Apple SSD is no longer being detected after erasure with Drive Eraser

Created date	Updated date	Affects version	Fix version
11 Nov 2019	28 Feb 2020	Drive Eraser - all	N/A

Description

Apple branded SSD with disk model SM*xxxx*F SSDs (where *xxxx* represents the capacity of the disk) is no longer detected by the device and can no longer be used after the erasure.

Issue is known to happen with following combination of disk model and disk firmware versions:

Known affected disk models:

- APPLE SSD SM1024F
- APPLE SSD SM0512F
- APPLE SSD SM0256F
- APPLE SSD SM0128F

Known affected firmware versions:

- UXM6JA1Q
- UXM2JA1Q
- UXM2EA1Q

Below table lists some of the affected system models were you can expect to see this issue. Please note that this is not full list of affected hardware and it is possible to see this issue with models not listed below.

Disk model	System manufacturer	System model	Disk firmware revision
APPLE SSD SM0256F	Apple Inc.	MacBookAir6,1	UXM2JA1Q
APPLE SSD SM0512F	Apple Inc.	MacBookAir7,2	UXM2JA1Q
APPLE SSD SM0256F	Apple Inc.	MacBookPro11,1	UXM2JA1Q
APPLE SSD SM0512F	Apple Inc.	MacBookPro11,2	UXM2JA1Q
APPLE SSD SM1024F	Apple Inc.	MacBookPro11,3	UXM6JA1Q
APPLE SSD SM0512F	Apple Inc.	MacBookPro12,1	UXM2JA1Q
APPLE SSD SM1024F	Apple Inc.	iMac14,2	N/A

Cause

This issue is caused by non-standard firmware available on these SSDs. Affected drives are not capable of executing "*Secure Erase*" or "*Enhanced Secure Erase*" firmware based commands properly, which leads to a scenario where the disk is no longer being detected after these command have been executed.

Resolution

In order to prevent this issue from occurring it is recommended to use erasure settings which won't utilize Secure Erase/Enhanced Secure Erase as part of the erasure. This can be achieved by using for example NIST 800-88 Purge.

Note that if the automatic fallback from NIST 800-88 Purge to NIST 800-88 Clear is used in the image, the firmware based command "*Secure Erase*" is performed and issue will appear. This is caused by the used commands of NIST 800-88 Clear.

In this cases it is suggested to use a non firmware based standard like Aperiodic Random Overwrite.