PRODUCT/PROCESS CHANGE NOTIFICATION

PCN 9160 – Additional information

ST Calamba Philippines additional source for STM8S/L & STM32 products in UFQFPN 4x4, 5x5 & 7x7 packages

MMS - Microcontrollers Division (MCD)

What are the changes?

		Current location	Additional / new location
Package products	BOM	Stats ChipPAC China	ST Calamba Philippines
UFQFPN 4x4 COL	Lead frame (1)	PPF	PPF
	Die attach Glue	Ablestick 8006NS	TAPE NEX-130C
	Mold compound (2)	Sumitomo G770HCD	Sumitomo EME G770HF
	Wire	0.8 mil Au	0.8 mil Ag
UFQFPN 5x5 & 7x7	Lead frame (1)	Pure Sn (e3)	PPF (e4)
	Die attach Glue	Ablebond 8290	QMI519 (Henkel)
	Mold compound (2)	Sumitomo G770	Hitachi CEL9240ZHF10
	Wire	0.8 mil Au	0.8 mil Ag

(1) Lead color and surface finish change depending on lead finishing.
(2) Package darkness changes depending on molding.

When ?

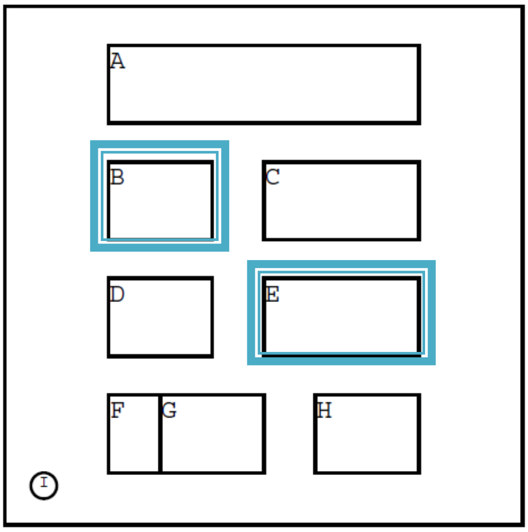
The production will start from:

Package products	Date of Final Qualification Report Availability	Date of first Shipment
UFQFPN 4x4 COL	Week 32 2016	Week 37 2016
UFQFPN 5x5	Week 27 2016	Week 32 2016
UFQFPN 7x7	Week 32 2016	Week 37 2016

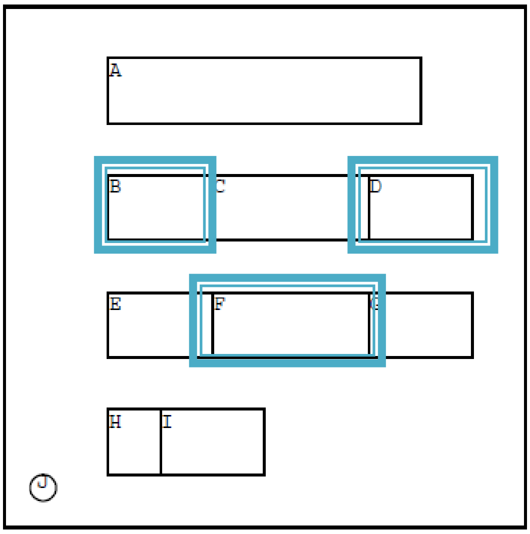
How can the change be seen?

For products in UFQFPN 4x4 packages, the marking instruction indicated on the products is changing:

- Assembly plant changes from GH (in B) to 78 (in B)
- Country Of Origin change from CHN (in E) to PHLS (in F)
- 2 digits are added for enhanced traceability (in D)



