PRODUCT/PROCESS CHANGE NOTIFICATION

PCN MMS-MIC/10/5756
Notification Date 07/16/2010

Qualification of a new wafer fab for STM32F10x high & small density devices

Table 1. Change Implementation Schedule

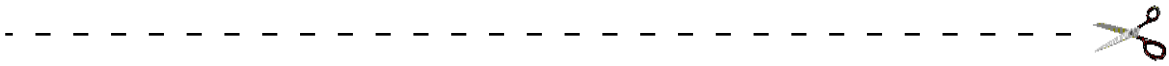
Forecasted implementation date for change	15-Sep-2010
Forecasted availabillity date of samples for customer	15-Sep-2010
Forecasted date for **STMicroelectronics** change Qualification Plan results availability	15-Sep-2010
Estimated date of changed product first shipment	12-Oct-2010

Table 2. Change Identification

Product Identification (Product Family/Commercial Product)	STM32F101/102/103x high & small density devices
Type of change	Waferfab additional location
Reason for change	Need for improved production flexibility
Description of the change	Fab11 is already qualified for 0.18 flash techno as per PCN MMS-MIC/10/5476 . This PCN aims to extend this qualification to STM32F10x high & small density devices in order to support current and future customer demand and improve our service through increased capacity and improved manufacturing flexibility. All datasheet parameters are identical to Fab3 silicon.
Product Line(s) and/or Part Number(s)	See attached
Description of the Qualification Plan	See attached
Change Product Identification	Package marking from "93" to "9U"
Manufacturing Location(s)	

Table 3. List of Attachments

Customer Part numbers list	
Qualification Plan results	



Customer Acknowledgement of Receipt	**PCN MMS-MIC/10/5756**
Please sign and return to STMicroelectronics Sales Office	**Notification Date 07/16/2010**

☐ Qualification Plan Denied	Name:
☐ Qualification Plan Approved	Title:
	Company:
☐ Change Denied	Date:
☐ Change Approved	Signature:

Remark

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DOCUMENT APPROVAL

Name	Function
Colonna, Daniel	Division Marketing Manager
Buffa, Michel	Division Product Manager
Narche, Pascal	Division Q.A. Manager

0.18 FLASH TECHNO
FAB11 SECOND SOURCE QUALIFICATION

CHARACTERISATION PLAN

June 18th, 2010 V1.0

FAB11 – PRODUCT ELECTRICAL CHARACTERISATION PLAN

- Fab electrical parameter of the process between 2 wafer fab = 0 deviation in limit & target
- One product of this familly as a reference already qualified & certified without no deviation
- ManufacturingTest & Detection : yield & datalog = identical
  - 1 lot

TEST VEHICLE	STM32F1xx
DICE NAME	412 & 414
MEMORY	FLASH 0.18µm / 128KB
EWS site	Rousset
PACKAGE ASSEMBLY SITE	LQFP100 14*14 MUAR (1)
FT site	Muar

FAB11 SECOND SOURCE QUALIFICATION
for STM32 512KB & 32KB

RELIABILITY PLAN

May 30th, 2010 V1.0

FAB11 – 512KB/32KB PROLIFERATION

THE 0.18 FLASH TECHNOLOGY IS QUALIFIED BASED ON 3 LOTS. THUS, THESE DATA ALLOW TO PROLIFERATE STM32 512KB & 32KB WITH 1 LOT PERFORMED IN RELIABILITY AS SHOWN IN TABLE BELOW :

TEST VEHICLE	**STM32F1xx**
DIE NAME	**414Y**
MEMORY	**FLASH 0.18µm / 512KB**
PACKAGE **ASSEMBLY SITE**	**LQFP144 20*20** **MALTA (1)**
QUALIFICATION LOTS	**1 STD LOT**
RELIABILITY DURATION	**10 weeks (2)**

(1) **Assy report will be requested for this qual lot**

(2) **+ 4 weeks for EWS, Assy and FT after Fab out date**

FAB11 PROLIFERATION – RELIABILITY PLAN

TEST	SPECIFICATION	NB OF PARTS LOT 1	ACCEPTANCE CRITERIA
ESD HBM/CDM Latch-up	JEDEC Std JESD22 AEC Q100	ESD : 2 x 3pcs LU : 1 x 5pcs On 512K & 32K	HBM 2 kV / CDM 500 V LU @ 125 C No reject with std FT
EARLY FAILURE RATE OPERATING LIFE TEST	AEC Q100 Method 008	1 x 500pcs	24 HRS / 140°C / 4V No reject with std FT
HIGH TEMPERATURE OPERATING LIFE TEST	MIL Std 883E Method 1005	1 x 80pcs	500 HRS / 140°C / 4V No reject with std FT
HIGH TEMPERATURE RETENTION BAKE AFTER HOT CYCLING	MIL Std 883E Method 1008	1 x 80pcs	672 HRS / 175°C / No Bias Samples pre-cycled 10K (in monitoring)
FLASH CYCLING at HOT / AMBIANT / COLD	ADCS 0061692	1 x 80pcs For each temp	10K CYCLES @ 125°C + 72Hrs bake 10K CYCLES @ -40°C+ 72Hrs bake 10K CYCLES @ 25°C+ 72Hrs bake No reject with std FT

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