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?

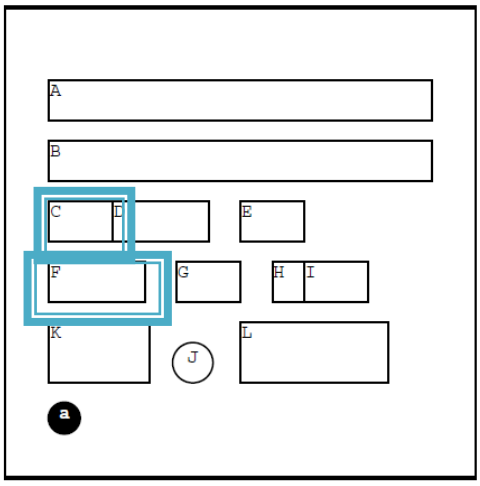
Changes are described in the below table:

	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	Evertech AP4200	Henkel ABP8302
Silver wire	0.8mil Au	0.8mil Au	0.8mil Ag

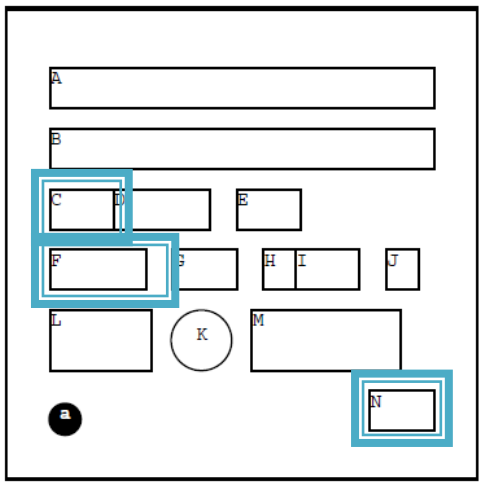
How can the change be seen?

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

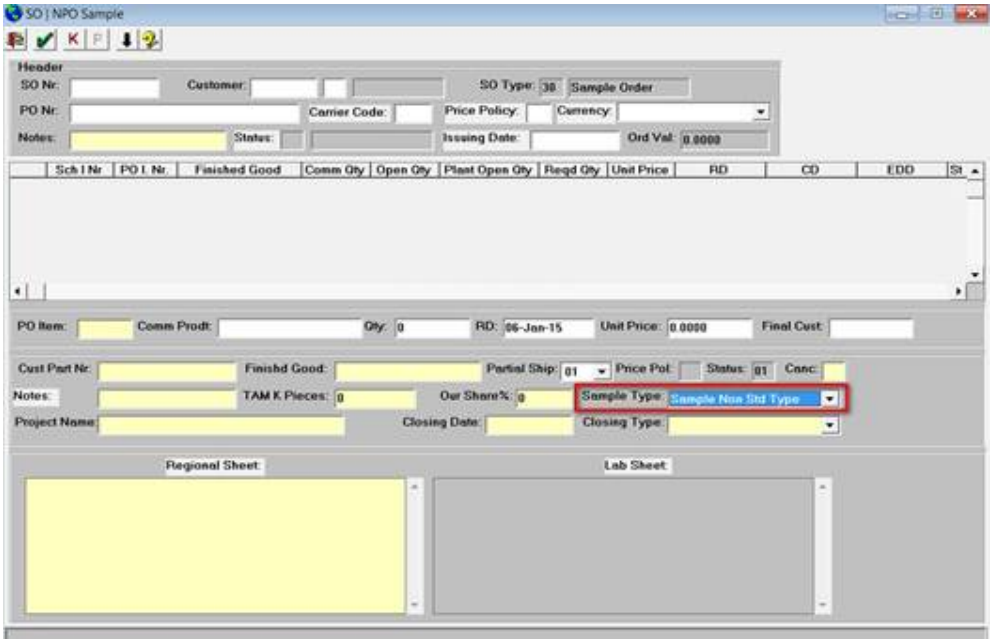


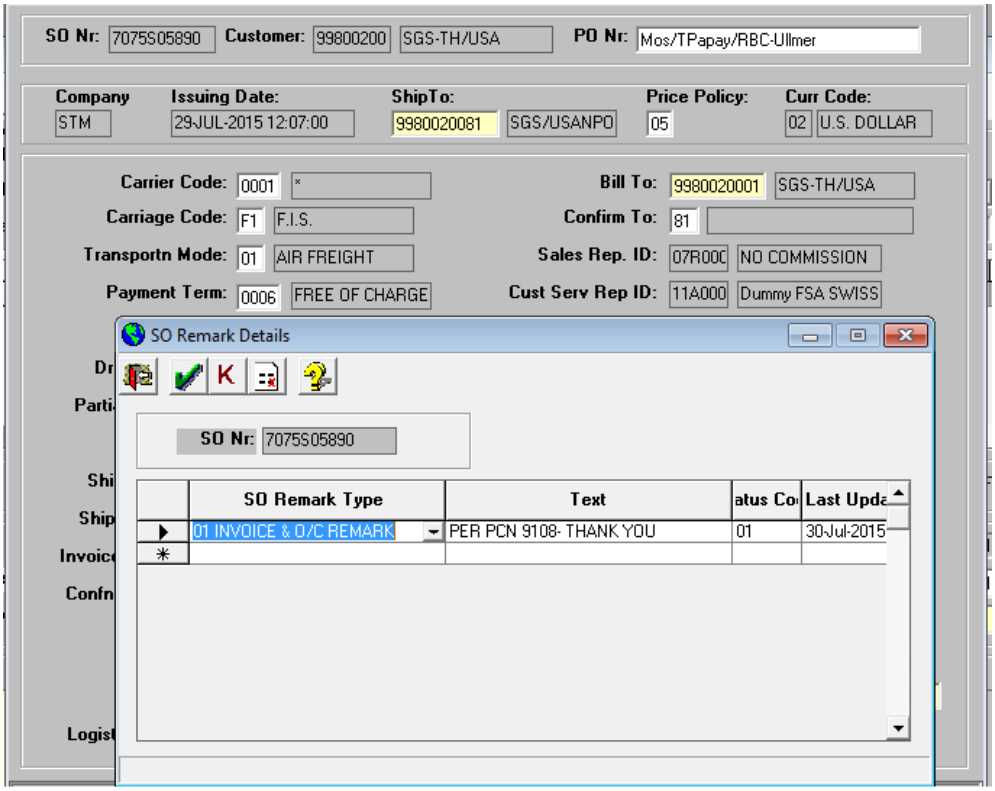
New marking

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.





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

life.augmented

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	Evertech 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 14*14 100L	STM32 (1L*410) STM32 (1L*414) STM32L (1L*427)	TSMC 0.18µm TSMC 0.18µm F9GO2S	1 1 1

RERMCD1604 -STM32 LQFP14x14 RELIABILITY TRIALS

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	3 passes MSL1	308	**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	96h	77	**1/ device**
TC(*)	Thermal Cycling JESD22 A104	-50°C, +150°C Or equivalent -65°C +150°C	1000Cy 500Cy *(1000cy/2000cy as monitoring)*	77	**1/ device**
WPT/WBS After TC	Wire Bond Pull- Mil Std883 method 2011 Wire Bond Shear ,AECQ100-001	3g min pull strengh 15g min bond shear	500Cy 1000Cy 2000Cy		
THB(*)	Temperature Humidity Bias JESD22 A101	85°C, 85% RH, bias	1000h	77	**1/ device**
HTSL	High Temperature Storage Life JESD22 A103	150°C- no bias	1000h	77	**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	250V or 500V	3	**1/ device**

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

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