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UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

Si-Flash Drives, LLC, a California Limited Liability Company, Plaintiff, v. Kingston Technology Company, Inc., a Delaware corporation, Defendant.	Case No. 8:16-cv-02004 **FIRST AMENDED COMPLAINT COMPLAINT FOR PATENT INFRINGEMENT** **DEMAND FOR JURY TRIAL**

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FIRST AMENDED COMPLAINT

Plaintiff Si-Flash Drives, LLC, ("Si-Flash" or "Plaintiff"), by and through its undersigned counsel, for its Complaint against Defendant Kingston Technology Company, Inc. ("Kingston" or "Defendant") makes the following allegations. These allegations are made upon information and belief.

NATURE OF THE ACTION

1.   This is an action against Defendant for infringement of one or more claims of United States Patent No. 8,194,452 ("the 452 Patent") and U.S. Patent No. 7,855,916 ("the '916 Patent").

THE PARTIES

2.   Si-Flash Drives, LLC is a limited liability company organized under the laws of the State of California and has an office and principal place of business at 35 Hugus Alley, Suite 210, Pasadena, California 91103.

3.   Defendant Kingston Technology Company, Inc. is a corporation incorporated under the laws of the State of Delaware. Defendant Kingston Technology Company, Inc. has an office and principal place of business at 17600 Newhope Street Fountain Valley, CA 92708 USA.

JURISDICTION AND VENUE

4.   This patent infringement action arises under the patent laws of the United States including 35 U.S.C. §§ 271, et seq.

5.   This Court has subject-matter jurisdiction over this action pursuant to 28 U.S.C. § § 1331 and 1338(a) because it arises under United States Patent law.

6.   This Court has personal jurisdiction over the Defendant because they (either directly or through their subsidiaries, divisions, groups or divisions) have sufficient minimum contacts with the forum as a result of business conducted within the State of California and this district; and/or specifically over the Defendant (either directly or through their subsidiaries, divisions, groups or distributors) because of their infringing conduct within or directed at the State of California and this district.

7.   Venue is proper in this district pursuant to 28 U.S.C. §1391(b) and 1400(b).

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FACTS

3   8.   Plaintiff is the owner, by assignment, of U.S. Patent No. 8,194,452 ("the

4 '452 Patent"), entitled "Nonvolatile memory systems with embedded fast read and write

5 memories," which was duly and legally issued on June 5, 2012 by the United States

6 Patent and Trademark Office ("USPTO"). A copy of the '452 Patent is attached to this

7 Complaint as **Exhibit A**.

8   9.   Plaintiff is the owner, by assignment, of U.S. Patent No. 7,855,916 ("the

9 '916 Patent"), entitled "Nonvolatile memory systems with embedded fast read and write

10 memories," which was duly and legally issued on December 21, 2010 by the United

11 States Patent and Trademark Office ("USPTO"). A copy of the '916 Patent is attached

12 to this Complaint as **Exhibit B**.

13   10.   Plaintiff is owner of all rights, titles and interests in and to the '452 Patent,

14 and the '916 Patent (collectively, "Patents-In-Suit") including the right to assert all

15 causes of action arising from the infringement of the Patents-in-Suit and the right to all

16 damages, past and present, for any infringement of the Patents-in-Suit.

17   11.   The claims of the Patents-In-Suit are valid and enforceable.

18   **COUNT I**

19   **CLAIM FOR PATENT INFRINGEMENT**

20   **UNDER 35 U.S.C. § 271(a) ('452 PATENT)**

(AGAINST DEFENDANT)

21   12.   Plaintiff hereby incorporates by reference the allegations of paragraphs 1

22 through 11 of this Complaint as if fully set forth herein.

23   13.   Defendant makes, has made, sells, offer for sale, uses and/or imports into

24 the United States, storage devices, including without limitation the V300 SSD, FURY

25 SSD, SSD*Now* KC380 Drive, SSD*Now* E50, and SSD*Now* mS200 ("Accused

26 Product(s)").

27   14.   The product datasheet of each of the Accused Products, attached to this

28 Complaint as **Exhibits C-G**, indicates that each product contains a pool of NAND flash

FIRST AMENDED COMPLAINT

memory. As provided in Defendant's website, each NAND flash memory is arranged as a plurality of blocks with each block comprising a plurality of pages. A copy of the description of the different types of NAND flash memory obtained from Defendant's website is attached to this Complaint as **Exhibit H**.

15.   Each of the Accused Product(s) includes either a SandForce Client Controller, i.e. SF-2000 series (e.g. SF-2241, or SF-2281), or SandForce Enterprise Controller, i.e. 2500/2600 series (e.g. SF-2581), that is "customized for Kingston". See Exhibits C-G. The SF-2000 series and the 2500/2600 series implement a pool of volatile memory indicated as "Buffer" in the system block diagrams obtained from Seagate. See **Exhibits I and J**.

16.   The SandForce Client Controller and the SandForce Enterprise Controllers include a Central Processing Unit (CPU) coupled to the pool of NAND flash, through the "NAND Interface" and to the Buffer, i.e. pool of volatile memory.

17.   Each of the Accused Products includes a SATA interface as indicated in Exhibits C-G. And as indicated in Exhibits I and J, the SATA interface is coupled to the controller.

18.   As illustrated in Exhibit H, a block of NAND with a page size of 2112 bytes is coupled to an input/output register ("Buffer") that has the same page size (i.e. 2112 bytes), and illustrates data programmed from the register to a flash page and data read from a flash page to the register.

