PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company	STMicroelectronics International N.V
1.2 PCN No.	MMS/15/9201
1.3 Title of PCN	Features improvement for STM32L05x & STM32L06x products - Amkor ATT (Taiwan) additional source for products in WLCSP package
1.4 Product Category	change 1: STM32L05x & STM32L06x products change 2: STM32L05x products only in WLCSP package
1.5 Issue date	2015-04-27

2. PCN Team

2.1 Contact supplier	
2.1.1 Name	ROBERTSON HEATHER
2.1.2 Phone	+1 8475853058
2.1.3 Email	heather.robertson@st.com
2.2 Change responsibility	
2.2.1 Product Manager	Michel BUFFA
2.1.2 Marketing Manager	Daniel COLONNA,Veronique BARLATIER
2.1.3 Quality Manager	Pascal NARCHE

3. Change

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Die redesign	Mask or mask set change with new die design	change 1 : ST Rousset (France) change 2 : Stats ChipPAC SCS (Singapore), Amkor ATT (Taiwan)

4. Description of change

	Old	New
4.1 Description	Limitations described in erratasheets (change 1) Current back-end plant : Stats ChipPAC SCS (Singapore)(change 2)	ST MCD Division is pleased to announce that the features of the STM32L05x & STM32L06x products listed below, will be enhanced through the introduction of a new die revision (change 1) In addition, committed to serving our customers, our teams operate with the constant objective to improve customer service through increased capacity and additional sourcing, ST MCD Division will qualify Amkor ATT (Taiwan) as additional back-end plant for STM32L05x products only in WLCSP package. (change 2). Same technologies used in both sites. See more details in annex1.
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	see in annex1	

5. Reason / motivation for change

5.1 Motivation	change 1 : QUALITY IMPROVEMENT - Correction of some limitations change 2 : CAPACITY INCREASE - The change will improve and secure service through capacity increased & additional sourcing.
5.2 Customer Benefit	QUALITY IMPROVEMENT

6. Marking of parts / traceability of change

6.1 Description	see in annex1

7. Timing / schedule

7.1 Date of qualification results	2015-06-24

7.2 Intended start of delivery	2015-07-24
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation			
8.1 Description	9201_change 1_change2_qual plans.pptx		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2015-04-27

9. Attachments (additional documentations)
9201PpPrdtLst.pdf 9201_annex1.docx 9201_change 1_change2_qual plans.pptx

10. Affected parts		
10. 1 Current		**10.2 New (if applicable)**
10.1.1 Customer Part No	**10.1.2 Supplier Part No**	**10.1.2 Supplier Part No**
	STM32L051C6T6	
	STM32L051C8T3	
	STM32L051C8T6	
	STM32L051K8T6	
	STM32L051R8T6	
	STM32L052C8T6	
	STM32L052K8T6	
	STM32L052R8T6	
	STM32L053C8T6	
	STM32L053R8T6	

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Public Products List

PCN Title : Features improvement for STM32L05x & STM32L06x products - Amkor ATT (Taiwan) additional source for products in WLCSP package

PCN Reference : MMS/15/9201

PCN   Created on : 14-Apr-2015

Subject : Public Product List

Dear Customer,

Please find below the Standard Public Products List impacted by the change.

STM32L052K8U6	STM32L052C6T6	STM32L051T8Y6TR
STM32L051R6H6	STM32L051R6T6	STM32L053C8T6
STM32L051K8T7	STM32L053R8T3	STM32L052K8T6
STM32L051K8U6	STM32L053R6T6	STM32L052R8T7
STM32L052R6T6	STM32L052R8H6	STM32L051T8Y6DTR
STM32L052C8T7	STM32L051R8H7	STM32L051R8T7
STM32L052K6U6TR	STM32L062K8T6	STM32L051K6T6
STM32L053C6T7	STM32L053R8T7	STM32L051K6U6
STM32L051R8H6	STM32L051K8U6DTR	STM32L053R8H6
STM32L051C8T6TR	STM32L051K8T6	STM32L052K8U6DTR
STM32L051C8T7	STM32L051K8U7	STM32L052K8U6D
STM32L063C8T6	STM32L053C6T6	STM32L052R8T6
STM32L052K8T7	STM32L052K6T6	STM32L062K8U6
STM32L051K6U6TR	STM32L052C8T6	STM32L052T6Y6TR
STM32L053R6H6	STM32L051K8U6TR	STM32L053R8T6
STM32L051T6Y6TR	STM32L052K8U6TR	STM32L051C6T6
STM32L052R6H6	STM32L063R8T6	STM32L051R8T6
STM32L051C6T6TR	STM32L051K8U3	STM32L052T8Y6TR
STM32L053C8T6D	STM32L051C8T3	STM32L051C8T6
STM32L052K8T6D	STM32L053C8T7	STM32L053R8H6D

