



Silicon Motion, Inc.

SM32X Test Program and ISP Release Note

**SM3253&3254 Test Program and ISP Release Note:**

Release Date	ISP Version	ISP Check Sum	Test AP Version	Description
2009/06/04	SM3254AB 2009-06-04	SM325ABISP 0x30EF6E	V2.01.03 V1 05/27 build	<ol style="list-style-type: none"> 1. Support Toshiba 43nm 4D2E, 5D2E and 6D2E with Single, 2plane, Interleave and Twin, 1plane, Interleave mode. 2. Support Micron/Intel L63A with Single, 2Plane, Interleave and Twin, 2Plane, Interleave mode. 3. MP tool first formal release.
2009/06/29	SM3254AC 2009-06-29	SM325ACISP 0x32CE04	V2.01.03 V2 06/23 build	<ol style="list-style-type: none"> 1. SM3254ACISP support Global Wear leveling 2. SM3254ACISP fixed Toshiba 43nm 4D2E have download ISP fail when continuously initial card.
2009/07/14	SM3254AC 2009-07-14	SM3254ACISP 0x33CA0D	V2.01.03 V2 07/20 build	<ol style="list-style-type: none"> 1. SM3254ACISP support Samsung 35nm K9GBG08U0M, K9LCG08U1M and K9HDG08U5M with Single, 2Plane, Interleave and Twin, 1Plane, Interleave mode. 2. SM3254ACISP support FDD function 3. SM3254ACISP support Micron L63A MT29F32G08CBAAA, MT29F64G08CFAAA and MT29F128G08CJAAA with Single, 2Plane, Interleave and Twin, 2Plane, Interleave mode 4. SM3254ACISP support Micron L62A MT29F16G08CBABA and Micron L63B MT29F32G08CBABA with Single, 2Plane, Interleave and Twin, 2Plane, Interleave mode. 5. SM3254ACISP support Intel L63A JS29F32G08AAMD1/D2,



				JS29F64G08CAMD1/D2 and JS2916BJAMD1/D2 with Single, 2Plane, Interleave and Twin, 2Plane, Interleave mode. 6. SM3254ACISP modify to improve performance for Toshiba 43nm and Intel/micron L63A.
2009/07/27	SM3254AC 2009-07-14	SM3254ACISP 0x33CA0D	V2.01.05 08/04 build	1. SM3254ACISP support Intel L63B JS29F32G08AAMDB, JS29F64G08CAMDB and JS29F16B08JAMDB with Single, 2Plane, Interleave and Twin, 2Plane, Interleave mode. 2. SM3254ACISP support Samsung 42nm EF-NAND KLE8G4ZUMM with Single, 2Plane, Interleave and Twin, 2Plane, interleave mode. 3. SM3254ACISP support Hynix 41nm 32Gb H27UBG8T2MYR, H27UCG8UDMYR and H27UDG8VEMYR with Single, 2Plane, interleave and Twin, 2Plane, Interleave mode. 4. SM3254ACISP support Hynix 48nm Emulated NAND H2EUCG8N1MYR with Single, 2Plane, interleave and Twin, 2Plane, Interleave mode. 5. MP tool modified to fix bad block counting and capacity issue.
2009/08/25	SM3254AC 2009-08-25	SM3254ACISP 0x3BEC15	V2.01.08 08/21 build	1. SM3254ACISP support Toshiba 43nm G4D2, G5D2 and G6D2 in Twin, 2Plane, Interleave mode. 2. SM3254ACISP support Samsung 35nm GBG, LCG, HDG in Twin, 2Plane, Interleave mode. 3. SM3254ACISP enable cache program for Intel L63B SDP, DDP and



