



# PRODUCT/PROCESS CHANGE NOTIFICATION

---

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

---

**STM32F4x 2Mbyte products improvement**

**Table 1. Change Implementation Schedule**

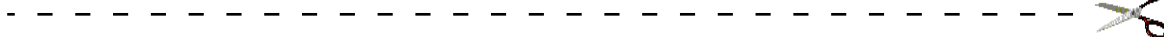
Forecasted implementation date for change	16-Jun-2014
Forecasted availability date of samples for customer	26-May-2014
Forecasted date for <b>STMicroelectronics</b> change Qualification Plan results availability	26-May-2014
Estimated date of changed product first shipment	16-Jun-2014

**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)	

**Table 3. List of Attachments**

Customer Part numbers list	
Qualification Plan results	



Customer Acknowledgement of Receipt		PCN MMS-MIC/14/8451
Please sign and return to STMicroelectronics Sales Office		Dated 27 May 2014
<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 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:

	<b>Actual</b>	<b>New</b>
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, 17<sup>th</sup> 2014

MMS MCD Quality & Reliability Department



ST Confidential

# 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
<b>STM32F4xx - BIG MANTA – 2M - M10HS – CR300 - TFBGA216 MU1T</b>						
<b>DIE</b>	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

**Please Read Carefully:**

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

**UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE ( AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION ), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.**

**ST PRODUCTS ARE NOT DESIGNED OR AUTHORIZED FOR USE IN: (A) SAFETY CRITICAL APPLICATIONS SUCH AS LIFE SUPPORTING, ACTIVE IMPLANTED DEVICES OR SYSTEMS WITH PRODUCT FUNCTIONAL SAFETY REQUIREMENTS; (B) AERONAUTIC APPLICATIONS; (C) AUTOMOTIVE APPLICATIONS OR ENVIRONMENTS, AND/OR (D) AEROSPACE APPLICATIONS OR ENVIRONMENTS. WHERE ST PRODUCTS ARE NOT DESIGNED FOR SUCH USE, THE PURCHASER SHALL USE PRODUCTS AT PURCHASER'S SOLE RISK, EVEN IF ST HAS BEEN INFORMED IN WRITING OF SUCH USAGE, UNLESS A PRODUCT IS EXPRESSLY DESIGNATED BY ST AS BEING INTENDED FOR "AUTOMOTIVE, AUTOMOTIVE SAFETY OR MEDICAL" INDUSTRY DOMAINS ACCORDING TO ST PRODUCT DESIGN SPECIFICATIONS. PRODUCTS FORMALLY ESCC, QML OR JAN QUALIFIED ARE DEEMED SUITABLE FOR USE IN AEROSPACE BY THE CORRESPONDING GOVERNMENTAL AGENCY.**

**RESTRICTIONS OF USE AND CONFIDENTIALITY OBLIGATIONS:**

**THIS DOCUMENT AND ITS ANNEXES CONTAIN ST PROPRIETARY AND CONFIDENTIAL INFORMATION. THE DISCLOSURE, DISTRIBUTION, PUBLICATION OF WHATSOEVER NATURE OR USE FOR ANY OTHER PURPOSE THAN PROVIDED IN THIS DOCUMENT OF ANY INFORMATION CONTAINED IN THIS DOCUMENT AND ITS ANNEXES IS SUBMITTED TO ST PRIOR EXPRESS AUTHORIZATION. ANY UNAUTHORIZED REVIEW, USE, DISCLOSURE OR DISTRIBUTION OF SUCH INFORMATION IS EXPRESSLY PROHIBITED.**

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners

©2014 STMicroelectronics - All rights reserved.

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

[www.st.com](http://www.st.com)