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PRODUCT/PROCESS CHANGE NOTIFICATION

Features improvement for STM32L05x & STM32L06x products - Amkor ATT (Taiwan) additional source for those products in WLCSP package

MMS - Microcontrollers Division (MCD)

Dear Customer,

ST MCD Division is pleased to announce that the features of the STM32L05x & STM32L06x products listed below, will be enhanced through the introduction of a new die revision (change 1).

In addition, committed to serving our customers, our teams operate with the constant objective to improve customer service through increased capacity and additional sourcing; ST MCD Division will qualify Amkor ATT (Taiwan) as additional back-end plant for STM32L05x products **only** in WLCSP package. (change 2).

What are the changes?

Change 1

Introduction of a new die revision on all packages of STM32L05x & STM32L06x products, listed below.

Packages		Current	New
WLCSP LQFP TFBGA UFQFPN	Revision Code	Revision Z	Revision Y Changes are described in Errata sheets: - Revision 4 for STM32L051x6/8 products - Revision 4 for STM32L052x6/8 products - Revision 4 for STM32L053x6/8 products - Revision 4 for STM32L062K8 products - Revision 3 for STM32L063x8 products

			Wake up issues from stop and standby, ADC wrong conversion, some AF not usable when LCD is selected
			Connection added between Comparator 2 (COMP2) output and Low Power Timer (LP TIM) input 1

Change 2

Qualification of Amkor ATT (Taiwan) as additional back-end plant only for STM32L05x products in WLCSP package.

Notice: no back-end change on packages below:

- LQFP

- TFBGA

- UFQFPN

Package		**Current**	**Added**
WLCSP	Back-end plant	Stats ChipPAC SCS (Singapore)	Amkor ATT (Taiwan)

Same technologies used in both sites.

Why ?

Change 1: The strategy of ST MCD Division is to increase the robustness and improve performances, quality and functionality of our products. This is achieved by introducing a new die revision for these new STM32L05x & STM32L06x products.

Change 2: The change will improve and secure service through capacity increased & additional sourcing.

When ?

The production will start separately from:

Changes	Package products	Qual results date	Implementation / First shipment date
Change 1	LQFP TFBGA UFQFPN WLCSP	Week 26	Week 30
Change 2	WLCSP	Week 27	Week 32

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. You can find attached Qualification Plans for change 1 and change 2.

What is the impact of the change?

- **Form:**　　no change

- **Fit:**　　　no change

- **Function:**　change 1: changes indicated in Errata sheets
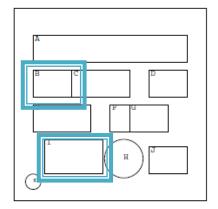
　　　　　　　change 2: no change

How can the change be seen?

Traceability of the change is ensured by ST internal tools.