				QDP supporting. 4. SM3254ACISP fixed Intel L63B QDP with Twin+1Plane capacity drop issue when choose "Erase good block only" in MP tool.
2009/09/03	SM3254AC 2009-09-03	SM3254ACISP 0x3DB867	V2.01.09v2 09/02 build	1. SM3254ACISP enable 2plane read to improve Hynix 48nm Emulated NAND H2EUCG8N1MYR read performance. 2. SM3254ACISP support Hynix 41nm 16Gbit H27UAG8T2ATR. 3. SM3254ACISP fixed Toshiba 43nm 4D2E, 5D2E and 6D2E capacity issue.
2009/09/18	SM3255AA 2009-09-03	SM3255AAISP 0x36B6FE	V2.01.08 09/16 build	1. SM3255AAISP support Samsung 51nm TLC K9AAG08U0M 2. SM3255AAISP support Samsung 42nm TLC K9ABG08U0M 3. SM3255AAISP support Toshiba 43nm TLC TC58NVG4T2ETA00 and TC58NVG5T2ETA00
2009/09/22	SM3254AC 2009-09-17	SM3254ACISP 0x3DCF6F	V2.01.10 v3 09/28 build	1. SM3254ACISP support Intel L63B new flash ID "89 68 24 46 " 2. SM3254ACISP support Hynix 41nm 16Gbit DDP H27UBG8U5ATR and QDP H27UCG8V5ATR. 3. SM3254ACISP support Micron 34nm TLC MT29F32G08EBAAA. 4. MP tool modify to ignore the 5th bytes of flash ID check. 5. DBF increase 1byte for 2Plane read enable or not in 0x163. 6. SM3254ACISP enable 2Plane read to improve read performance with Toshiba 43nm MLC.
2009/10/30	SM3254AC	SM3254ACISP	V2.02.02 v8	1. SM3254ACISP fixed Intel L63A and L63B QDPx4 capacity drop



	2009-09-25	0x410564	10/30 build	issue
	SM3254AE	SM3254AEISP		2. SM3254AEISP support Intel L62A,L63A and L63B SDP with differential address remapping in Single, 2Plane, Interleave and Twin, 2Plane, Interleave mode.
	2009-10-14	0x344D00		3. SM3254AEISP support Intel L63B DDP with differential address remapping in Single, 2Plane, Interleave and Twin, 2Plane, Interleave mode.
	SM3255AA	SM3255AAISP		4. SM3254AEISP support Intel L63B QDP with differential address remapping in Single, 2Plane, Interleave and Twin, 2Plane, Interleave mode.
	2009-10-27	0x41897F		5. SM3255AAISP_Samsung51_TLC support Samsung 51nm TLC flash.
	SM3255AA	SM3255AAISP_Samsung42_TLC		6. SM3255AAISP_Samsung42_TLC support Samsung 42nm TLC flash.
	2009-10-27	0x3BAACB		7. SM3255AAISP_Toshiba_TLC support Toshiba 43nm TLC flash.
	SM3255AA	SM3255AAISP_Samsung51_TLC		8. SM3255AAISP_SanDisk_TLC support SanDisk 43nm TLC flash.
	2009-10-27	0x38CAE0		9. SM3255AAISP add "Interleave read" function to improve read performance for Samsung 35nm MLC.
	SM3255AA	SM3255AAISP_Sandisk_TLC		10. SM3255AAISP_Samsung51_TLC, SM3255AAISP_Samsung42_TLC, SM3255AAISP_Toshiba_TLC, SM3255AAISP_SanDisk_TLC and SM3255AAISP modify to support Auto Run function.
	2009-10-27	0x384232		11. MP tool support Multi Lun function.
	SM3255AA	SM3255AAISP_Toshiba_TLC		
	2009-10-27	0x3BAAC9		



				<p>12. MP tool support "Erase info" function before pretest</p> <p>13. Mp tool support Non-Differential Address Bad Block Number display</p>
2009/11/19	SM3255AA 2009-11-13 SM3255AA 2009-10-27	SM3255AAISP_Sandisk_TLC 0x41959A SM3255AAISP 0x41897F	V2.02.02 v8 10/30 build	<p>1. SM3255AAISP_SanDisk_TLC enable cache program to improve write performance for SanDisk 43nm TLC 2GB and 4GB supporting</p> <p>2. SM3255AAISP_SanDisk_TLC support SanDisk 43nm TLC 4GBx2 with single, 2Plane mode to fixed CE care cause performance drop issue with single, 2Plane, Interleave mode.</p> <p>3. SM3255AAISP support Intel/Micron L63B flash</p>
2009/12/31	SM3255AA 2009-12-25	SM3255AAISP 0x005095B2	V2.03.06 v1 12/21 build	<p>1. SM3255AAISP enable 2Plane Read, Cache Read and Cache program for SanDisk 43nm TLC 2GB/4GB (x8, x16) and Toshiba 43nm TLC 4T2E and 5T2E supporting.</p> <p>2. SM3255AAISP modify to let ISP block, info block and Hidden block in strong page.</p> <p>3. MP tool support 3254AE/SM3255AA strong page download.</p>
2010/01/20	SM3255AA 2010-01-19 SM3255AA 2010-01-19 SM3255AA 2010-01-19	SM3255AAISP 0x0050785D SM3255AAISP_Samsung32_TLC 0x00510D78 SM3255AAISP_Samsung42_TLC.BIN 0x0051817B	V2.03.10 v1 01/15 build	<p>1. SM3255AAISP fix unstable sequential write performance issue when HDBENCH testing.</p> <p>2. SM3255AAISP fix unstable sequential write performance issue when ATTO testing.</p> <p>3. SM3255AAISP_Samsung32_TLC use new read retry command table for Samsung 32nm TLC ABGx1 x2 supporting (after 12/E wafer)</p> <p>4. SM3255AAISP support SanDisk 43nm TLC SDTNMNAHEM-002G, SDTNMNAHSM-002G, SDTNMNAHEM-004G and</p>



