PCN 9976 & 10011 – MCDRER1621 Qualification Plan LQFP Transfer assembly plant from Stats ChipPAC Shanghai China (SCC) to Stats ChipPAC Jiangyin China (JSCC)

Dec 13th 2016

MDG MCD Quality & Reliability Department

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PCN 9976 & 10011 – MCDRER1621 Qualification Plan of new JSCC plant for LQFP7x7-10x10 packages

- Qualification plan for changes described in the PCN 9976 & 10011
- Reliability report: RERMCD1621
- Test Vehicles

Package line	Assembly Line	Package	Device (Partial RawLine Code)	Diffusion Process	Number of qual Lots
LQFP	LQFP 7*7	32L	STM32 (5V*438)	TSMC0.18µm	1
		48L	STM8L(5B*764) STM32L(5B*425) STM32(5B*435)	F9GO2 F9GO2S TSMC90nm	1 1 1
	LQFP 10*10	64L	STM32(5W*423) STM8L(5W*768)	M10 F9G02	1 1
		44L	STM8S(4Y*765)	F9GO1	1

Package Reliability Trials :
(*) tests performed after preconditioning

PCN 9976 & 10011- RERMCD1621
JSCC LFP7x7-10x10 RELIABILITY TRIALS

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 / 192 hrs) for level 3 Convection reflow: 3 passes	3 passes MSL3	308	**1/ device qual**
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 qual**
TC(*)	Thermal Cycling JESD22 A104	-50°C, +150°C Or equivalent -65°C +150°C	1000Cy 500Cy *(1000cy/2000cy as monitoring)*	77	**1/ device qual**
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(*) **or** **HAST(*)**	Temperature Humidity Bias JESD22 A101	85°C, 85% RH, bias	1000h	77	**1/ device qual**
	Biased Highly Accelerated temperature & humidity stress JESD22 A110	110°C, 1.2 atm , 85% RH bias	264h	77	
HTSL	High Temperature Storage Life JESD22 A103	150°C- no bias	1000h	77	**1/ device qual**
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 / 500V/ 750V depending on device datasheet	250V or 500V or 750V	3	**1/ device qual**

PRODUCT/PROCESS CHANGE NOTIFICATION
PCN 10011 – Additional information

Transfer assembly plant from Stats ChipPAC Shanghai China (SCC) to Stats ChipPAC Jiangyin China (JSCC) for STM32L44x 256KB & STM32L46x 512KB & STM32L4Ax 1MB & STM32L4x 1MB products in LQFP packages

MDG - Microcontrollers Division (MCD)

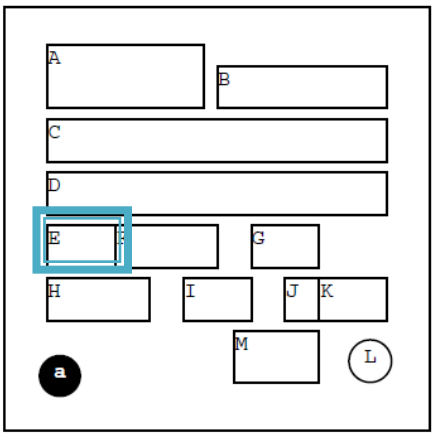
What are the changes?

	Transfer from:	to :
Assembly site	Stats ChipPAC Shanghai China (SCC)	Stats ChipPAC Jiangyin China (JSCC)
	Source closure	New source
Lead frame	Copper Frame Spot Ag	Copper Frame Spot Ag
Leadfinishing	Pure Tin (e3)	Pure Tin (e3)
Mold compound	Sumitomo G700E	Sumitomo G631SHQ (1)
Die attach Glue	Ablestik 3230	Ablestik 3230
Wire	Copper Pd coated 0.8mil	Silver 96.5% 0.8mil
Enhanced traceability in marking	No digits	2 digits added
Tray	No change	No change

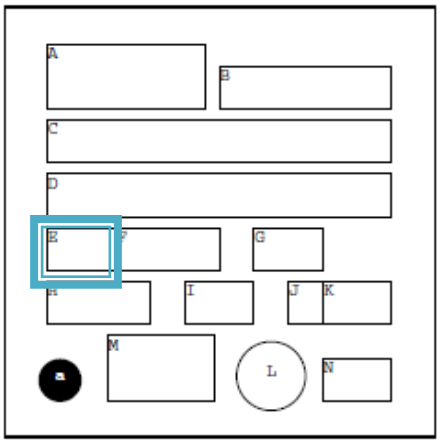
(1) Package darkness changes depending on molding.

