



PRODUCT/PROCESS CHANGE NOTIFICATION PCN 9685 – Additional information

ST Muar (Malaysia) additional source - Pure Tin Lead finishing products in STM32 LQFP 14x14 package

MMS - Microcontrollers Division (MCD)

What are the changes?

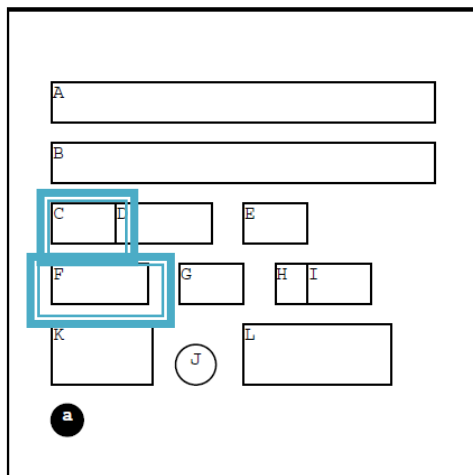
Changes are described in the below table:

	Existing manufacturing sites		Added manufacturing site
Assembly site	Amkor ATK (Korea)	Amkor ATP (Philippines)	ST Muar (Malaysia)
Mold compound	Sumitomo G700L	Sumitomo G631HQ	Sumitomo EME-G700LS
Glue	Ablestik 3230	Evertch AP4200	Henkel ABP8302
Silver wire	0.8mil Au	0.8mil Au	0.8mil Ag

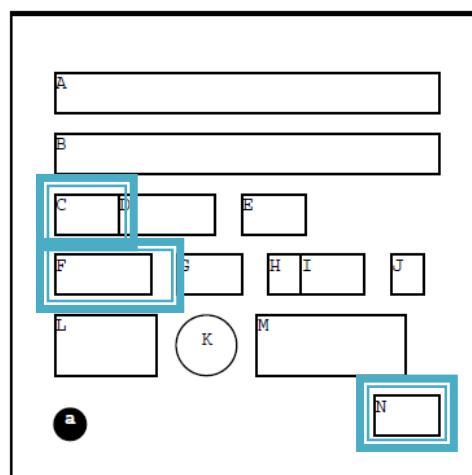
How can the change be seen?

The marking instruction indicated on the products is changing:

- Assembly plant changes from HP to 7B (in C)
- Country Of Origin changes from KOR or PHL to MYs (in F)
- 2 digits are added for enhanced traceability (in N)



Previous marking



New marking

How to order samples?

For all sample request linked to this PCN, please:

- request sample(s) through Notice tool, indicating a single Commercial Product for each request.
- insert "PCN 9685" into the remarks of your order.
- place **non standard** sample order using the following field in your system.

SO | NPO Sample

Header

SO Nr: [] Customer: [] SO Type: 38 Sample Order

PO Nr: [] Carrier Code: [] Price Policy: [] Currency: []

Notes: [] States: [] Issuing Date: [] Ord Val: 0.0000

Sch Nr	PO Nr	Finished Good	Comm Qty	Open Qty	Plant Open Qty	Reqd Qty	Unit Price	RD	CD	EDD	St

PO Item: [] Comm Prod: [] Qty: 0 RD: 06-Jan-15 Unit Price: 0.0000 Final Cust: []

Cust Part Nr: [] Finishd Good: [] Partial Ship: 01 Price Pol: [] States: 01 Canc: []

Notes: [] TAM K Pieces: 0 Our Share%: 0 Sample Type: **Sample Non Std Type**

Project Name: [] Closing Date: [] Closing Type: []

Regional Sheet: [] Lab Sheet: []

SO Nr: 7075S05890 Customer: 99800200 SGS-TH/USA PO Nr: Mos/TPapay/RBC-Ullmer

Company: STM Issuing Date: 29-JUL-2015 12:07:00 Ship To: 9980020081 SGS/USANPO Price Policy: 05 Curr Code: 02 U.S. DOLLAR

