



SM2258XT Flash F/W & ISP Release Information – Q01121A0 for SDK BiCS3 only

Introduction

This purpose of this document is to provide release information on the SM22X family 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

☒ MP Tool	☒ Controller ISP
☐ Yield Issue ☐ Flash Issue ☒ 3D TLC Flash ☐ Samsung Flash ☒ Toshiba/Sandisk Flash ☐ Intel/Micron Flash ☐ Hynix Flash ☐ Others ☐ MP Tool Bug Fix ☒ MP Tool New Function ☒ Feature Enhance	☐ Yield Issue ☐ Flash Issue ☒ 3D TLC Flash ☐ Samsung Flash ☒ Toshiba/Sandisk Flash ☐ Intel/Micron Flash ☐ Hynix Flash ☐ Others ☒ ISP Bug Fix ☒ Feature Enhance



ISP Revision History

Version	MP Tool version	RDT version	Note
Q1121A0	Q1121A	Q1116A0	ISP: 1. Fix PWR TLC Spare bug. 2. Fix security erase issue. 3. Enable partial flush cache f2h to fix customized script performance issue. 4. Sync. B0KB features. 5. Fine tune ATTO performance. RDT: 1. Modify unbalanced card mode parameter. (Must match with 1116A SWPtest.dll) MPTool: 1. More display which CH-CE occur Flash Time out at [RDT Result] page. 2. Support "Reset SMART Tool". Just reset smart data and can't reset cpu.
Q1107A0 (For Sandisk BiCS3 only)	Q01106A	Q1031A0	ISP: 1. Support 128Gb/ 256Gb/ 512Gb per die 2. Support 2CH and 4CH. 3. Fixed 220V SPOR issue in SZ. 4. Fixed SNDK BiCS3 Read Retry bug. 5. Change to get check sum timing for different driving 6. Add Delay for SanDisk BiCS2 SCR 7. Sync read claim condition, wear leveling flow, force clean condition during background clean from other project. 8. Modify MP reference from CID with Driving & Clock. 9. Fix VCT 110+IOMeter disconnect issue: avoid enter back ground GC before return Identify. 10. Change default flash driving to overdrive. 11. Fix Read Reclaim bug will read over last page. 12. Update SNDK BiCS3 retry table 13. Disable GC Suspend/Resume for SNDK BiCS3. MPISP: 1. Modify erase all and add reset CMD. 2. Fix tranRTC issue. 3. Add check GPIO setting. 4. Flash clock under 100Mhz do not need differential mode. 5. Fix bug that TranAdj would hang up. RDT: 1. Add force single plane program option. 2. Support Read ID table. 3. Fixed CH remapping bug. MPTool: 1. Check Channel0-CE0 flash exist or not? If not, stop to initial card 2. Restore InfoBIK if card initialization failed.



			3. Fix bug: Reference RDT bad twice, can't be recognized by host. 4. Fixed CPU CLK display wrong at SSD information dialog. 5. Default Toggle mode and flash CLK> 100MHz need to always enable differential signal. 6. Add "Bypass TranADK" function option. 7. Display RDT bad blk counts by plane. 8. Add "Max Test Block Cnt" option at RDT setting dialog. 9. More parsing bad block counts by plane information. 10. Add "Bypass read check for first 2 loop" option at [RDT Test Setting] dialog. 11. Pre-Check capacity at "Reference RDT Bad" pretest option to initial card. 12. More save FlashID.bin after download MPISP for Linux Tool used. 13. Add "FFU Keep Device CID" checkbox to set CID[0x41].b0 14. Modify CID default setting rule. 15. Remove "New Bad Block" display at SSD Information dialog. 16. Add "Ignore Erase Fail" 17. Add "bypass status fail bit" option at [RDT Setting] dialog. 18. Fix bug: Display gibberish at [ID Table] page when user use special string to fill SN/VendorSpecific. (Need to change font type)
Q0602A0	Q0602A	Q0531A0	ISP: 1. Add the SLC NAND write count for WAF calculation 2. Fix Vendor command issue 3. Enlarge H2f block from 16 to 32. 4. Add Read Count Function. 5. Fix Erase CMD Polling bit. SLC should judge Bit2 and TLC Bit1. 6. Partial GC timing rule change. 7. Enlarge GC H2f CmdFiFo Depth for multi die operation. 8. Fixed Wearleveling issue. 9. Modify GC policy and fix GC issue. 10. Modify GC time for 1TB. 11. Fix readFlashID setClock bug. 12. Fixed Read/Write Fail after secure erase issue that caused by newly added 32 H2f block function. 13. Fix arrange TLC block over Thr issue. 14. Add background GC improvement. 15. Fix run out of spare block after separate static TLC/SLC block. 16. Fixed retry loop and SLC force transfer UECC data issue. 17. Add judge auto partial timer condition for Trim cmd issue 18. Add extra TLC mark bad cnt. 19. Add TLC UECC cnt for T2T GC Thr.



			adjustment. 20. Add Prog. Suspend during GC. 21. Enable TXSAS. 22. Enable SeqLink2. 23. Fix bgH2fForceClean can't not break when read SMART issue. 24. Adjustment the GC Thr. when Mark too much bad. 25. Modify Static Status Check. 26. Fix 4Ch4Way u16Fpage overflow bug when page over 2048, by use tranAddrInfoDatBlk. RDT: 1. Modify BiCS seed order 2. Add die select function for multi die operation 3. Integrate write flow code for each NAND. MPTool: 1. Add IDEMA 90GB support. 2. Don't keep RDT Result at "Ref RDT Bad" pretest option. ([OPTION] : SkipKeepRDTResult) 3. Fix bug: Erase system block need to use "MLC + one plane" mode for 3D Nand flash. 4. Extend "Flash Part Name" information from 64 to 80 bytes of MPINFO. 5. Add "Random SN" support.
Q0418B	Q0417A	Q0420A0	ISP 1 First formal release to support Sandisk and Toshiba BiCS2 flash.

Note:

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

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