How can the change be seen?

For products in LQFP 64 10x10x1.4 package, the marking instruction of the assembly plant indicated on the products is changing from GH (in E) to GQ (in E).

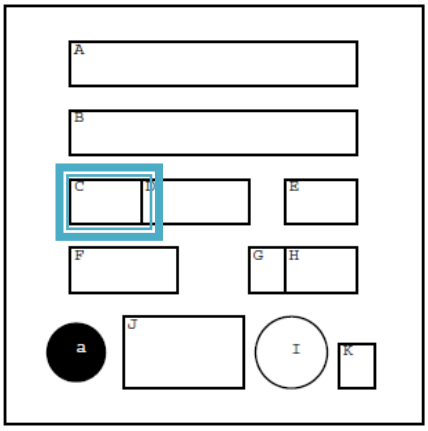


Example of previous marking

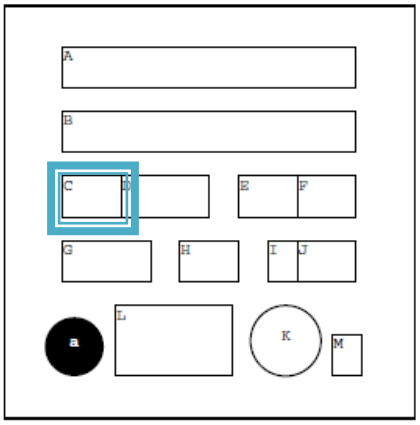


Example of new marking

For products in LQFP 48 7x7x1.4 package, the marking instruction of the assembly plant indicated on the products is changing from GH (in C) to GQ (in C).



