



**PRODUCT/PROCESS
CHANGE NOTIFICATION
PCN 10546 – Additional information**

**ASE Kaohsiung (Taiwan) additional source
for LQFP 7x7 STM32F0-F1-F3 listed products**

MDG - Microcontrollers Division (MCD)

What are the changes?

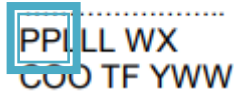
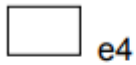
Changes are described in the below table:

	Existing back-end sites			Added back-end site
Assembly site	Stats ChipPAC JSCC Jiangyin China	ST Muar Malaysia	Amkor ATP Philippines	ASE Kaohsiung Taiwan
Leadframe	Copper Frame Spot Ag	Pre Plated Frame	Copper Frame Spot Ag	Copper Frame Spot Ag
Leadfinishing (1)	Pure Tin (e3)	Ni Pd Au (e4)	Pure Tin (e3)	Pure Tin (e3)
Resin (2)	Sumitomo G631SHQ	Sumitomo G700LS	Sumitomo G631HQ	Sumitomo EME-G631SH
Glue	Ablestik 3230	Hitachi EN4900	Evertech AP4200	Sumitomo CRM 1076WA
Wire	Silver 96.5% 0.8mil	Gold 0.8mil Silver 96.5% 0.8mil	Gold 0.8mil	Gold 0.8mil
Enhanced traceability in marking	2 digits	2 digits	No digit	2 digits

- (1) Lead color and surface finish change depending on leadfinishing.
 (2) Package darkness changes depending on molding compound.

How can the change be seen?

The standard marking is:



PP code indicates the assembly traceability plant code.

Please refer to the DataSheet for marking details.

The marking is changing as follows:

Existing		Additional	
PP code	Fab	PP code	Fab
GQ & GH	Stats ChipPAC China	AA	ASE Kaohsiung Taiwan
9H	ST Muar Malaysia		
7B	Amkor Philippines		

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 10546" 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: Status: Issuing Date: Ord Val: 0.0000

Sch I Nr	PO I 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 Cost:

Cust Part Nr: Finishd Good: Partial Ship: 01 Price Pol: Status: 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: 01

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
*			



RER1717 for PCN 10546 ASEKH Taiwan additional source for LQFP 7x7 STM32F0-F1-F3

Reliability Evaluation Plan

Dec 15th, 2017

MDG MCD Quality & Reliability Department



RER1717 ASEKH Taiwan additional source for LQFP 7x7 STM32F0-F1-F3 Package Test Vehicles

Package line	Assembly Line	Package	Device (Partial RawLine Code)	Diffusion Process	Number of Reliability Lots
LQFP	LQFP 7*7	48L	STM32(5B*410)	TSMC0.18μm	3
LQFP	LQFP 7*7	32L	STM32(5V*444)	TSMC0.18μm	1

Note: Test vehicles are selected by Change Review Board based on key parameters such as die size and volumes allowing to qualify the entire product family in LQFP using same TSMC0.18 diffusion process

RER1717 ASEKH Taiwan additional source for LQFP 7x7 STM32F0-F1-F3 Package Reliability Trials

Reliability Trial & Standard		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	3 for 410 (LQFP48L) 1 for 444 (LQFP32L)
AC or Ufast(*)	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	3 for 410 (LQFP48L)
TC(*)	Thermal Cycling JESD22 A104	-50°C, +150°C Or equivalent -65°C +150°C	1000Cy 500Cy	77	3 for 410 (LQFP48L)
HAST(*)	Biased Highly Accelerated temperature & humidity stress JESD22 A110	110°C, 1.2 atm , 85% RH bias	264h	25	3 for 410 (LQFP48L)
HTSL	High Temperature Storage Life JESD22 A103	150°C- no bias	1000h	77	3 for 410 (LQFP48L)
Construction analysis	JESD 22B102 JESDB100/B108	including Solderability, Physical dimensions	15 10		1 per package
ESD	ESD Charge Device Model ANSI/ESD STM5.3.1	Aligned with device datasheet	250V to 500V	3	1 per device

(*) tests performed after preconditioning

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