

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

POLARIS INNOVATIONS, LTD., an
Ireland limited company,

Plaintiff,

v.

ADVANCED MICRO DEVICES, INC., a
Delaware corporation

Defendant.

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No. 1:18-cv-555

DEMAND FOR JURY TRIAL

ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Polaris Innovations Limited (“Polaris”) files this Complaint against Advanced Micro Devices, Inc. (“AMD”), for its infringement of United States Patents, 6,728,144, and 8,117,526. Polaris alleges as follows:

PARTIES

1. Polaris is a limited company organized and existing under the laws of the Republic of Ireland, with its principal place of business at 29 Earlsfort Terrace, Dublin 2, Republic of Ireland.

2. Upon information and belief, AMD is a Delaware corporation doing business in Texas with offices in Austin, Texas, and principal executive offices in Sunnyvale, California. AMD may be served in Texas via its registered agent CT Corporation System, 1999 Bryan St., Ste. 900, Dallas, TX 75201.

JURISDICTION

3. Polaris brings this action under the patent laws of the United States, 35 U.S.C. § 1 *et. seq.* This Court has subject matter jurisdiction over this action under 28 U.S.C. §§ 1331, 1332(a)(2), and 1338(a).

VENUE

4. Venue is proper in this District under 28 U.S.C. § 1400(b). AMD has sold, offered to sell, and used in this District, products that practice or embody one or more claims of each of the patents in suit, as discussed more fully herein. AMD's location in Austin, Texas is a regular and established place of business in this District. AMD has reported that its Austin location is its "largest facility by headcount," and has "more employees than the rest of its U.S. facilities combined."

THE PATENTS IN SUIT

5. On April 27, 2004 the United States Patent and Trademark Office duly and legally issued United States Patent No. 6,728,144 B2 ("the '144 Patent"), which is entitled "Method And Circuit Configuration For Generating A Data Strobe Signal For Very Fast Semiconductor Memory Systems," and identifies Aaron Nygren as the sole inventor. A true and correct copy of the '144 Patent is attached hereto as Exhibit A. The '144 Patent has been assigned to Plaintiff Polaris. Polaris holds all right, title, and interest in the '144 Patent, including the right to sue for and receive damages for past, present and future infringement of the '144 Patent.

6. On February 14, 2012, the United States Patent and Trademark Office duly and legally issued United States Patent No. 8,117,526 B2 ("the '526 Patent"), which is entitled "Apparatus And Method For Generating A Transmit Signal And Apparatus And Method For Extracting An Original Message From A Received Signal," and identifies Maurizio Skerlj as the sole inventor. A true and correct copy of the '526 Patent is attached hereto as Exhibit B. The '526 Patent has been assigned to Plaintiff Polaris. Polaris holds all right, title, and interest in the '526 Patent, including the right to sue for and receive damages for past, present and future infringement of the '526 Patent.

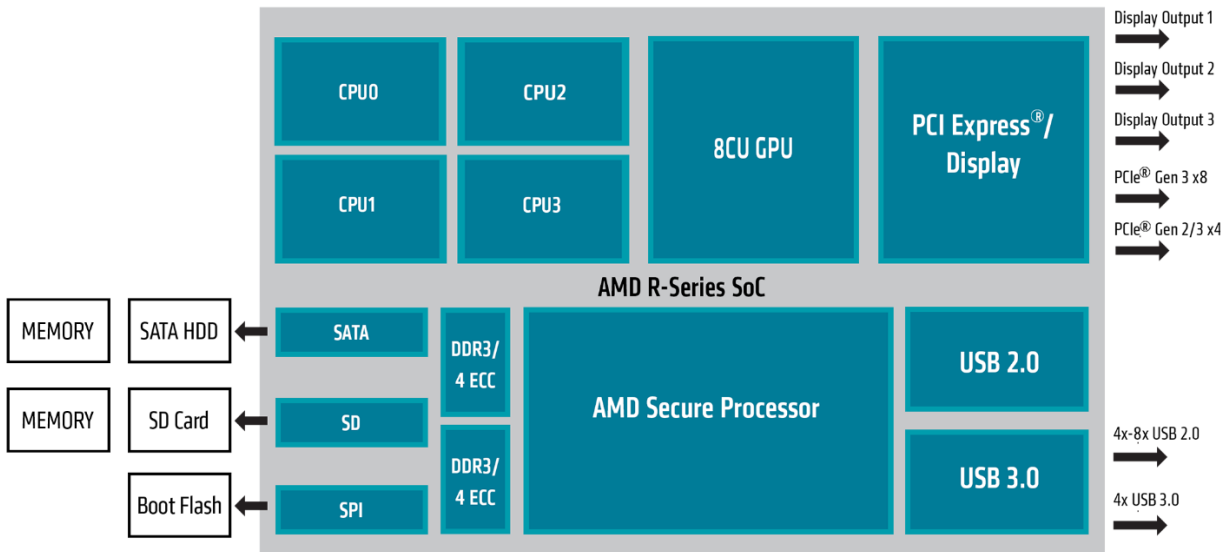
FIRST CLAIM FOR RELIEF

Infringement of U.S. Patent No. 6,728,144

7. Polaris realleges and incorporates by reference the allegations of paragraphs 1-6, inclusive, as if set forth in full herein.

