



**PRODUCT/PROCESS  
CHANGE NOTIFICATION  
PCN 10549 – Additional information**

**ASE Kaohsiung (Taiwan) additional source  
for LQFP 20x20 package products**

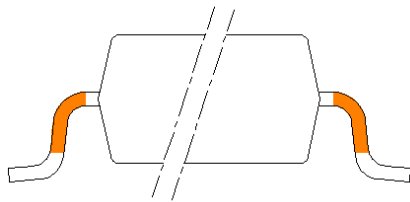
**MDG - Microcontrollers Division (MCD)**

**What are the changes?**

Changes described in the below table:

	Existing back-end site		Added back-end site
Assembly site	Amkor ATP Philippines		ASE Kaohsiung Taiwan
Leadframe	Copper Frame Spot Ag	Copper Frame	Copper Frame Spot Ag
Leadfinishing (1)	Pure Tin (e3)	PPF (e4)	Pure Tin (e3)
Resin (2)	Sumitomo EME-G631SHQ	Sumitomo EME-G631HQ	Sumitomo EME- G631SH
Glue	Ablestik 3230	Evertch AP4200	Sumitomo CRM 1076WA
Enhanced traceability in marking	No		Yes (2 digits)

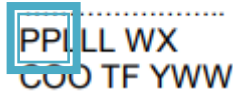
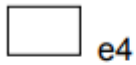
(1) Lead color and surface finish change depending on leadfinishing.



(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
7B	Amkor ATP Philippines	AA	ASE Kaohsiung Taiwan

## How to order samples?

For all samples request linked to this PCN, please:

- place a **Non-standard** sample order (choose Sample Non Std Type from pull down menu)
- insert the PCN number "**PCN 10549**" into the NPO Electronic Sheet/**Regional Sheet**
- request sample(s) through Notice tool, indicating a single Commercial Product for each request

Partial Ship: 01 Price Pol: 05 Status: 01 Canc:   
 %: 0 Sample Type: Sample Non Std Type  
 Closing Type: Sample Std Type  
                   Sample Non Std Type  
                   Sample Non Stow Spl Tests  
 Lab Sheet:

SO | NPO Sample

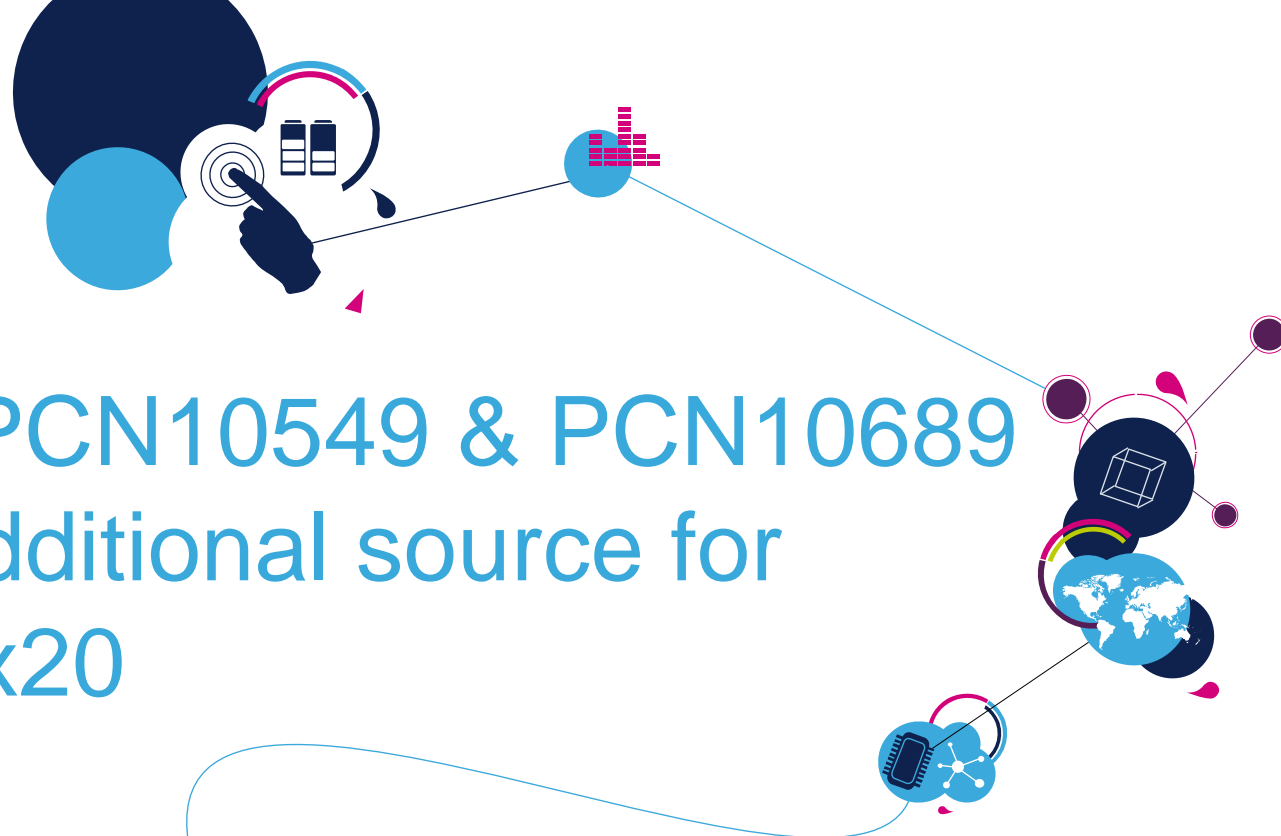
Header  
 SO Nr: 8018502433 Customer: 99770200 01 ST-TOKYO SO Type: 30 Sample Order Cost Center: JT3129 SAMPLES /SALES J  
 PO Nr: JT3129/Tokumitsu/AXIS\_NidecSank Carrier Code: 0001 Price Policy: 05 Currency: 02 U.S. DOLLAR Req Name: Tokumitsu  
 Notes: Status: 01 All items pending, n Issuing Date: 25-JUN-2018 Ord Val: 0.0000 Sample Req Date: 25-Jun-2018