Carrier Code: 0001 * Bill To: 9980020001 SGS-TH/USA

Carriage Code: F1 F.I.S. Confirm To: 81

Transportn Mode: 01 AIR FREIGHT Sales Rep. ID: 07R00C NO COMMISSION

Payment Term: 0006 FREE OF CHARGE Cust Serv Rep ID: 11A000 Dummy FSA SWISS

SO Remark Details

SO Nr: 7075S05890

	SO Remark Type	Text	Status Co	Last Update
	01 INVOICE & O/C REMARK	PER PCN 9108- THANK YOU	01	30-Jul-2015
*				



RERMCD1612 reliability plan for ST Muar (Malaysia) additional source – Pure Tin Lead finishing STM32 LQFP 14x14 products - PCN 9685



Reliability Evaluation Plan

April 8th 2016

MMS MCD Quality & Reliability Department

RERMCD1612 reliability plan for ST Muar (Malaysia) additional source - Pure Tin Lead finishing STM32 LQFP 14x14 products - PCN 9685

- Context :

Due to the success on the market of STM32 devices, ST Microcontrollers Division decided to qualify an additional line to maintain state of the art service level to our customers, improving flexibility on manufacturing sites, thanks to extra capacity.

- What are the changes?

Changes are described in the below table on LQFP 14x14 packages:

	Existing manufacturing sites		Added manufacturing site
Assembly site	Amkor ATK (Korea)	Amkor ATP (Philippines)	ST Muar (Malaysia)
Mold compound	Sumitomo G700L	Sumitomo G631HQ	Sumitomo EME-G700LS
Glue	Ablestik 3230	Evertch AP4200	Henkel ABP8302
Silver wire	0.8mil Au	0.8mil Au	0.8mil Ag

RERMCD1604 STM32 TEST VEHICLES

Package line	Assembly Line Package	Device (Partial RawLine Code)	Diffusion Process	Number of Lots
SHD LQFP	LQFP	STM32 (1L*410)	TSMC 0.18μm	1
	14*14	STM32 (1L*414)	TSMC 0.18μm	1
	100L	STM32L (1L*427)	F9GO2S	1

RERMCD1604 -STM32 LQFP14x14

RELIABILITY TRIALS

4

Package Reliability Trials :

(*) tests performed after preconditioning

Reliability Trial	Test Conditions	Pass Criteria	Unit per Lot	Lot qty
PC	Pre Conditioning: Moisture Sensitivity Jedec Level 3 J-STD-020/ JESD22-A113	Bake (125°C / 24 hrs) Soak (30°C / 60% RH / 168 hrs) for level 3 Convection reflow: 3 passes with Jedec level 2	308	3 passes MSL1 1/ device
AC or Uhast(*)	Autoclave JESD22 A102 or UnBiased Highly Accelerated Temperature and Humidity Stress JESD22 A118	121°C, 100% RH, 2 Atm 130°C, 85%RH, 2 atm	77	96h 1/ device
TC(*)	Thermal Cycling JESD22 A104	-50°C, +150°C Or equivalent -65°C +150°C	77	1000Cy 500Cy (1000cy/2000cy as monitoring) 1/ device
WPT/WBS After TC	Wire Bond Pull- Mil Std883 method 2011 Wire Bond Shear ,AECQ100-001	3g min pull strength 15g min bond shear		500Cy 1000Cy 2000Cy
THB(*)	Temperature Humidity Bias JESD22 A101	85°C, 85% RH, bias	77	1000h 1/ device
HTSL	High Temperature Storage Life JESD22 A103	150°C- no bias	77	1000h 1/ device
Construction analysis including Solderability, Physical demensions	JESD 22B102 JESDB100/B108		15 10	1/ Lead frame and Front end technology
ESD	ESD Charge Device Model ANSI/ESD STM5.3.1	250V or 500V depending on device datasheet	3	250V or 500V 1/ device

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

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

© 2016 STMicroelectronics - All Rights Reserved

STMicroelectronics group of companies Australia - Brazil - Canada - China - Finland - France - Germany - Hong Kong -
India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States.

www.st.com



Public Products List

PCN Title : ST Muar (Malaysia) additional source - Pure Tin Lead finishing products in STM32 LQFP 14x14 package

PCN Reference : MMS/16/9685

PCN Created on : 01-Mar-2016

Subject : Public Products List

Dear Customer,

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

STM32F091VCT6	STM32F100VCT6	STM32F100VET6
STM32F098VCT6	STM32F091VBT6	STM32F091VBT7



IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.