				<p>SDTNMNAHSM-004G.</p> <ol style="list-style-type: none"> SM3255AAISP support Toshiba 43nm TLC TC58NVG4T2ETA00 and TC58NVG5T2ETA00 SM3255AAISP support Hynix 32nm MLC H27UBG8T2ATR and H27UCG8U5ATR SM3255AAISP support Samsung 32nm MLC K9GAG08U0E SM3255AAISP support Toshiba 32nm MLC TC58NVG5D2FTA10 SM3255AAISP support Micron L63B MT29F32G08CBABA, MT29F64G08CFABA and MT29F128G08CJABA. SM3255AAISP support Intel L63B JS29F32G08AAMDB, JS29F64G08CAMDB and JS29F16B08JAMDB. SM3255AAISP support Micron L63A MT29F32G08CBAAA, MT29F64G08CFAAA and MT29F128G08CJAAA. SM3255AAISP support Intel L63A JS29F32G08AAMD2, JS29F64G08CAMD2 and JS29F16B08JAMD2. SM3255AAISP support Auto Run function.
2010/03/12	<p>SM3255AA</p> <p>2010-03-04</p> <p>SM3255AA</p> <p>2010-03-04</p> <p>SM3255AB</p> <p>2010-03-12</p>	<p>SM3255AAISP.BIN</p> <p>0x005159DF</p> <p>SM3255AAISP_Samsung32_TLC.BIN</p> <p>0x00511F83</p> <p>SM3255ABISP.BIN</p> <p>0x004E9AAE</p>	<p>V2.03.18 v1</p> <p>10/03/12 build</p>	<ol style="list-style-type: none"> SM3255AAISP support Toshiba 32nm MLC TC58NVG4D2FTA00. SM3255AAISP support Micron L74A MT29F64G08CBAAA. SM3255AAISP support Intel L74A JS29F64G08AAME1. SM3255ABISP fixed burn-in fail issue with "00" pattern for Samsung 32nm TLC and SanDisk 43nm TLC supporting. SM3255ABISP support Samsung 32nm TLC



				<ol style="list-style-type: none"> SM3255ABISP support Toshiba 43nm TLC SM3255ABISP support SanDisk 43nm TLC MP tool fix illegally resumes capacity after Initial card. MP tool fix 128MU get wrong bad block number. MP tool fix the Erase Info force to different card mode during change mode.
2010/03/24	SM3255AB 2010-03-22	SM3255ABISP.BIN 0x00535492	V2.03.20 v2 10/03/24 build	<ol style="list-style-type: none"> SM3255AAISP support Toshiba 32nm MLC TC58NVG4D2FTA00, TC58NVG5D2FTA10 and TH58NVG6D2FTA20. SM3255ABISP support Samsung 32nm TLC K9ABG08U0A, K9BCG08U1A and K9CDG08U5A. SM3255ABISP support Samsung 32nm MLC K9GAG08U0E SM3255ABISP support Toshiba 43nm TLC TH58NVG5T2E and TC58NVG4T2E. SM3255ABISP support Hynix 32nm MLC H27UBG8T2ATR SM3255ABISP support SanDisk 32nm MLC SDTNNMAHEM-004G. SM3255ABISP support SanDisk 43nm TLC 2GB, 4GB and 16GB. MP tool supported Interleave Read/Cache Read checking if Enable/Disable Interleave mode. MP tool Check 6 IDs for Toshiba/SanDisk 32nm and 43nm to avoid use wrong setting.
2010/03/26	SM3255AB 2010-03-26	SM3255ABISP.BIN 0x0054DFBD	V2.03.20 v5 10/03/26 build	<ol style="list-style-type: none"> MP tool fixed popup "Please fixed begin serial" message issue. SM3255ABISP fixed Samsung 32nm TLC burn-in under High/Low



