SM2256 Flash F/W & ISP Release Information

Introduction

This purpose of this document is to provide release information on the SM2256 F/W and ISP release information

Fix Coverage

■ Stands for the **"new fix"** or **"new support"** in the category
□ Stands for the **"no-update"** in the category

■ **Tester FW**	■ **Controller ISP**
□ **Yield Issue** ■ **Flash Issue** □ SLC Flash □ Samsung Flash □ Toshiba/Sandisk Flash □ Intel/Micron Flash □ Hynix Flash □ Others □ MLC Flash □ Samsung Flash □ Toshiba/Sandisk Flash □ Intel/Micron Flash □ Hynix Flash ■ TLC Flash ■ Samsung Flash ■ Toshiba/Sandisk Flash □ Intel/Micron Flash ■ Hynix Flash □ Others □ **Compatibility issue** □ **Tester Bug Fix** ■ **AP Bug Fix & New Function** ■ **Feature Enhance**	■ **Yield Issue** ■ **Flash Issue** □ SLC Flash □ Samsung Flash □ Toshiba/Sandisk Flash □ Intel/Micron Flash □ Hynix Flash □ Others □ MLC Flash □ Samsung Flash □ Toshiba/Sandisk Flash □ Intel/Micron Flash □ Hynix Flash ■ TLC Flash ■ Samsung Flash ■ Toshiba/Sandisk Flash □ Intel/Micron Flash ■ Hynix Flash □ Others □ **Compatibility issue** ■ **ISP Bug Fix** □ **Feature Enhance**

Version	MP Tool Version	ISP Version	Note
O1230C	**O1228A**	**O1230C**	**1. Bug fixes of rarely hit issues, 4K alignment in Extra Read, Multiple-CH Read in spare read link, read runtime Info in Pretest, and DMC issue after COMRST.** **2. Enable feature of identifying specific CH/CE failure during drive initialization.**
O1217A	O1201A	O1217A	3. Update timing parameters of DRAM to accommodate PCB marginality. 4. Improvement of error recovery flow for SPOR and S4 test.
O1126A	O1201A	O1126A	1. Bug fix of incorrect FW handling of UECC in WPRO block 2. Bug fix of FW hang up issue in SPOR test 3. Improvement of Vth tracking handling for Hynix TLC (issue found in SMI power cycle test) 4. Add training window check in drive initialization
O1015A	O0910B	O1015A	1. Support SanDisk 1znm TLC. 2. Fixed Hynix 16nm TLC read retry issue. 3. Fixed the issue of mapping table building for SPOR. 4. Add one function to avoid link mismatch for SPOR.
O0803B5	O0910B	O0803B5	1. Fixed Microsoft Win10 setup FW hang up issue (FW cannot be activated after being slumber state). 2. Fixed read retry table fail of Hynix 16nm TLC.
O0803A	O0811A	O0803A	1. Fix the issue of error map handling when doing unsafe power cycle. 2. Fix the issue of changing die command before accessing flash. 3. Fix the issue that SLC spare block is risky to run out. 4. Add the mechanism to avoid read ECC fail of next time. 5. Fix the issue of FW hang up when doing SPOR test.

O0626A	O0624A	O0626A	1. Fix of the issue that Slumber current is higher than Partial. 2. Fix of the issue of download ISP for Hynix 16nm 128Gb TLC. 3. Enable support of manufacturing burn-in test (RDT) for production. 4. Fixes of SMART issues for erase count and temperature. 5. Fix of EOB fail handling in rebuild link flow.
O0521A	O0506A	O0521A	1. Fixes of CDM and ATTO test FW hang up issues. 2. Fixes of S4 and SPOR issues. 3. Disable SSC function. 4. Enable Flash support of Samsung 16nm 128Gb TLC.
O0414C	O0212C	O414C	1. Enable SSC (at SATA interface). 2. Disable write UNC command. 3. Introduce program fail handling. 4. Bug fix of read retry flow on Samsung 19nm 128Gb TLC. 5. Enable UART interrupt to dump error/event log when FW hang up.
O0306	O0127C	O0226B	1. Bug fixes of SPOR. 2. Improvement of timeout issue of WHCK test. 3. Enhancement on RAID function. 4. Support of Samsung 19nm TLC, Toshiba A19nm TLC, and Hynix 16nm TLC. 5. Note that when used with SM2256AB chip, it's not required to initialize SPI EEPROM (via MP tool setting).
N1230A SLC Cache	N1128B	N1230A	FW 1. Add "initial RAID engine" function. 2. Fixed a mistake in the function of checking ECC fail 3. Modify "restore RAID parity flow" to fix power cycle issue when Map ECC fails. 4. LDPC mode is modified to be initialized by MPTool. SW

			1. For Hynix 16nm TLC, ignore checking the second byte of Flash ID.
N1128C	N1117D	N1128C	1. Support Samsung 19nm K9ADG TLC 2. Support Toshiba A19 TLC 3. Support Hynix H27QFG 16nm TLC 4. Package of NAND flash which is supported – # of CEs is equal to # of dies

Note:

1. F/W and ISP update is recommended.
2. History # is denoted by “Version-Date” .