



PRODUCT/PROCESS CHANGE NOTIFICATION

PCN MMS-MIC/13/8037
Dated 06 Aug 2013

**STM32F4x 2Mbyte cut 1.2 products - ST Crolles Wafer Fab
additional source in 12" wafers**

Table 1. Change Implementation Schedule

Forecasted implementation date for change	17-Feb-2014
Forecasted availability date of samples for customer	17-Jan-2014
Forecasted date for STMicroelectronics change Qualification Plan results availability	17-Jan-2014
Estimated date of changed product first shipment	17-Feb-2014

Table 2. Change Identification

Product Identification (Product Family/Commercial Product)	STM32F4x cut 1.2 revision Y products
Type of change	Waferfab additional location
Reason for change	Front-End dual sourcing
Description of the change	Qualification of ST Crolles Wafer Fab 12" (France) for STM32F4x 2Mbyte cut 1.2 (revision Y) devices, as an additional plant for wafer diffusion. Products currently produced in Rousset 8" will also be produced in Crolles 12". Datasheet parameters remain unchanged. There is no hardware or software change for customers.
Change Product Identification	Marking composition changes from:"xxxxx 3G" to "xxxxx 3V"
Manufacturing Location(s)	

Table 3. List of Attachments

Customer Part numbers list	
Qualification Plan results	



Customer Acknowledgement of Receipt		PCN MMS-MIC/13/8037
Please sign and return to STMicroelectronics Sales Office		Dated 06 Aug 2013
<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:	
Remark		

DOCUMENT APPROVAL

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



PRODUCT/PROCESS CHANGE NOTIFICATION

STM32F4x 2Mbyte cut 1.2 products – ST Crolles Wafer Fab additional source in 12” wafers

MMS - Microcontrollers Division (MCD)

Dear Customer,

Committed to serving our customers, our teams operate with the constant objective to improve customer service through increased capacity and double-sourcing.

What is the change?

Qualification of ST Crolles Wafer Fab 12” (France) for STM32F4x 2Mbyte cut 1.2 (revision Y) devices, as an additional plant for wafer diffusion. Products currently produced in Rousset 8” will also be produced in Crolles 12”. Datasheet parameters remain unchanged. There is no hardware or software change for customers.

Why?

The change will improve and secure service through capacity increased & double-sourcing.

When ?

The production will start in Crolles from **week 08 2014**.

How will the change be qualified?

This change will be qualified using the standard STMicroelectronics Corporate Procedures for Quality and Reliability, in full compliancy with the JESD-47 international standard.

See Qualification plan attached at the end of this document.

What is the impact of the change?

- **Form:** no commercial product changed
- **Fit:** no change
- **Function:** no change

How can the change be seen?

Traceability of the change is ensured by ST internal tools.

The marking composition indicated on the products is changing from:
“xxxxx 3G” to “xxxxx 3V”

We remain available to discuss any concern that you may have regarding this Product Change Notification.

With our sincere regards.

Michel Buffa

Microcontroller Division General Manager



RELIABILITY PLAN

Qualification items :

STM32F4x 2Mbyte revision Y products
ST Crolles Wafer Fab additional source in 12'' wafers

Diffusion Plant: **CROLLES 12'' waferfab**

Devices: **STM32F4xx**

Issued on: **July 23, 2013**



Purpose

- ✓ Qualification of products 419 revY (STM32F4x) in 300mm Crolles waferfab.

Test Vehicles :

Device : **Dice 419Y (STM32F4x)**

The CMOSM10 Technology Platform is qualified in CROLLES waferfab by a transfer from Rousset plant.

The STM32F4x products, already in production in Rousset Waferfab are transferred to Crolles Waferfab as additional source.

Based on these data and according to our “Reliability tests and criteria for qualifications” specification (ADCS 0061692), the following reliability strategy is:

- 1 qualification lot on 419Y / UFBGA216 used for reliability trials described in below table :

**DIE-ORIENTATED RELIABILITY TRIALS :**

Reliability Trial		Test Conditions	Pass Criteria	Unit per Lot	Lot nb
ELFR	Early Life Failure Rate AEC-Q100-008	125°c, 3.6V	48h	500	1 (419)
HTOL	High Temperature Operating Life JESD22-A108	125°c, 3.6V	1200h	77	1(419)
EDR	Memory cycling endurance & Retention JESD22-A117	10Kcycles at 125°C + 672hrs bake 175°C	No reject	77	1 (419)
EDR	Memory cycling endurance & Retention JESD22-A117	10Kcycles at 25°C + 72hrs bake 175°C	No reject	77	1 (419)
EDR	Memory cycling endurance & Retention JESD22-A117	10Kcycles at -40°C + 72hrs bake 175°C	No reject	77	1 (419)
ESD	ESD Human Body Model AEC-Q100-002	2KV (except Vbat 1KV)	2KV	3	1 (419)
ESD	ESD Charge Device Model JESD22-C101	750V corners 500V all other pins	750V / 500V	3	1 (419)
LU	Latch Up EIA/JESD78	125°C	no LU	6	1 (419)

**PACKAGE-ORIENTATED RELIABILITY TRIALS :**

Reliability Trial		Test Conditions	Pass Criteria	Unit per Lot	Lot nb
PC	Pre Conditioning: Moisture Sensitivity Jedec J-STD-020/ JESD22-A113	Bake (125°C / 24 hrs) Soak (30°C / 60% RH / 192 hrs) for level 1, 3 passes of convection flow.	3 passes MSL3	308	1(419)
Uhast	Unbiased Higly Accelerated Temperature and Humidity Stress (Following PC) JESD22-A118A	130°C, 85% RH, 2 Atm	96h	77	1(419)
TC	Thermal Cycling (Following PC) JESD22 A104	-50°C, +150°C	1000cy	77	1(419)
THB	Temperature Humidity Bias (Following PC) JESD22 A101	85°C, 85% RH, bias	1000h	77	1(419)
HTSL	High Temperature Storage Life (Following PC) JESD22 A103	150°C- no bias	1000h,	77	1(419)

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