infringing circuitry.

20. Upon information and belief, the Ivy Bridge design, which was released in or around April 2012, has substantially identical core areas as those of the Sandy Bridge design, except that the Ivy Bridge uses a smaller 22 nanometer process. Therefore, for at least the reasons described above, the Ivy Bridge design also includes circuitry that embodies dynamic logic circuits of the type claimed in the '547 patent, including circuitry that comprises a dynamic logic block, a precharge transistor, an evaluation transistor that is located between the dynamic logic block and the precharge transistor, and delay circuitry coupled to the precharge transistor that causes the precharge and evaluation transistors to be simultaneously activated. Upon information and belief, the circuitry referenced in this paragraph is present in at least the core areas of Intel's Ivy Bridge design. Upon information and belief, because of the advantages resulting from this circuitry, it is also present elsewhere in Intel's Ivy Bridge design.

21. On information and belief, the exemplary products listed in Exhibit C incorporate at least one infringing Ivy Bridge design.

22. Moreover, AVM believes and alleges, upon information and belief, that discovery will reveal that Intel processors based on subsequent core micro architecture designs, such as the Haswell, which was released in or around June 2013, also incorporate the claimed technology of the '547 patent, and infringe for similar reasons. Indeed, AVM believes Intel is even more dependent on the claimed technology in subsequent designs, where the reduced process sizes result in the claimed technology conferring even greater benefits, and therefore alleges upon information and belief that each Intel core micro architecture design since at least the Sandy Bridge has included circuits that infringe at least one claim of the '547 patent.

23. On information and belief, the exemplary products listed in Exhibit D incorporate at least one infringing Haswell design.

24. On information and belief, commercially available Intel products implementing Sandy Bridge, Ivy Bridge and Haswell designs were first made and/or sold after the commencement and/or the termination of Civil Action No. 10-610-RGA. Upon information and belief, the Sandy Bridge, Ivy Bridge and Haswell designs are materially different from the designs that were the subject of Civil Action No. 10-610-RGA, which were the Intel Pentium 4 and Core 2 designs.

25. This Complaint asserts claims and causes of action that are separate from the claims and causes of action that were asserted in Civil Action No. 10-610-RGA.

26. Upon information and belief, Intel has infringed and continues to infringe the '547 patent by engaging in acts constituting infringement under 35 U.S.C. § 271, including but not necessarily limited to one or more of making, using, selling, and offering to sell, in this district and elsewhere in the United States, and importing into this district and elsewhere in the United States, processors used in computer systems, including, but not limited to Intel processors that include or are based upon the Sandy Bridge, Ivy Bridge, and later designs such as Haswell, and certain products (including but not limited to computer motherboards) incorporating such processors.

COUNT 1

INFRINGEMENT OF THE '547 PATENT

27. AVM incorporates and realleges the allegations of Paragraphs 1-26 as if set forth herein in their entirety.

28. Intel has infringed and continues to infringe the '547 patent in this district and elsewhere in the United States by making, using, offering for sale, selling, and/or importing, without authority, products and services that include certain processors based upon the Sandy

Bridge, Ivy Bridge and later designs such as Haswell (e.g., Intel's Core i5-2500K processor), that incorporate or practice one or more claims of the '547 patent.

29. Intel had actual knowledge of the '547 patent at least as early as March 2005. Subsequently, as discussed above, in April 2006, Joseph Tran, communicated with Intel about the '547 patent. Moreover, Intel knew or should have known after the filing of the Civil Action No. 10-610-RGA in July 2010 that products not at issue in that lawsuit, including but not limited to the processors that include or are based upon the Sandy Bridge, Ivy Bridge and later core designs such as Haswell, infringe one or more claims of the '547 patent.

30. Intel's decision to market, introduce and sell new processors based on the Sandy Bridge, Ivy Bridge and later designs such as Haswell that infringe the '547 patent was willful, intentional, deliberate and at least objectively reckless.

31. On information and belief, Intel has knowingly and intentionally induced, and continues to knowingly and intentionally induce, infringement of the '547 patent by encouraging others in this district and elsewhere in the United States to import, sell and/or use in the United States products that include processors based upon the Sandy Bridge, Ivy Bridge, Haswell and later designs, an activity that would necessarily infringe one or more of the claims of the '547 patent, despite its knowledge that those products infringe the claims of the '547 patent. Direct infringement of some of the '547 patent claims occur when users of products that include processors that include or are based upon the Sandy Bridge, Ivy Bridge and later designs such as Haswell are powered on and used in their normal and intended manners.

32. On information and belief, Intel has knowingly and intentionally contributed, and continues to knowingly and intentionally contribute, to the infringement of the '547 patent by others in this district and elsewhere in the United States by providing components especially

made for use in the direct infringement of the ‘547 patent and that are not suitable for substantial noninfringing use. Direct infringement of the ‘547 patent occurs when users of products that include processors that include or are based upon the Sandy Bridge, Ivy Bridge and later designs such as Haswell are powered on and used in their normal and intended manners.

33. On information and belief, Intel has supplied and continues to supply in or from the United States all or a substantial portion of the components of the invention described in the ‘547 patent, with the intent or knowledge that such components would be used and/or combined in a manner that would otherwise infringe the ’547 patent if the activity occurred in the United States, and such components not being suitable for substantial noninfringing use. For example, processors that include or are based upon the Sandy Bridge, Ivy Bridge and later designs such as Haswell have no substantial use that does not infringe the ‘547 patent because the core areas of such processors are utilized whenever the core operates in their normal and intended manners. Similarly, products (such as computers, circuit motherboards, and chipsets) with processors that include or are based upon the Sandy Bridge, Ivy Bridge and later designs such as Haswell have no substantial use that does not infringe the ‘547 patent because the processors utilize their core areas when powered on and used in their normal and intended manners.

34. Intel’s infringement has been and continues to be willful.

35. As a direct and proximate result of Intel’s acts of patent infringement, AVM has been damaged, and will continue to be damaged unless Intel is enjoined by this Court.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiff AVM Technologies, LLC hereby demands a jury trial on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, AVM prays for judgment and relief as follows:

A judgment that Intel infringes, knowingly and intentionally induces others to infringe, and knowingly and intentionally contributes to the infringement of the ‘547 patent;

Injunctive relief against Intel’s continued infringement, knowing and intentional inducement of infringement, and knowing and intentional contribution to infringement of the’ 547 patent;

An award of damages in favor of AVM and against Intel sufficient to compensate AVM for Intel’s infringement of the ‘547 patent, but no less than a reasonable royalty, and an assessment of pre-judgment interest and post-judgment interest;

A finding that Intel’s infringement is willful and a judgment that AVM’s damages be trebled, pursuant to 35 U.S.C. § 284;

A finding that this case is exceptional under 35 U.S.C. § 285 and that AVM therefore recover its reasonable costs, expenses, and attorney’s fees; and

Such other and further relief as the Court deems proper and just.

Respectfully submitted,

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Dated: January 12, 2015