

swissbit®

S-200	SD
S-220	SDHC
S-200u	microSD
S-300u	microSD
M-100	MMC

SD/microSD & MMC Cards

**Power Fail
Management**

Application Note

Release history:

Revision	Changes
1	- First release

Date
February, 18, 2013

1 Power Loss Protection

Flash memory is often used in removable storage applications or battery operated devices where a robust and reliable power source cannot be guaranteed. A user may remove the memory at any time and under these conditions security of data is of paramount importance. Swissbit flash devices use a patented concept in order to ensure data integrity when transferring or writing data.

By using certain buffer blocks, information is written in a way that minimizes the delta between an old and a new state. The data system is coherent at all times. Upon a sudden power fail, the controller is reset and the flash is immediately write-protected. A log of the most recent flash transactions is kept, where entries are made just before any programming to the flash.

Should the last entry of the log be corrupted, the controller recovers the last valid entry. This minimizes data loss due to power failures and data corruption at the physical layer is prevented completely.

Should power loss happen at the very same time when data is written to the flash, this data might get lost. In no case, however, will the overall data system be corrupted.

Swissbit performs extensive power cycling tests to all controllers and firmware verifying no data corruption due to power failure.

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