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

Change 2 The marking composition indicated on the products is changing:

B : Assy plant changes from 8N to A3

I : Country Of Origin
changes from SGP to TWN

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:

Commercial Product	Package	Change 1	Change 2
STM32L051C6T6	LQFP 48 7x7x1.4 1	x	
STM32L051C6T6TR	LQFP 48 7x7x1.4 1	x	
STM32L051C8T3	LQFP 48 7x7x1.4 1	x	
STM32L051C8T6	LQFP 48 7x7x1.4 1	x	
STM32L051C8T6TR	LQFP 48 7x7x1.4 1	x	
STM32L051C8T7	LQFP 48 7x7x1.4 1	x	
STM32L051K6T6	LQFP 32 7x7x1.4 1	x	
STM32L051K6U6	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L051K6U6TR	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L051K8T6	LQFP 32 7x7x1.4 1	x	
STM32L051K8T7	LQFP 32 7x7x1.4 1	x	
STM32L051K8U3	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L051K8U6	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L051K8U6DTR	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L051K8U6TR	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	

STM32L051K8U7	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L051R6H6	TFBGA 5x5x1.2 64 F8x8 0.5	x	
STM32L051R6T6	LQFP 64 10x10x1.4 1	x	
STM32L051R8H6	TFBGA 5x5x1.2 64 F8x8 0.5	x	
STM32L051R8H7	TFBGA 5x5x1.2 64 F8x8 0.5	x	
STM32L051R8T6	LQFP 64 10x10x1.4 1	x	
STM32L051R8T7	LQFP 64 10x10x1.4 1	x	
STM32L051T6Y6TR	WLCSP 36L DIE 417 P 0.4 MM	x	x
STM32L051T8Y6DTR	WLCSP 36L DIE 417 P 0.4 MM	x	x
STM32L051T8Y6TR	WLCSP 36L DIE 417 P 0.4 MM	x	x
STM32L052C6T6	LQFP 48 7x7x1.4 1	x	
STM32L052C8T6	LQFP 48 7x7x1.4 1	x	
STM32L052C8T7	LQFP 48 7x7x1.4 1	x	
STM32L052K6T6	LQFP 32 7x7x1.4 1	x	
STM32L052K6U6	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L052K6U6TR	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L052K8T6	LQFP 32 7x7x1.4 1	x	
STM32L052K8T6D	LQFP 32 7x7x1.4 1	x	
STM32L052K8T7	LQFP 32 7x7x1.4 1	x	
STM32L052K8U6	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L052K8U6D	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L052K8U6DTR	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L052K8U6TR	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L052R6H6	TFBGA 5x5x1.2 64 F8x8 0.5	x	
STM32L052R6T6	LQFP 64 10x10x1.4 1	x	
STM32L052R8H6	TFBGA 5x5x1.2 64 F8x8 0.5	x	
STM32L052R8T6	LQFP 64 10x10x1.4 1	x	
STM32L052R8T7	LQFP 64 10x10x1.4 1	x	
STM32L052T6Y6TR	WLCSP 36L DIE 417 P 0.4 MM	x	x
STM32L052T8Y6TR	WLCSP 36L DIE 417 P 0.4 MM	x	x
STM32L053C6T6	LQFP 48 7x7x1.4 1	x	
STM32L053C6T7	LQFP 48 7x7x1.4 1	x	
STM32L053C8T6	LQFP 48 7x7x1.4 1	x	
STM32L053C8T6D	LQFP 48 7x7x1.4 1	x	
STM32L053C8T7	LQFP 48 7x7x1.4 1	x	
STM32L053R6H6	TFBGA 5x5x1.2 64 F8x8 0.5	x	
STM32L053R6T6	LQFP 64 10x10x1.4 1	x	

STM32L053R8H6	TFBGA 5x5x1.2 64 F8x8 0.5	x	
STM32L053R8H6D	TFBGA 5x5x1.2 64 F8x8 0.5	x	
STM32L053R8T3	LQFP 64 10x10x1.4 1	x	
STM32L053R8T6	LQFP 64 10x10x1.4 1	x	
STM32L053R8T6D	LQFP 64 10x10x1.4 1	x	
STM32L053R8T7	LQFP 64 10x10x1.4 1	x	
STM32L062K8T6	LQFP 32 7x7x1.4 1	x	
STM32L062K8U6	UFQFPN 5X5X0.55 32L 0.5 MM PITCH	x	
STM32L063C8T6	LQFP 48 7x7x1.4 1	x	
STM32L063R8T6	LQFP 64 10x10x1.4 1	x	