



Product Change Notification

PCN No. FL081001-00

Issue Date Oct 1, 2008

ECN # N/A

Nature of Change(s)	Samsung NAND die revision impacting all ATA and USB card/module products based on STEC's M1 and U1 controllers with selected Samsung 4Gb (A-die) SLC NAND flash components.				
Affected Part Number(s)	xxxCF512M1U(I)-x (see table) xxxATA512M1U(I)-x (see table) xxxFDM4xx-512M1U(I) (see table) xxxFLD25-512M1U(I) (see table) xxxlSCD512M1U(I) (see table) xxxUSCD512U1U(I) (see table) xxxUFD1GU1U(I)-x (see table) xxxUFDM1GU1U(I)-x (see table) xxxSD512BS(I)U (see table) xxxMSD512BS(I)U (see table)	Last Time Buy Date	11/30/08	Effective Change Date	10/01/2008
Product Description	All CF, ATA, FDM, FLD, and SCD in 512MB capacities; UFD and UFDM in 1GB capacities				

Reason for Change(s)

Samsung will implement a manufacturing enhancement to its 63nm SLC NAND flash components and will replace with new 59nm parts as listed below:

- 4Gb "A-die" (K9F4G08U0A) components will transition to 4Gb "B-die" components with part number K9F4G08U0B

The new parts will implement changes to the copy-back programming and power-up initialization sequence.

	Samsung 4Gb (512MB) Flash	
	A-die	B-die
Samsung Part#	K9F4G08U0A	K9F4G08U0B
Copy-back Programming	With EDC	Without EDC
Power-up Initialization Sequence	10µs	5ms
STEC Controller	M1 / U1	M1B / M2P / U2

Traceability Guidelines

The STEC ordering part number will change, for example:

SLCF512MM1U(I)-x (old) → SLCF512MM1BU(I)-x (new)
or
SLCF512MM1U(I)-x (old) → SLCF512MM2PU(I)-x (new)

The ordering part numbers are clearly marked on each STEC device.



STEC Product Enhancement Plan

STEC will support the new B-die flash with current STEC M1 single-channel controller (scheduled to sample in 4Q08) as well as upcoming STEC M2+ dual-channel controller (scheduled to sample in 1Q09). The M2+ is a new SSD-grade controller platform specifically designed with increased internal memory and more robust 8-bit ECC and total drive wear-leveling algorithm to support future flash revisions for improved reliability and long-term support.

	STEC Controller Evolution		
	M1	M1B	M2P
Channels	1-channel	1-channel	2-channel
Frequency	25MHz	25MHz	66MHz
Typical Read/Write (MB/sec)	10 read / 7 write	10 read / 7 write	25 read / 20 write
Flash Supported	63nm (2K page)	59nm (2K page)	50nm-40nm (2K/4K page)
Modes Supported	MWDMA	MWDMA	UDMA
ECC	4 Byte Correct per sector	4 Byte Correct per sector	8-bit per 512bytes
Capacities supported	32MB - 16GB	32MB - 16GB	128MB - 16GB
SRAM buffer	2Kb	2Kb	40Kb
Code Storage	NOR	NOR	ROM + external flash
Regulator	External	External	Integrated (external for I-Temp)
Wear-Leveling	Dynamic	Dynamic	Dynamic + Static
Lithography/Process	.25m	.25m	.13m

Specific Part(s) Affected



All M1 based, USB SCD, and SD parts in 512MB capacity and all UFD and UFDm parts in 1GB capacity, including customer specific parts from same family.

Old Mfg P/N	New Mfg P/N	Effective PCN Date	Samples Availability Date (New Product)	Last Time Buy Date (Old Product)
xxxCF512MM1U(I)-x	xxxCF512 M1BU (I)	10/1/2008	11/08	11/30/08
xxxCF512L2A(I)U	xxxCF512 M2PU (I)	10/1/2008	1/09	11/30/08
xxxATA512MM1U(I)-x	xxxATA512 M1BU (I)	10/1/2008	11/08	11/30/08
xxxFDM4xx-512MM1U(I)	xxxFDM4xx-512 M1BU (I)	10/1/2008	12/08	11/30/08
xxxFLD25-512MM1U(I)	xxxFLD25-512 M1BU (I)	10/1/2008	12/08	11/30/08
xxxISCD512MM1U(I)	xxxISCD512 M1BU (I)	10/1/2008	12/08	11/30/08
xxxUSCD512U1U(I)	xxxUSCD512 U2U (I)	10/1/2008	12/08	11/30/08
xxxUFD1GU1U(I)-x	xxxUFD1 GU2U (I)	10/1/2008	11/08	11/30/08
xxxUFDm1GU1U(I)-x	xxxUFDm1 GU2U (I)-x	10/1/2008	11/08	11/30/08
xxxSD512BS(I)U	xxxSD512 BBS (I)U	10/1/2008	11/08	11/30/08
xxxMSD512BS(I)U	xxxMSD512 BBS (I)U	10/1/2008	12/08	11/30/08



Additional Documentation(s)

Attachments:

File Description	File Attachment
STEC MACH1B CF/ATA Datasheet	 SLCFxxx(M-G)M1B(T 2)U(I) 61000-04496-:
STEC MACH2+ CF/ATA Datasheet	 SLCFxxx(G)M2PU(I) 61000-05610-101.pd
STEC U2 USB Datasheet	To be released