Example of previous marking

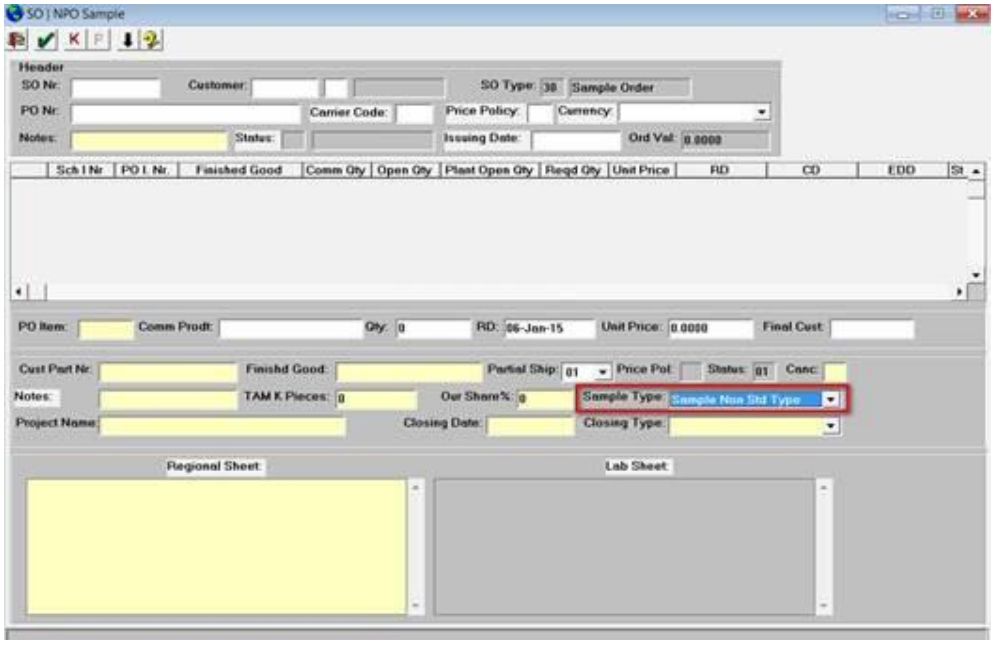


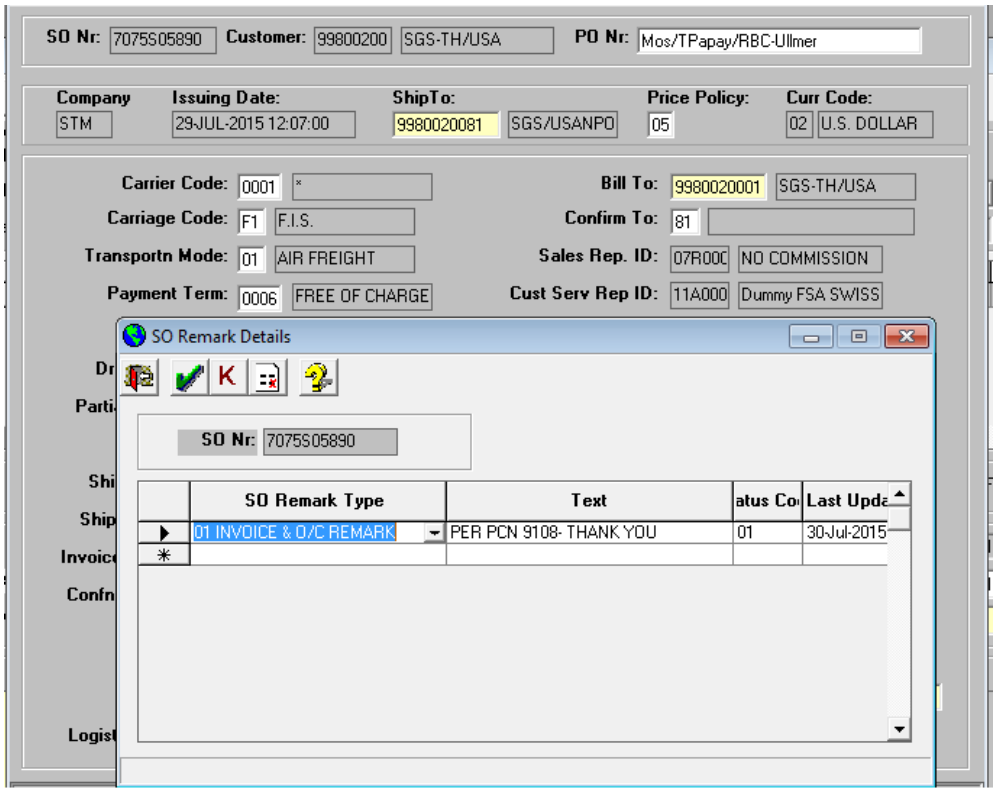
Example of new marking

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 10011” into the remarks of your order.
- place **non standard** sample order using the following field in your system.





Public Products List

Publict Products are off the shelf products. They are not dedicated to specific customers, they are available through ST Sales team, or Distributors, and visible on ST.com

PCN Title : Transfer assembly plant fromStats ChipPAC Shanghai China (SCC) to Stats ChipPAC Jiangyin China (JSCC) for STM32L44x 256KB & STM32L46x 512KB & STM32L4Ax 1MB & STM32L4x 1MB products in LQFP packages
PCN Reference : MDG/17/10011

Subject : Public Products List

Dear Customer,

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

STM32L476RET6	STM32L476RET6TR	STM32L443RCT6
STM32L433CCT6	STM32L475RCT6	STM32L433CCT3
STM32L475RGT7	STM32L475RCT7	STM32L475RGT6
STM32L486RGT7	STM32L475RET6	STM32L443CCT6
STM32L475RCT7TR	STM32L433RCT6	STM32L476RCT6TR
STM32L433RCT6TR	STM32L476RGT6TR	STM32L471RET6
STM32L471RGT6	STM32L433RCT3	STM32L475RGT7TR
STM32L476RGT6	STM32L486RGT7TR	STM32L475RCT3
STM32L486RGT6	STM32L476RGT3	STM32L476RCT6

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