19.   As illustrated in Exhibits I and J, the SandForce Controller in each of the Accused Products implements "DuraClass^{TM} Technology". DuraClass^{TM} includes DuraWrite^{TM} which, according to Seagate, uses data deduplication: "One simple method for extending endurance of the flash is to not write to it in the first place. This might sound crazy, like making a gallon of fuel last longer by not burning it, but there are many techniques in use today for storage applications including data deduplication, compression, and data differencing that reduce the amount of data that must be written to the drive. This technique, which SandForce implements with its DuraWrite technology is a very complex process and requires a significant investment in the

controller." Key Challenges in SSD Controller Development, www.electronicdesign.com, Jan. 17, 2011, by Kent Smith, SandForce Sr. Director of Corporate Marketing. "All solid state drives (SSDs) using NAND flash feature a basic mapping table, typically called the flash translation layer (FTL)". *Id*. Thus, in each accused product, "each page of a block of the pool of NAND flash is adapted to be substituted on the fly for any other page of a different block of the pool of NAND flash through address mapping" as required by Claim 1 of the '452 patent.

20.   Each one of the functionalities itemized in paragraphs 14-19 above, is an element in Claim 1 of the '452 patent.

21.   Thus, each of the Accused Products infringes at least Claim 1 of the '452 patent.

22.   As a direct and proximate result of Defendant's infringement of the '452 Patent, Plaintiff has been and will continue to be damaged in an amount yet to be determined, including but not limited to Plaintiff's lost profits and/or a reasonable royalty.

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COUNT II
CLAIM FOR PATENT INFRINGEMENT
UNDER 35 U.S.C. § 271(a) ('916 PATENT)
(AGAINST DEFENDANT)

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23.   Plaintiff hereby incorporates by reference the allegations of paragraphs 1-11 of this Complaint as if fully set forth herein.

24.   Defendant makes, has made, sells, offer for sale, uses and/or imports into the United States, storage devices, including without limitation the V300 SSD, FURY SSD, SSD*Now* KC380 Drive, SSD*Now* E50, and SSD*Now* mS200 ("Accused Product(s)").

25.   The product datasheet of each of the Accused Products, attached to this Complaint as **Exhibits C-G**, indicates that each product contains a pool of NAND flash memory, which is non-volatile memory. As provided in Defendant's website, each

NAND flash memory is arranged as a plurality of blocks with each block comprising a plurality of pages. See **Exhibit H**.

26.   Each of the Accused Product(s) includes either a SandForce Client Controller, i.e. SF-2000 series (e.g. SF-2241, or SF-2281), or SandForce Enterprise Controller, i.e. 2500/2600 series (e.g. SF-2581), that is "customized for Kingston". See Exhibits C-G. The SF-2000 series and the 2500/2600 series implement a pool of volatile memory indicated as "Buffer" in the system block diagrams obtained from Seagate. See **Exhibits I and J**.

27.   The SandForce Client Controller and the SandForce Enterprise Controllers include a Central Processing Unit (CPU) coupled to the pool of NAND flash, through the "NAND Interface" and to the Buffer, i.e. pool of volatile memory.

28.   Each of the Accused Products includes a SATA interface as indicated in Exhibits C-G. And as indicated in Exhibits I and J, the SATA interface is coupled to the controller.

29.   As illustrated in Exhibits I and J, the SandForce Controller block diagrams show the NAND memory is accessible through the "Buffer".

30.   As illustrated in Exhibits I and J, the SandForce Controller in each of the Accused Products implements "DuraClass^{TM} Technology". DuraClass^{TM} includes DuraWrite^{TM} which, according to Seagate, uses data deduplication: "One simple method for extending endurance of the flash is to not write to it in the first place. This might sound crazy, like making a gallon of fuel last longer by not burning it, but there are many techniques in use today for storage applications including data deduplication, compression, and data differencing that reduce the amount of data that must be written to the drive. This technique, which SandForce implements with its DuraWrite technology is a very complex process and requires a significant investment in the controller." Key   Challenges   in   SSD   Controller   Development, www.electronicdesign.com, Jan. 17, 2011, by Kent Smith, SandForce Sr. Director of Corporate Marketing. "All solid state drives (SSDs) using NAND flash feature a basic mapping table, typically called the flash translation layer (FTL)". *Id*. Thus, "each page

of a block is adapted to be substituted on the fly for any other page of a different block through address mapping" as required by claim 1 of the '916 patent.

31.   Each one of the functionalities itemized in paragraphs 25-30 above, is an element in Claim 1 of the '916 patent.

32.   Thus, each of the Accused Products infringes at least Claim 1 of the '916 patent.

33.   As a direct and proximate result of Defendant's infringement of the '916 Patent, Plaintiff has been and will continue to be damaged in an amount yet to be determined, including but not limited to Plaintiff's lost profits and/or a reasonable royalty.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for relief against Defendant as follows:

A.   In favor of Plaintiff that Defendant has infringed one or more claims of the '452 Patent, either literally or under the doctrine of equivalents;

B.   In favor of Plaintiff that Defendant has infringed one or more claims of the '916 Patent, either literally or under the doctrine of equivalents;

C.   Requiring Defendant to pay Plaintiff its damages, costs, expenses, and prejudgment and post-judgment interest for Defendant's infringement of the '452 Patent and the '916 patent as provided under 35 U.S.C. § 284, but not less than a reasonable royalty; and

D.   For such other and further relief as may be just and equitable.

DEMAND FOR TRIAL BY JURY

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff hereby demands a jury trial on all issues and causes of action triable to a jury.

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Respectfully submitted,

DATED: January 6, 2017   **COTMAN IP LAW GROUP, PLC**

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