



PRODUCT/PROCESS CHANGE NOTIFICATION

PCN MMS-MIC/14/8451
Dated 27 May 2014

STM32F4x 2Mbyte products improvement

Table 1. Change Implementation Schedule

Forecasted implementation date for change	16-Jun-2014
Forecasted availability date of samples for customer	26-May-2014
Forecasted date for STMicroelectronics change Qualification Plan results availability	26-May-2014
Estimated date of changed product first shipment	16-Jun-2014

Table 2. Change Identification

Product Identification (Product Family/Commercial Product)	Products listed below
Type of change	Product design change
Reason for change	Product features improvement
Description of the change	In order to provide improved products features to our customers, ST MCD division is introducing a new die revision.
Change Product Identification	see indicated below
Manufacturing Location(s)	

DOCUMENT APPROVAL

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



PRODUCT/PROCESS CHANGE NOTIFICATION

STM32F4x 2Mbyte products improvement

MMS - Microcontrollers Division (MCD)

Dear Customer,

In order to provide improved products features to our customers, ST MCD division is introducing a new die revision.

What is the change?

Changes on STM32F4x 2Mbyte products are described below:

	Actual	New
Wafer Fab	Rousset 8" (France)	Crolles 12" (France) - change indicated in PCN 8037
Die revision code	Y	1
Bootloader	revision 7.0	revision 9.1 (*1)
Flexible Memory Controller (FMC)	STM32F42xx & STM32F43xx Errata sheet r7	Limitation described in STM32F42xx & STM32F43xx Errata sheet r7, section 2.8.6, is fixed. Limitation described in STM32F42xx & STM32F43xx Errata sheet r7, section 2.8.10, is added.

(*1) Bootloader revision 9.1:

The embedded Bootloader revision 9.1 improves communication interfaces, startup time and system clock. For more details, please refer to Application Note 2606 STM32 Microcontroller system memory boot mode, revision 18.

Why?

Product features are improved with this new die revision.

When ?

The production with this new die revision, will start from **week 25 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:** new Bootloader, Flexible Memory Controller (FMC) improved

How can the change be seen?

Traceability of the change is ensured by ST internal tools.

The die revision is changing from "Y" to "1". It is marked onto the package of the part.

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

List of Commercial products impacted:

STM32F427VGT6
STM32F427VIT6
STM32F427VIT6TR
STM32F429VET6
STM32F429VGT6
STM32F429VIT6
STM32F429VIT6U
STM32F437VGT6
STM32F437VIT6
STM32F437VIT6TR
STM32F437VIT6WTR
STM32F439VGT6
STM32F439VIT6
STM32F439VIT6U
STM32F427ZGT6
STM32F427ZIT6
STM32F429ZET6
STM32F429ZGT6
STM32F429ZIT6
STM32F429ZIT6U
STM32F437ZGT6
STM32F437ZIT6
STM32F439ZGT6
STM32F439ZIT6
STM32F439ZIT6U
STM32F439IIT6TR
STM32F427IGT6
STM32F427IIT6
STM32F429IET6
STM32F429IGT6
STM32F429IIT6
STM32F429IIT6U
STM32F437IGT6
STM32F437IIT6
STM32F439IGT6
STM32F439IIT6
STM32F439IIT6U
STM32F427IGH6
STM32F427IIH6
STM32F427IIH6TR
STM32F427IIH6U
STM32F429IEH6
STM32F429IGH6
STM32F429IIH6
STM32F429IIH6TR
STM32F429IIH6U
STM32F437IGH6
STM32F437IIH6

STM32F437IIH6TR

STM32F437IIH6U

STM32F439IGH6

STM32F439IIH6

STM32F439IIH6TR

STM32F439IIH6U



STM32F4xx - BIG MANTA – 2M

New design revision introduction

Reliability Evaluation Plan

April, 17th 2014

MMS MCD Quality & Reliability Department



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STM32F4xx - Big Manta - 2M - M10 - CR300 2

- Context :

Introduction of new design revision to correct design limitations present on current cut.

- Impacted packages :

- LQFP14x14 (100L) assembled in AMKOR ATK1
- LQFP20x20 (144L) assembled in AMKOR ATK1
- LQFP24x24 (176L) assembled in ASE
- UFBGA10x10 (176L) assembled in AMKOR ATK4

Reliability Evaluation Plan (1/2)

- Die oriented trials

Trial	Test	Method	Criteria	Conditions	Package	Sample x lot
STM32F4xx - BIG MANTA – 2M - M10HS – CR300 - TFBGA216 MU1T						
DIE	LU	0018695 JESD78	N.A	125°C	TFBGA216	6 x 1
	ESD HBM	ANSI/ESDA/JEDEC JS-001	1500Ω , 100pF	25°C 2kV (class 2)	TFBGA216	3 x 1
	HTOL	MIL-STD-883 Method 1005 JESD22-A108	125°C , 3.6V 1176h	125°C	TFBGA216	77 x 1
	EDR	JESD-22A117	10 kcyc Prog + 500h/150°C	Cycling @ 125°C Bake @ 150°C	TFBGA216	77 x 1
	EDR	JESD-22A117	10 kcyc Prog + 168h/150°C	Cycling @ 25°C Bake @ 150°C	TFBGA216	77 x 1
	EDR	JESD-22A117	10 kcyc Prog + 168h/150°C	Cycling @ -40°C Bake @ 150°C	TFBGA216	77 x 1

Reliability Evaluation Plan (2/2)

- Package oriented trials

Package	Test1	Method	Criteria	Test2	Method	Conditions	Sample x lot
STM32F4xx - BIG MANTA – 2M - M10HS – CR300 – LQFP14x14 ATK1							
LQFP14x14 100L	ESD CDM	ANSI/ESDSTM5.3.1	25°C Min 250V (Class C3)	N.A.	N.A.	N.A.	3 x 1
STM32F4xx - BIG MANTA – 2M - M10HS – CR300 – LQFP20x20 ATK1							
LQFP20x20 144L	ESD CDM	ANSI/ESDSTM5.3.1	25°C Min 250V (Class C3)	N.A.	N.A.	N.A.	3 x 1
STM32F4xx - BIG MANTA – 2M - M10HS – CR300 – LQFP24x24 ASE							
LQFP24x24 176L	ESD CDM	ANSI/ESDSTM5.3.1	25°C Min 250V (Class C3)	N.A.	N.A.	N.A.	3 x 1
STM32F4xx - BIG MANTA – 2M - M10HS – CR300 – UFBGA10x10 ATK4							
UFBGA10x10 176L	ESD CDM	ANSI/ESDSTM5.3.1	25°C Min 250V (Class C3)	N.A.	N.A.	N.A.	3 x 1

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