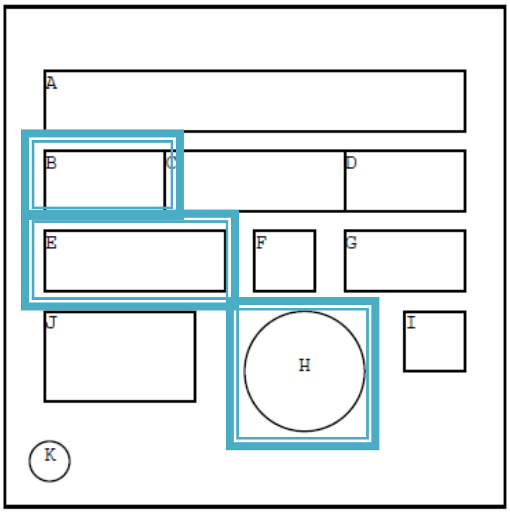
Previous marking



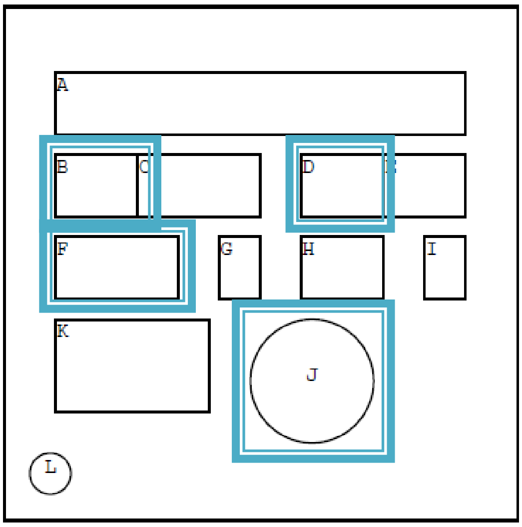
New marking

For products in UFQFPN 5x5 packages, the marking instruction indicated on the products is changing:

- Assembly plant changes from CHN (in B) to 78 (in B)
- Country Of Origin change from CHN (in E) to PHLS (in F)
- 2 digits are added for enhanced traceability (in D)
- Second level interconnect : e3 (in H) to e4 (in J)



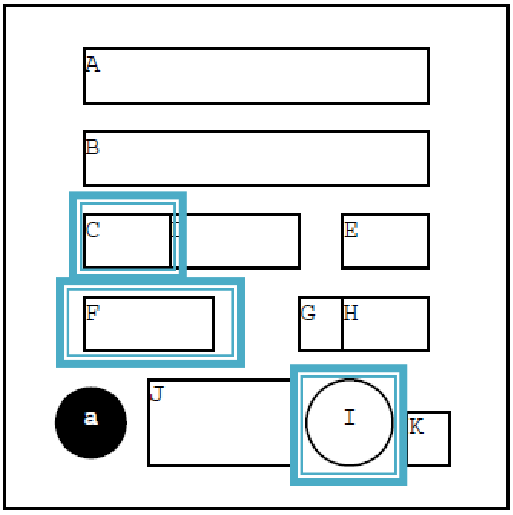
Previous marking



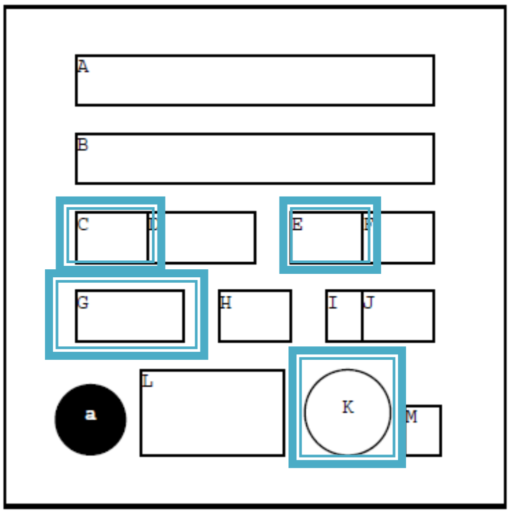
New marking

For products in UFQFPN 7x7 packages, the marking instruction indicated on the products is changing:

- Assembly plant changes from CHN (in C) to 78 (in C)
- Country Of Origin change from CHN (in F) to PHLS (in G)
- 2 digits are added for enhanced traceability (in E)
- Second level interconnect : e3 (in I) to e4 (in K)