8. AMD has infringed, and continues to infringe, at least claims 5 and 7 of the '144 patent. AMD makes, uses, offers to sell, or sells, within the United States or imports into the United States, products, such as the AMD Ryzen™ Processors, AMD Ryzen™ PRO Processors, AMD A-Series Processors, AMD PRO A-Series Processors , AMD FX-Series Processors, AMD E-Series Processors, AMD EPYC™ Server Processors, AMD Athlon™ APUs , AMD Sempron™ APUs, AMD Opteron™ CPUs, Radeon™ 530, AMD FirePro™ W2100, AMD Radeon™ R7, AMD Radeon™ R5, AMD Radeon™ HD, AMD Opteron™ Server Processors, 3rd Generation AMD Embedded G-Series SoC J Family, 3rd Generation AMD Embedded G-Series SoC I Family, AMD Embedded R-Series SoCs, AMD Embedded G-Series LX Family SoCs, 2nd Generation AMD Embedded G-Series SoCs, and 2nd Generation AMD Embedded R-Series APUs (collectively, “Exemplary '144 Accused Products”), that meet each and every limitation of claim 5.

9. By way of example, a schematic diagram of the AMD Ryzen 7 Embedded R-Series SoC is shown in the image below.



10. Each of the Exemplary '144 Accused Products is a semiconductor circuit configuration comprising a semiconductor circuit module. a signal line connected to said semiconductor circuit module, for example, the signal line connected to the DQS line is a signal line connected to the semiconductor circuit module. RAS#, CAS#, and WE# are each command

lines connected to said semiconductor circuit module. The DDR3/4 ECC blocks shown above generate circuit clocking a data strobe signal (for example, the DQS, DQS# data strobe signals) onto the signal line with tristate behavior in dependence on reception of a corresponding command signal transmitted over the command line after a defined short preamble period t_{WPRES} with a predetermined clock frequency, that toggle the data strobe signals DQS and DQS#, during the preamble period t_{WPRES} with at least one pulse corresponding to the predetermined clock frequency.

11. On information and belief, the semiconductor circuit module of the Exemplary '144 Accused Products is a memory controlled module, for example, the DDR3/4 ECC blocks shown above.

12. Other AMD products similarly infringe one or more claims of the '144 Patent. Polaris accuses of infringement all AMD products that contain features and functions similar to those described above that practice one or more claims of the '144 Patent.

SECOND CLAIM FOR RELIEF

Infringement of U.S. Patent No. 8,117,526

13. Polaris realleges and incorporates by reference the allegations of paragraphs 1-12, inclusive, as if set forth in full herein.

14. AMD has infringed, and continues to infringe, at least claim 9 of the '526 patent. AMD makes, uses, offers to sell, or sells, within the United States or imports into the United States, products, such as the AMD Ryzen™ Processors, AMD Ryzen™ PRO Processors, AMD A-Series Processors, AMD PRO A-Series Processors, AMD FX-Series Processors, AMD E-Series Processors, AMD EPYC™ Server Processors, 3rd Generation AMD Embedded G-Series SoC J Family, 3rd Generation AMD Embedded G-Series SoC I Family, AMD Embedded R-Series SoCs (collectively, "Exemplary '526 Accused Products"), that meet each and every limitation of claim 9.

15. Each of the Exemplary '526 Accused Products is an apparatus for generating a transmit signal comprising data bits. Each of the Exemplary '526 Accused Products evaluates if

DBI_n is LOW, then it determines that the write data is inverted. The CRC data bit mapping performed generates CRC checksums that depend upon the indicator and data bits; a circuit for forming the transmit signal including the data bits, the indicator and at least a part of the check information, for example, the transmit signal comprises data from the CRC data bit mapping, including the at least a part of the CRC checksum, the data bits, and the indicator.

16. The generated CRC checksums are check information that is a checksum. Each of the accused products is capable of being coupled to a plurality of channels via which the data bits of the transmit signal, DQ0-DQ7 and DBI_n, are to be transmitted simultaneously in parallel. A DBI_n value along with each of the DQ0-DQ7 values for one column of the CRC data bit mapping is a first indicator for a first portion of data bits, and a DBI_n value along with each of the DQ0-DQ7 values for another column of the CRC data bit mapping is a second indicator for a second portion of the data bits, and the CRC checksum is determined from the two columns of the CRC data bit mapping.

17. Other AMD products similarly infringe one or more claims of the '526 Patent. Polaris accuses of infringement all AMD products that contain features and functions similar to those described above that practice one or more claims of the '526 Patent.

DEMAND FOR JURY TRIAL

18. Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Polaris demands a trial by jury on all issues so triable.

PRAYER

19. WHEREFORE, Polaris prays that judgment be entered in its favor and against AMD as follows:

- a. For damages in an amount according to proof, but no less than a reasonable royalty for infringement of the patents in suit;
- b. For prejudgment and post-judgment interest as provided by law;
- c. For costs of suit and reasonable attorneys' fees incurred herein; and
- d. For such other relief as the Court deems proper.

Dated: July 2, 2018

Respectfully submitted,

/s/ Henry B. Gonzalez III

Henry B. Gonzalez III

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