				temperature and marked bad block to cause UFD read only issue. 3. SM3255ABISP enable differential address for SanDisk 43nm TLC and Samsung 32nm TLC supporting.
2010/04/15	SM3255AB 2010-04-15	SM3255ABISP.BIN 0x0055FC8E	V 2.03.22 v5 10/04/14	1. Fixed the bug with differential address which might cause data loss after the device re-plug in. 2. Support Hynix 41nm TLC. 3. Mp tool delay the test unit ready to fixed "device removed without finished" error message issue. 4. MP tool support 3255AB Multi-Lun QC. 5. MP tool supported Serial number mask with 'H' for hour and 'm' for minute parsing, random number just refer to '#' mask.
2010/04/22	SM3255AB 2010-04-22	SM3255ABISP.BIN 0x0056D2DE	V 2.03.23 v5 10/04/22	1. SM3255ABISP support Samsung 32nm MLC K9G8G08U0C and K9LBG08U0E. 2. SM3255ABISP fixed Samsung 32nm TLC BCGx2 and CDGx1 Windows 7 DTM logo fail issue 3. SM3255ABISP fixed SanDisk 32nm MLC SDPx1 x2 x4 burn-in fail issue. 4. MP tool fixed Vista-FAT32 format fail issue.
2010/05/05	SM3255AB 2010-04-30	SM3255ABISP.BIN 0x005840FD	V 2.03.24 v3 10/05/05	1. SM3255ABISP modify to turn off Led when safe remove. 2. SM3255ABISP fine tune random write performance when Windows



				<p>7 and Windows Vista WINSAT testing.</p> <p>3. SM3255ABISP support Auto Run and Multi Lun function.</p> <p>4. SM3255ABPtest correct area to find the original bad block for Samsung 32nm MLC & TLC.</p> <p>5. SM3255ABISP support Toshiba 43nm TLC TH58NVG6T2ETA20.</p> <p>6. SM3255ABISP support Toshiba 43nm MLC TC58NVG4D2ETA00, TH58NVG5D2ETA20 and TH58NVG6D2ETA00.</p> <p>7. SM3255ABISP support Micron L74A MT29F64G08CBAAA, MT29F128G08CFAAA and MT29F256G08CJAAA.</p> <p>8. SM3255ABISP support Intel L74A JS29F64G08AAME1 and JS29F16B08CAME1.</p> <p>9. SM3255ABISP support Micron L63A MT29F32G08CBAAA, MT29F64G08CFAAA and MT29F128G08CJAAA.</p> <p>10. SM3255ABISP support Intel L63A JS29F32G08AAMD2, JS29F64G08CAMD2 and JS29F16B08JAMD2.</p> <p>11. SM3255ABISP support Micron L63B MT29F32G08CBABA, MT29F64G08CFABA and MT29F128G08CJABA.</p> <p>12. SM3255ABISP support Intel L63B JS29F32G08AAMDB, JS29F64G08CAMDB and JS29F16B08JAMDB</p> <p>13. MP tool support fixed capacity with static size.</p> <p>14. MP tool support Auto+ HDD type.</p>
2010/05/25	SM3255AB 2010-05-22	SM3255ABISP.BIN 0x005BEF16	V 2.03.27 v9 10/05/25	<p>1. SM3255ABISP enable cache program and cache read to improve performance for Samsung 32nm MLC supporting.</p>



	SM3255AB 2010-05-22	SM3255ABISP-bucket01.BIN 0x005BC7F4		<ol style="list-style-type: none"> SM3255ABISP support Hynix 26nm MLC SM3255ABISP support Intel L74A new flash ID “ 89 88 04 4B” flash. SM3255ABISP support SanDisk 43nm MLC SDZNMMDHER-032G (4-CE, 8-Die) flash. SM3255ABISP fixed Samsung reported 10 USB protocol issues. SM3255ABISP fine tune Win7 WINSAT Random writes with length 512K to pass 2MB/s requirement. SM3255ABISP fixed the bug that might cause data loss after power cycling testing. SM3255ABISP-bucket01 support Samsung 32nm TLC bucket 01 flash (Tprog= 2ms) MP tool fixed Public & CDROM preload fail issue. MP tool fixed Public & CDROM preload + Mode A fail issue.
2010/06/03	SM3255AB 2010-05-28 SM3255AB 2010-05-28	SM3255ABISP.BIN 0x005B862C SM3255ABISP-bucket01.BIN 0x005B6387	V 2.03.28 v3 10/06/03	<ol style="list-style-type: none"> SM3255ABISP fixed “00” pattern cause burn-in fail issue. SM3255ABISP fixed the issue that caused media change with Multi-Lun. SM3255ABISP support SanDisk 43nm MLC (Flash ID: 45 DE 95 32) flash. SM3255ABISP disable cache program for Intel/Micron L73A flash supporting.



