

[REDACTED]

Exhibit 1: Preliminary Infringement Claim Chart for U.S. Patent No. 6,157,589 (“589 Patent”)

Claim Construction: This chart is prepared without the benefit of the Court’s claim constructions. The parties have not proposed claim constructions prior to this disclosure. Accordingly, Polaris reserves the right to supplement or amend this chart to address any issues arising from any subsequent claim construction proceedings.

Preliminary Contentions: These contentions are by their nature preliminary. Discovery is ongoing and, as of the date of these contentions, Kingston has not fully responded to Polaris’s discovery requests nor provided deposition testimony or expert opinions. Thus, this chart is based on the limited information Kingston has produced as well as on publicly available evidence, and based upon information and reasonable belief in light of such evidence. Accordingly, once Polaris has had the benefit of full and complete discovery in this matter, Polaris may supplement and/or amend this chart to take account of the new information that becomes available.

Doctrine of Equivalents: Discovery is ongoing and as noted above Kingston has not provided full and complete discovery in this matter; Kingston has not provided non-infringement contentions; and the Court has not yet construed disputed claim terms. Moreover, Kingston has failed to provide particularized non-infringement allegations for most limitations of the asserted claims in its Amended Answer. Accordingly, except to the extent specifically noted, Polaris contends that each element of each asserted claim is literally met. Polaris reserves its right to respond if Kingston provides non-infringement contentions. Such responses by Polaris may include responsive Doctrine of Equivalents contentions.


589 Accused Products: Kingston SSDs with Phison or Marvell controllers (Representative Product is HyperX Predator SM2280S3/120G):¹

¹ Kingston has not produced technical information regarding the SandForce controllers used in certain of its SSD products. Accordingly, Polaris has not included such products in these infringement contentions for the 589 Patent. Polaris reserves its right to amend these contentions to address such products if and when sufficient technical information regarding the SandForce controllers is produced. Kingston SSD products using SandForce controllers include the following: **HYPERX Fury** (SHFS37A/120G SHFS37A/240G SHFS37A/480G); **KC300 Series:** SKC300S37A/60G, 120G, 180G, 240G, 480G; **KC380 Series:** SKC380S3/60G SKC380S3/120G SKC380S3/240G SKC380S3/480G; **V300 Series:** SV300S37A/60G, 120G, 240G, 480G, SV300S3D7/60G, 120G, 240G, 480G, SV300S3N7A/60G, 120G, 240G, 480G, SV300S3B7A/60G, 120G, 240G, 480G; **ms200 Series (SandForce SF2241):** SMS200S3/30G, 60G, 120G, 240G, 480G; **E100 Series (SandForce SF 2582):** SE100S37A/100G SE100S37A/200G SE100S37A/400G.



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Claim Language	Infringement by Kingston 589 Accused Products
11. An improved method for initializing a dynamic semiconductor memory device of a random access type via an initialization circuit controlling a switching-on operation of the dynamic semiconductor memory device and of its circuit components, the improvement which comprises:	<p>To the extent that the preamble of Claim 11 is a limitation, the 589 Accused Products initialize a dynamic semiconductor memory device of a random access type (specifically DDR3 DRAM devices) via an initialization circuit in a DDR3 controller, controlling a switching-on operation of the DRAM and of its circuit components, with the improvements described below:</p> <p>All Kingston Accused 589 Products include one of: a Phison 3108 or 3110 controller, or a Marvell 88SS9293 or 88SS1074 controller:</p> <ul style="list-style-type: none">• HYPERX Predator/SHPM2280S3 Products (Phison 3108): SHPM2280S3/120G, 240G (physical inspection of sample, see photograph below)• HYPERX Predator/SHPM2280S3G2 Products (Phison 3110): SHPM2280S3G2/120G (physical inspection of sample, see photograph below)• HYPERX Savage (Phison 3110): SHSS37A/120G, 240G, 480G, 960G, SHSS3B7A/120G, 240G, 480G, 960G. <i>See</i> KIN0037865-866 at 866 (Data sheet)• KC310 Series (Phison 3110): SCK310S37A/960G, SKC310S3B7A/960G. <i>See</i> KIN0037867-868 at 868 (Data Sheet)• KC400 Series (Phison 3110): SKC400S37/128G, 256G, 512G, 1T. <i>See</i> KIN0037869-870 at 870 (Data Sheet)• M.2 SATA Series (Phison 3108): SM2280S3/120G, 240G. <i>See, e.g.,</i> KIN0000836 (Test Report for SM2280S3, listing Phison 3108 as controller) (confidential)• S200 Series (Phison 3108): SS200S3/30G. <i>See</i> KIN0037873-874 at 874 (Data Sheet).





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	<ul style="list-style-type: none">• UV300 Series (Phison PS3110): SUV300S37A/120G, 240G, 480G. <i>See</i> KIN0037875-876 at 876 (Data Sheet).• V310 Series (Phison 3108): SV310S37A/960G, SV310SB37A/960G, SV310S3D7/960G, SV310S3N7A/960G. <i>See</i> KIN0037877-878 at 878 (Data Sheet).• HYPERX Predator/SHPM2280P2 Products (Marvell 88SS9293): SHPM2280P2/240G, 480G, SHPM2280P2H/240G, 480G. <i>See</i> KIN0037863-64 at 864 (Data Sheet)• UV400 Series (Marvell 88SS1074): SUV400S37/120G, 240G, 480G, 960G. <i>See</i> PK00006105-106 at 106 (Data Sheet) <p>Each such controller includes within it a DDR3 controller as an internal functional block. The DDR3 controller controls (including initialization) DDR3 DRAM that is external to the Phison or Marvell controller and internal to the 589 Accused Product.</p> 

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	[REDACTED]
	[REDACTED]



U.S. Patent No. 6,157,589	
Claim Language	Infringement by Kingston 589 Accused Products
	<p>PS3108-S8</p>  <p>➤ SPECIFICATION</p> <p>Descriptions PHISON's PS PS3108 SATA-to-Flash micro-controller specially designed for various types of SATA module and embedded NAND applications. It can support up to 10/20+ nm MLC/SLC Large-Block NAND flash memory with up to 64 chip-enables capacity.</p> <p>Controller Highlights</p> <ul style="list-style-type: none">☑ Compatible with SATA 3.0 specification☑ Compatible with SATA I/II/III L 5G/ 3G/ 6Gbps interface☑ Support 2Gb/4Gb DDRIII Cache☑ Built-in enhanced up to 72bit/1KB ECC circuit (BCH)☑ Program RAM (Program Upgradable) 

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