



PRODUCT/PROCESS CHANGE NOTIFICATION

PCN MMS-MIC/11/6875
Notification Date 10/20/2011

**Qualification of a new wafer fab for STM32F100xxxxB low
and medium density devices**

Table 1. Change Implementation Schedule

Forecasted implementation date for change	19-Jan-2012
Forecasted availability date of samples for customer	13-Oct-2011
Forecasted date for STMicroelectronics change Qualification Plan results availability	13-Nov-2011
Estimated date of changed product first shipment	19-Jan-2012

Table 2. Change Identification

Product Identification (Product Family/Commercial Product)	All STM32F100xxxxB low and medium density devices
Type of change	Waferfab additional location
Reason for change	Need for improved production flexibility
Description of the change	Fab 11 is already qualified for STM32F10x medium/high/low density. This PCN aims to extend this qualification to STM32F100xxxxB low and medium density devices in order to support current and future customer demand and improve ou 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/11/6875
Please sign and return to STMicroelectronics Sales Office		Notification Date 10/20/2011
<input type="checkbox"/> Qualification Plan Denied <input type="checkbox"/> Qualification Plan Approved <input type="checkbox"/> Change Denied <input type="checkbox"/> Change Approved	Name:	
	Title:	
	Company:	
	Date:	
	Signature:	
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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
WF11 SECOND SOURCE QUALIFICATION**

CHARACTERISATION PLAN

October 6th 2011,V1.0

STMicroelectronics

WF11 – PRODUCT ELECTRICAL CHARACTERISATION PLAN

- Fab electrical parameter of the process between 2 wafer fab = 0 deviation in limit & target
- 3 products of this family as a reference already qualified and certified without any deviation (ref to characterization report 240510_410_F11.doc)
- Manufacturing Test & Detection : yield & datalog = identical
 - 2 lots
 - 1 corner lot
- Electrical characterization on critical parameters to guarantee datasheet specification

TEST VEHICLE	STM32F100
DIE NAME	420
MEMORY	FLASH 0.18µm / 128KB
EWS site	Ardentec
PACKAGE ASSEMBLY SITE	LQFP100 14*14 ATK1
FT site	ATK3



WF11 – PRODUCT ELECTRICAL CHARACTERISATION CRITICAL PARAMETERS

Datasheet parameter	Characterization parameter	Characterized Sample
LOW CONSUMPTION STOP Regon	Temperature	Digital transistor Std & Corner lot
ADC (INL,DNL,Offset)	Temperature & power supply	Digital transistor Std lot

Note that critical electrical parameters are yield monitored and datalogged on all lots mentioned





FAB11 SECOND SOURCE QUALIFICATION for STM32 128K VALUE

RELIABILITY PLAN

Oct 4th, 2011 V1.0

STMicroelectronics

FAB11 – 128KB VALUE QUALIFICATION

THE 0.18 FLASH TECHNOLOGY IS QUALIFIED BASED ON 3 LOTS (1) AND IN PRODUCTION. THUS, THESE DATA ALLOW TO PROLIFERATE STM32 128KB VALUE BY PERFORMING RELIABILITY TRIALS WITH ONLY 1 LOT AS SHOWN IN TABLE BELOW :

TEST VEHICLE	STM32F100V8T6B
DIE NAME	420_1 (revZ)
MEMORY	FLASH 0.18 μ m / 128KB
PACKAGE ASSEMBLY SITE	LQFP100 14*14 MALTA
QUALIFICATION LOTS	1 STD LOT HP132ACS
RELIABILITY DURATION	4 weeks

(1) : Qual report RERMCD1022



VALUE QUALIFICATION – RELIABILITY PLAN

TEST	SPECIFICATION	NB OF PARTS	ACCEPTANCE CRITERIA
		LOT 1	
ESD HBM/CDM Latch-up	JEDEC Std JESD22 AEC Q100	ESD : 2 x 3pcs LU : 1 x 5pcs	HBM 2 kV / CDM 500 V LU @ 125°C No reject with std FT
HIGH TEMPERATURE OPERATING LIFE TEST	MIL Std 883E Method 1005	1 x 80pcs	168 HRS / 140°C / 4V No reject with std FT
HIGH TEMPERATURE RETENTION BAKE AFTER HOT CYCLING	MIL Std 883E Method 1008	1 x 80pcs	72 HRS / 175°C / No Bias samples pre-cycled 10K@125°C No reject with std FT



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