				<ol style="list-style-type: none"> MP tool fixed preload files fail issue with multiple device. MP tool add check disk size to 512 GB. MP tool fixed write performance drop issue when ATTO testing after fixed capacity. MP tool fixed Multi-Lun setting with mode C, issue of read only with which one of two public.
2010/06/15	SM3255AB 2010-06-14 SM3255AB 2010-06-14	SM3255ABISP.BIN 0x005BFD47 SM3255ABISP-bucket01.BIN 0x005BD75D	V 2.03.28 v9 10/06/15	<ol style="list-style-type: none"> SM3255ABISP add 1Plane interleave read function to improve read performance for Samsung 32nm MLC Interleave mode supporting SM3255ABISP enhance suddenly power cycling. SM3255ABISP-bucket01 enhance suddenly power cycling. MP tool fixed read only function bug in Mode A. MP tool fixed file string length too long cause blue screen in Traditional Chinese OS when preload files.
2010/07/13	SM3255AB 2010-07-07 SM3255AB 2010-07-07	SM3255ABISP.BIN 0x005CCEB5 SM3255ABISP-bucket01.BIN 0x005CA96E	V 2.03.29 v7 10/07/09	<ol style="list-style-type: none"> SM3255ABISP add flash ID “ 89 68 04 4A” for Intel L73A supporting. SM3255ABISP add flash ID ” 2C A8 05 CB” for Micron L74A supporting. SM3255ABISP support SanDisk 32nm MLC SDZNNMDHER - 032G. SM3255ABISP support SanDisk 56nm MLC SDTNLMAHSM - 2048. SM3255ABISP-bucket01 modifies USB protocol command to pass Samsung USB corner case test flow. SM3255ABISP modifies USB protocol command to pass Samsung



				<p>USB corner case test flow.</p> <ol style="list-style-type: none"> SM3255ABISP fixed device USB disconnection issue when MP tool initial card. SM3255ABISP-bucket01 fixed device USB disconnection issue when MP tool initial card. SM3255ABISP support Hynix 26nm MLC MP tool add 5bytes flash ID checking
2010/07/30	<p>SM3255AB</p> <p>2010-07-28</p> <p>SM3255AB</p> <p>2010-07-28</p>	<p>SM3255ABISP.BIN</p> <p>0x005CD771</p> <p>SM3255ABISP-bucket01.BIN</p> <p>0x005CA8FC</p>	<p>V 2.03.30 v10</p> <p>10/07/30</p>	<ol style="list-style-type: none"> SM3255ABISP fixed build link block bug cause SanDisk 32nm MLC 32GB copy/compare issue. SM3255ABISP support Hynix 41nm MLC H27UBG8T2MYR. SM3255ABISP fixed Samsung 32nm TLC K9CDG08U5A test fail when DTM testing with Windows Vista 32bit. MP tool add QC function to check used space. MP tool enhanced the initial parameters fail process to improve production yield. MP tool fixed issue of preload FAT16. MP tool add Multiple Erase all function.
2010/08/18	<p>SM3255AB</p> <p>2010-08-09</p> <p>SM3255AB</p>	<p>SM3255ABISP.BIN</p> <p>0x005CBBD8</p> <p>SM3255ABISP-bucket01.BIN</p>	<p>V 2.03.31 v1</p> <p>10/08/18</p>	<ol style="list-style-type: none"> SM3255ABISP support Samsung 27nm MLC 24bit/1KB ECC K9GBG08U0A. SM3255ABISP support Micron M73A MT29F32G08ABAAA.



	2010-08-16 SM3255AB 2010-08-09	0x005D04E5 SM3255ABISP-HY32.BIN 0x005CFF6C		<ul style="list-style-type: none">3. SM3255ABISP support Hynix 26nm MLC H27UCG8T2MYR.4. SM3255ABISP-HY32 support Hynix 32nm TLC H27UBG8M2A.5. MP tool fixed update ISO issue (CDROM + Public mode change to Public only mode without do-pretest).6. MP tool add QC function which check capacity and used space.7. MP tool add Multiple Erase all function.
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