Previous marking

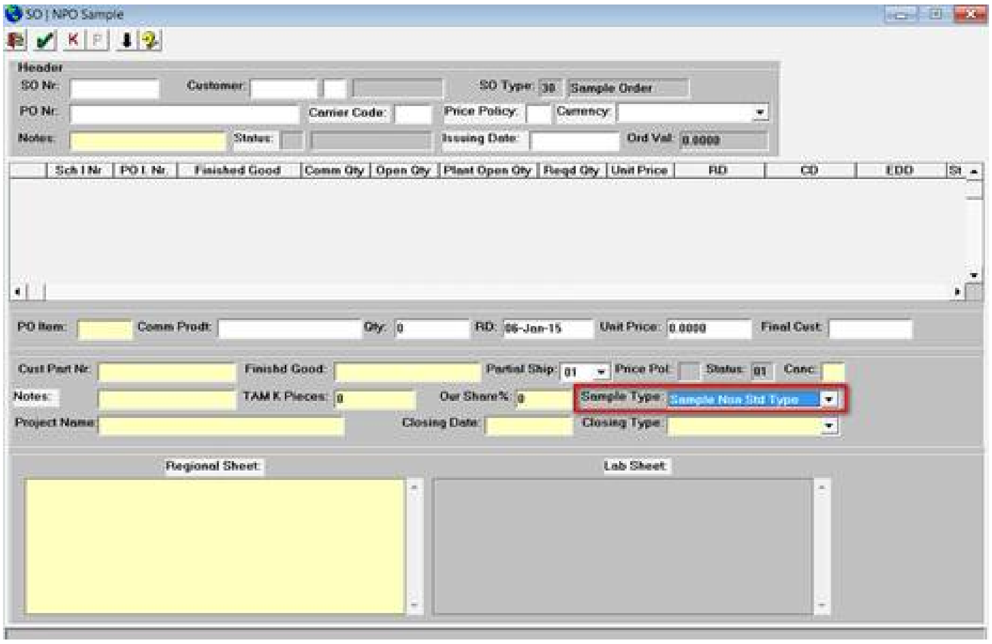


New marking

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 9160” into the remarks of your order.
- place **non standard** sample order using the following field in your system.



SO | NPO Sample

SO Type: 30 Sample Order

Ord Val: 0.0000

Qty: 0

RD: 06-Jan-15

Unit Price: 0.0000

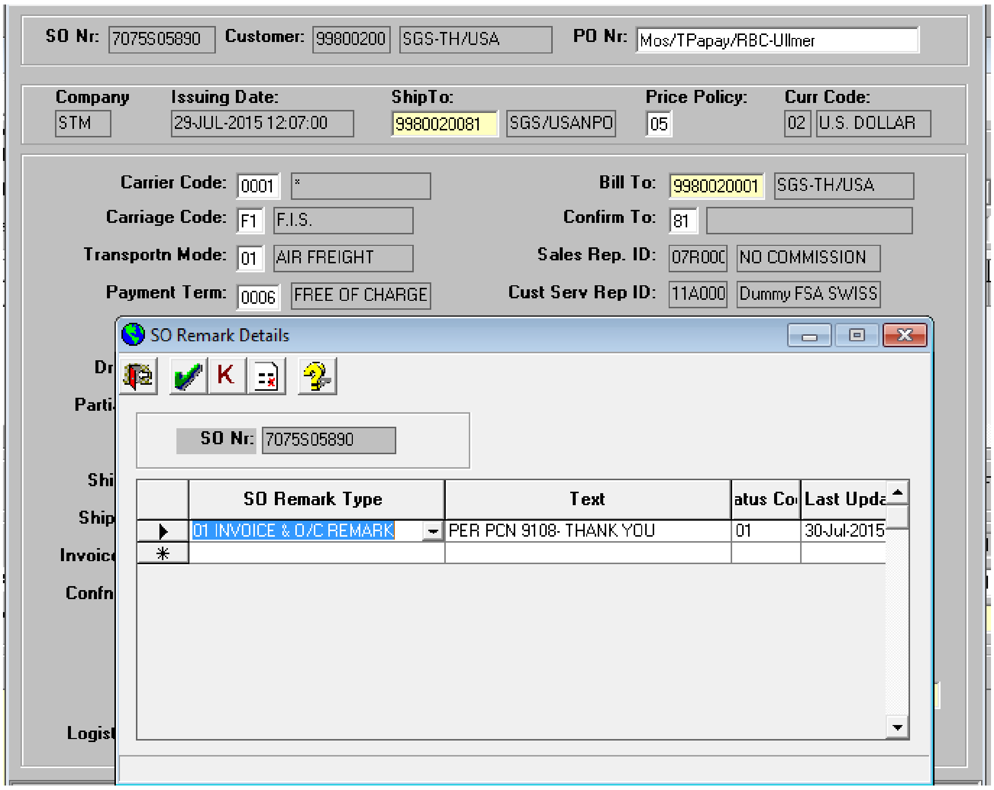
Partial Ship: 01

Status: 01

TAM K Pieces: 0

Our Share%: 0

Sample Type: Sample Non Std Type



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

Company: STM

Issuing Date: 29-JUL-2015 12:07:00

ShipTo: 9980020081 SGS/USANPO

Price Policy: 05

Curr Code: 02 U.S. DOLLAR

Carrier Code: 0001 *

Carriage Code: F1 F.I.S.

