PRODUCT/PROCESS CHANGE NOTIFICATION

PCN MMS-MIC/14/8537
Dated 11 Jul 2014

STM32F37x & STM32F07x products - TSMC Taiwan Wafer Fab

8 additional source

Table 1. Change Implementation Schedule

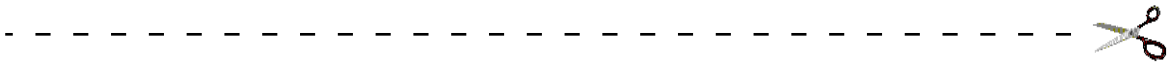
Forecasted implementation date for change	03-Nov-2014
Forecasted availability date of samples for customer	03-Oct-2014
Forecasted date for **STMicroelectronics** change Qualification Plan results availability	03-Oct-2014
Estimated date of changed product first shipment	03-Nov-2014

Table 2. Change Identification

Product Identification (Product Family/Commercial Product)	STM32F37x & STM32F07x products
Type of change	Waferfab additional location
Reason for change	Dual sourcing
Description of the change	Qualification of TSMC Taiwan Wafer Fab 8 for STM32F37x & STM32F07 products, as an additional wafer fab to insure double sourcing.
Change Product Identification	See indicated below
Manufacturing Location(s)	

Table 3. List of Attachments

Customer Part numbers list	
Qualification Plan results	



Customer Acknowledgement of Receipt	**PCN MMS-MIC/14/8537**
Please sign and return to STMicroelectronics Sales Office	**Dated 11 Jul 2014**

☐ 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	Marketing Manager
Buffa, Michel	Product Manager
Narche, Pascal	Q.A. Manager

PRODUCT/PROCESS CHANGE NOTIFICATION

STM32F37x & STM32F07x products - TSMC Taiwan Wafer Fab 8 additional source

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 TSMC Taiwan Wafer Fab 8 for STM32F37x & STM32F07 products, as an additional plant for wafer diffusion. Products currently produced in TSMC Taiwan Wafer Fab 11 will also be produced in TSMC Taiwan Wafer Fab 8. Datasheet parameters remain unchanged. There is no hardware or software change for customers.

Why?

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

When ?

The production on the new locations will start from week 45 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 change

- Fit: no change

- Function: no change

How can the change be seen?

Traceability of the change is ensured by ST internal tools.

The product revision identification is shown on the package marking as below:

- for STM32F37x products, from "B" to "1"
- for STM32F07x products, from “Y” to "1"

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

STM32F373 STM32F378 – Die 432
STM32F072 STM32F078 – Die 448

Reliability Evaluation Plan

July 3rd 2014

MMS MCD Quality & Reliability Department

life.augmented

STM32F373 - STM32F378 – Die 432
STM32F072 - STM32F078 – Die 448
Reliability plan for move to TSMC Fab8

- Context :
  - PCN 8537 “STM32F37x & STM32F07x products - TSMC Taiwan Wafer Fab 8 additional source “
  - STM32F37x is the first product to be transferred and therefore the test vehicle for fab8 qualification

STM32F373 - STM32F378 – Die 432
STM32F072 - STM32F078 – Die 448
Reliability plan for move to TSMC Fab8

- Die oriented trials

Trial	Test1	Method	Conditions	Test2	Method	Conditions	Die 432(1) Sample x lot	Die 448 Sample x lot
DIE	LU	JESD78	125°C				6 x 1	6 x 1
	ESD HBM	ANSI/ESDA/ JEDEC JS-001					3 x 1	3 x 1
	HTOL	MIL-STD-883 Method 1005 JESD22-A108	125°C , 3.6V, 1200h(2) or equivalent				77 x 3	77 x 1
	EDR Cycling	JESD22-A117	125°C, 3.6V,10kcyc Prog	Bake	JESD22 A103	150°C, 1000h(3) or equivalent	77 x 3	77 x 1
	EDR Cycling	JESD22-A117	25°C, 3.6V, 10kcyc Prog	Bake	JESD22 A103	150°C,168h or equivalent	77 x 3	77 x 1
	EDR Cycling	JESD22-A117	-40°C, 3.6V, 10kcyc Prog	Bake	JESD22 A103	150°C,168h or equivalent	77 x 3	77 x 1

Notes

- (1) : STM32F37x – Die 432: Test vehicle for transfer to TSMC Fab8
- (2): Die 432: Lot1 & Lot2: 1200h, Lot3: 600h (1200h in monitoring) / Die 448: Lot1: 600h (1200h in monitoring)
- (3): Die 432: Lot1 & Lot2: 1000h, Lot3: 500h (1000h in monitoring) / Die 448: Lot1: 500h (1000h in monitoring)
- LU Latch up
- HBM Human Body Model
- HTOL High Temperature Operating Life
- EDR NVM Endurance & data retention

STM32F373 - STM32F378 – Die 432
STM32F072 - STM32F078 – Die 448
Reliability plan for move to TSMC Fab8

- Package oriented trials

	Test1	Method	Conditions	Test2	Method	Conditions	Sample x lot
Package	ESD CDM	ANSI/ESD STM5.3.1	25°C Min 250V				3 x 1
	PC, MSL3 or MSL1 (4)	J-STD-020D JESD22-A113	Peak T at 260°C 3 IR-reflows	THB or THS (5)	JESD 22-A101	85°C, 85% RH, 3.6V, 1000h(6)	77 x 1
	PC, MSL3 or MSL1 (4)	J-STD-020D JESD22-A113	Peak T at 260°C 3 IR-reflows	UHAST	JESD 22-A118	130°C, 85% RH, 2 Atm, 96h	77 x 1
	PC, MSL3 or MSL1 (4)	J-STD-020D JESD22-A113	Peak T at 260°C 3 IR-reflows	TC	JESD 22-A104	-50°C/+150°C, 1000cyc	77 x 1
	PC, MSL3 or MSL1 (4)	J-STD-020D JESD22-A113	Peak T at 260°C 3 IR-reflows	HTS	JESD 22-A103	150°C, 1000h(6)	77 x 1

Notes

- (4): MSL1 or MSL3 depending on each package
- (5) THB or THS depending on each package
- (6): Qualification after 500h / 1000h for monitoring
- MSL1 Moisture sensitivity level 1
- MSL3 Moisture sensitivity level 3
- CDM Charge Device Model
- PC Preconditioning
- THB Temperature Humidity Bias
- THS Temperature Humidity Storage
- UHAST Unbiased humidity accelerated stress test
- TC Thermal Cycling
- HTS High Temperature Storage Life

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