Sch I Nr	PO I. Nr.	Finished Good	Comm Qty	Open Qty	Plant Open Qty	Reqd Qty	Unit Price	RD	CD	EDD	St
1.1.10	000001	STM32F429NIH6	30	30	30	30	0.0000	25-Jun-18	01-Mar-59	01-Mar-59	01

Final Cust: PO Item: 000001 Comm Prod: STM32F429NIH6 Qty: 30 RD: 25-Jun-18 Unit Price: 0.0000 Final Cust: 8800367006 SANSHIN/NPC

Cust Part Nr: Finishd Good: Partial Ship: 01 Price Pol: 05 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:  
 PCN 10595



# RER1810 for PCN 10548, PCN10549 & PCN10689 ASE Kaohsiung (Taiwan) additional source for LQFP 7x7/10x10/14x14/20x20

## Reliability Evaluation Plan

January 30<sup>th</sup>, 2019

MDG MCD Quality & Reliability Department

# RER1810 ASE Kaohsiung (Taiwan) additional source for LQFP 7x7/10x10/14x14/20x20 - Package Test Vehicles & Strategy

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.

Similarity strategy will be applied to cover all combinations of Diffusion Plant, Diffusion Process and LQFP packages listed below:

- TSMC 0.18 $\mu$ m / TSMC M10 / TSMC 90 / Crolles CR300 M10 / Crolles CR300 M40 / Rousset R8 F9GO2 / Rousset R8 F9GO2s diffusion process
- LQFP7x7 / 10x10 / 14x14 / 20x20 on the same assembly line and using same materials for bonding wires, die attach glue and mold compound

Package line	Assembly Line	Package	Device (Partial RawLine Code)	Diffusion Plants & Process	Number of Reliability Lots
LQFP	LQFP 7*7	48L	STM32(5B*422)	TSMC 0.18 $\mu$ m	1
			STM8(5B*764)	Rousset R8 F9GO2	1
	LQFP 10*10	64L	STM32(5W*411)	TSMC M10	1
			STM32(5W*417)	Rousset R8 F9GO2s	1
	LQFP 14*14	100L	STM32(1L*436)	Rousset R8 F9GO2	1
			STM32(1L*448)	TSMC 0.18 $\mu$ m	1
			STM32(1L*411)	TSMC M10	1
			STM32(1L*435)	TSMC 90nm	1
	LQFP 20*20	144L	STM32(1A *450)	Crolles CR300 M40	1
			STM32(1A *413)	Crolles CR300 M10	1
			STM32(1A *414)	TSMC 0.18 $\mu$ m	1

# RER1810 ASE Kaohsiung (Taiwan) additional source for LQFP 7x7/10x10/14x14/20x20 - 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	1 per device
Uhast(*)	UnBiased Highly Accelerated Temperature and Humidity Stress JESD22 A118	130°C, 85%RH, 2 atm	96h	77	1 per device(**)
TC(*)	Thermal Cycling  JESD22 A104	-50°C, +150°C Or equivalent -65°C +150°C	1000Cy  500Cy	77	1 per device(**)
THB (*) Or HAST (*)	Temperature Humidity Bias JESD22-A101 Or Biased Highly Accelerated temperature & humidity stress JESD22 A110	85°C, 85% RH, bias Or 110°C, 1.2 atm , 85% RH bias	1000h Or 264h	77	1 per device(**)
HTSL (*)	High Temperature Storage Life  JESD22 A103	150°C- no bias	1000h	77	1 per device(**)
Construction analysis	JESD 22B102 JESDB100/B108	including Solderability, Physical dimensions for LQFP10*10, LQFP14*14, LQFP20*20	15 10		1 per device FE techno and package
ESD	ESD Charge Device Model ANSI/ESD STM5.3.1 Or JESD22-C101 Or JEDEC JS-002	Aligned with device datasheet	250V to 500V	3	1 per device

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