Transportn Mode: 01 AIR FREIGHT

Payment Term: 0006 FREE OF CHARGE

Bill To: 9980020001 SGS-TH/USA

Confirm To: 81

Sales Rep. ID: 07R00C NO COMMISSION

Cust Serv Rep ID: 11A000 Dummy FSA SWISS

SO Remark Details

SO Nr: 7075S05890

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

RERMCD1602 reliability plan- ST Calamba Philippines UFQFPN 4x4, 5x5 & 7x7 packages PCN 9160

Reliability Evaluation Plan

Mar 18th, 2016

MMS MCD Quality & Reliability Department

life.augmented

PCN 9160- RERMCD1602 reliability plan ST Calamba Philippines additional source for STM8S/L & STM32 products in UFQFPN 4x4, 5x5 & 7x7 packages

- Context :

ST Microcontrollers Division decided to qualify an additional source to maintain best in class service level to our customers, improving flexibility on manufacturing sites.

- What are the changes?

		Actual	New
Package products	BOM	Stats ChipPAC China	ST Calamba Philippines
UFQFPN 4x4 COL	Lead frame (1)	PPF	PPF
	Die attach Glue	Ablestick 8006NS	TAPE NEX-130C
	Mold compound (2)	Sumitomo G770HCD	Sumitomo EME G770HF
	Wire	0.8 mil Au	0.8 mil Ag
UFQFPN 5x5 & 7x7	Lead frame (1)	Pure Sn (e3)	PPF (e4)
	Die attach Glue	Ablebond 8290	QMI519 (Henkel)
	Mold compound (2)	Sumitomo G770	Hitachi CEL9240ZHF10
	Wire	0.8 mil Au	0.8 mil Ag

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(2) Package darkness changes depending on molding.

RERMCD1602 STM8S/L & STM32 TEST VEHICLES

Package line	Assembly Line	Package	Device (Partial RawLine Code)	Diffusion Process	Number of Lots
UQFN	UQFN4*4 COL	UQFN4*4 COL 28L	STM32(MB*444)	TSMC0.18	**1**
			STM32(MB*425)	F9GO2S	**1**
			STM8(MB*761)	F9GO2	**1**
	UQFN 5*5-7*7	UQFN5*5 32L	STM32(MG*440)	TSMC0.18	**1**
			STM32(MG*417)	F9GO2S	**1**
			STM8(MG*767)	F9GO1	**1**
		UQFN7*7 48L	STM32(MI*440)	TSMC0.18	**1**
			STM32(MI*423)	M10	**1**
			STM32(MI*435)	TSMC90nm	**1**
			STM8(MI*764)	F9GO2	**1**

RERMCD 1602 -STM8-STM32 UQFN RELIABILITY TRIALS

Package 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 with Jedec level 3	3 passes MSL3	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 or HAST(*)	Temperature Humidity Bias JESD22 A101 Or Biased Highly Accelerated Temperature and Humidity Stress JESD22 A110	85°C, 85% RH, bias 110°C/ 1.2 Atm	1000h **264h**	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**

(*) tests performed after preconditioning

Public Products List

PCN Title : ST Calamba Philippines additional source for STM8S/L & STM32 products in UFQFPN 4x4, 5x5 & 7x7 packages

PCN Reference : MMS/16/9160

PCN Created on : 23-Mar-2015

Subject : Public Products List

Dear Customer,

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

STM32L432KCU6	STM32F031G6U6TR	STM8L151C8U3
STM32F051K8U7TR	STM32L151C8U6TR	STM32L051K8U7TR
STM32L152C6U6A	STM8L151G6U6TR	STM32F401CCU6TR
STM32L041G6U7	STM32F031G4U6	STM32F078CBU6
STM8S103K3U6	STM32L052K8U6	STM32L011K3U6
STM8TL53G4U6TR	STM32L051K6U6	STM8S105K4U6A
STM8L151C8U6	STM32F051K6U6	STM32L442KCU6
STM32L151CBU6TR	STM32F051K4U6TR	STM32F031K6U6
STM32L011G3U6	STM32L052K8U6TR	STM32F042K6U6
STM8L151G4U6TR	STM32F401CBU6	STM32F301K8U7
STM32F031G6U6	STM8L152C4U6	STM8L101G3U6A
STM32F042G6U6	STM32L151C6U6ATR	STM32F042K6U7
STM32F301K6U6	STM32L151C8U6	STM8S903K3U6TR
STM32F072C8U7	STM8TL53G4U6	STM32F072CBU6TR
STM32L041K6U6	STM32L041K6U7	STM32L062K8U6
STM8L151K6U6	STM32L151CBU6A	STM32F411CEU7
STM8L101G2U6A	STM32L100C6U6A	STM32F031K6U7
STM32F042C6U7	STM8S903K3U3	STM32L011K4U6
STM32L052K8U6DTR	STM8L101K3U6	STM32F103CBU6
STM8L151C4U6	STM32L021G4U6	STM32F302K6U6
STM32F071CBU7	STM32F051K4U7TR	STM32F051K6U7TR
STM32F051C8U7	STM8L151C6U3	STM32F410C8U6
STM32F051C4U6	STM32L031K6U7	STM8S105K6U6ATR
STM32L151CCU6TR	STM32F103CBU6TR	STM32L071KZU6
STM32L031K4U6TR	STM8L101K3U6TR	STM8L151K3U3
STM32F071CBU6	STM32F098CCU6	STM32L051K8U7
STM32F318K8U6	STM32F411CEU6	STM32F038K6U6
STM32F051C6U6	STM8S903K3U3TR	STM32F058C8U6
STM32L151CBU6	STM8S105K4U6ATR	STM32F031G4U7
STM32L041K6U6D	STM32L052K8U6D	STM32L071KBU6
STM32F072C8U6	STM32F051K6U7	STM32F051K8U6TR
STM32F048C6U6	STM32F051K8U7	STM8L151G3U6
STM8L151K4U6	STM8L152C6U3	STM32L100C6U6
STM8L151G2U6	STM32L152CCU6	STM32F101CBU6
STM8L151K2U6	STM8L151G6U3	STM32L081KZU6
STM8L101G3U6	STM32F091CCU6	STM32F031G6U7
STM32F401CCU6	STM32L031G6U7	STM32F071CBU7TR

STM8L101G2U6	STM8L151K6U3	STM32L433CCU6
STM32L051K8U3	STM8L151K3U3TR	STM32L051K6U6TR
STM8L151C4U6TR	STM32L151CCU6	STM32L071KBU3
STM8L152C6U6	STM32F101CBU6TR	STM8TL52G4U6
STM32L082KZU6	STM8L151K6U6TR	STM32F048G6U6
STM32L100C6U6ATR	STM32L052K8U3TR	STM8L151G4U6
STM32F401CDU6	STM8S903K3U6	STM32F042G4U6
STM32L151C6U6A	STM32F302K8U6TR	STM8TL53C4U6
STM32F031G4U7TR	STM32L152C8U6A	STM32L443CCU6
STM32L051K8U6TR	STM32L152CBU6	STM32F410CBU6
STM32F302K8U6	STM32L031K6U6TR	STM8L151G6U3TR
STM32L031G6U6	STM32F042C6U6	STM8S105K6U6A
STM8S103K3U6TR	STM32F051K6U6TR	STM32L052K8U3
STM32F091CCU7	STM32L151CBU6D	STM32F031K4U6
STM32L071KZU3	STM32F091CCU6TR	STM8L151K4U6TR
STM8L151G3U3	STM32L011G4U6	STM32L152C8U6
STM32F051K4U7	STM32F051C8U6TR	STM32L071K8U6
STM32F301K6U7	STM32L152C6U6	STM32L051K8U6
STM8L151K3U6	STM8L152K4U6	STM32F401CBU7
STM32L072KBU7	STM32F042K4U6	STM32F302K8U7
STM32L031G4U6	STM32F401CDU6TR	STM8L152K6U6TR
STM8L151G3U6TR	STM32F071CBU6TR	STM32L072KBU6
STM8L101G2U6TR	STM8L151G6U7TR	STM32F051C8U6
STM32F072C8U6TR	STM32F031G4U6TR	STM32L151C8U6A
STM32L082KBU6	STM32F091CBU6	STM8L151G6U7
STM32L152CBU6A	STM32F072CBU6	STM8L151G6U6
STM32L072KZU6	STM32F411CCU6TR	STM32L071K8U3
STM32L151C6U6TR	STM32F051K8U6	STM8L151G4U3
STM32L051K8U6DTR	STM32L151C6U6	STM8L152K6U6
STM32F103C6U6A	STM32F401CEU6	STM8L101G3U6TR
STM32L031K4U6	STM32F038G6U6	STM8L151C8U6TR
STM32F318K8U7	STM8L151C6U6	STM32L100C6U6TR
STM32L041K6U6TR	STM8L151C6U6TR	STM32F301K8U6
STM8L152C8U6	STM32F051K4U6	STM32L052K6U6TR

IMPORTANT NOTICE – PLEASE READ CAREFULLY