



PRODUCT/PROCESS CHANGE NOTIFICATION PCN 10690 – Additional information

ASE Kaohsiung (Taiwan) additional source for UFBGA 5x5, 7x7, 10x10 package 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	Amkor ATP Philippines	ASE Kaohsiung Taiwan
Die Attach	DAF ABLESTIK ATB130U	DAF ABLESTIK ATB-125
Resin (1)	GE100LFCS	G1250AAS
Enhanced traceability in marking	No digit	2 digits


(1) Package darkness might change depending on molding compound.


Visual aspect (color) might change depending on substrate material.

Marking position and size could be different upon assembly site, without any loss of information.

How can the change be seen?

The standard marking is:

 e4

.....
.....
 P P L L W X
C O O T F Y W W

PP code indicates the assembly traceability plant code.

Please refer to the [DataSheet](#) for marking details.

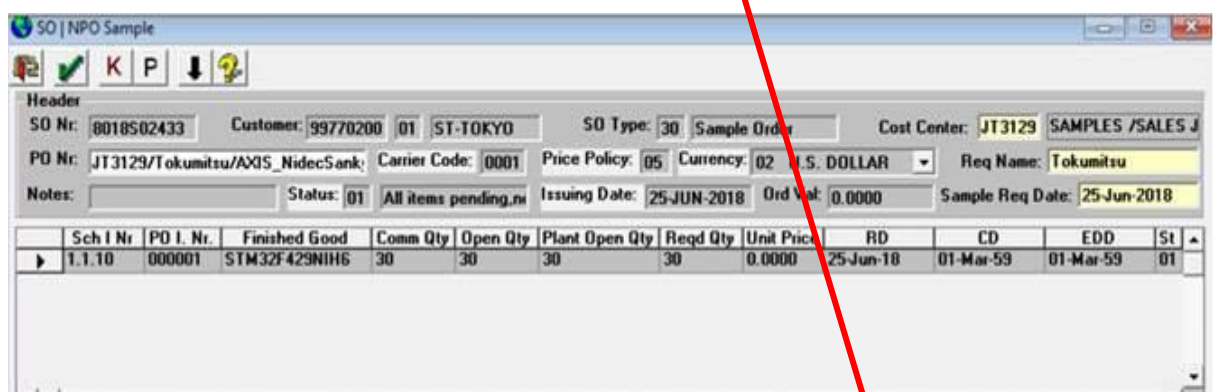
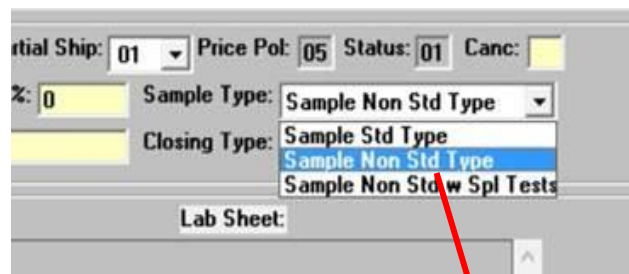
The marking is changing as follows:

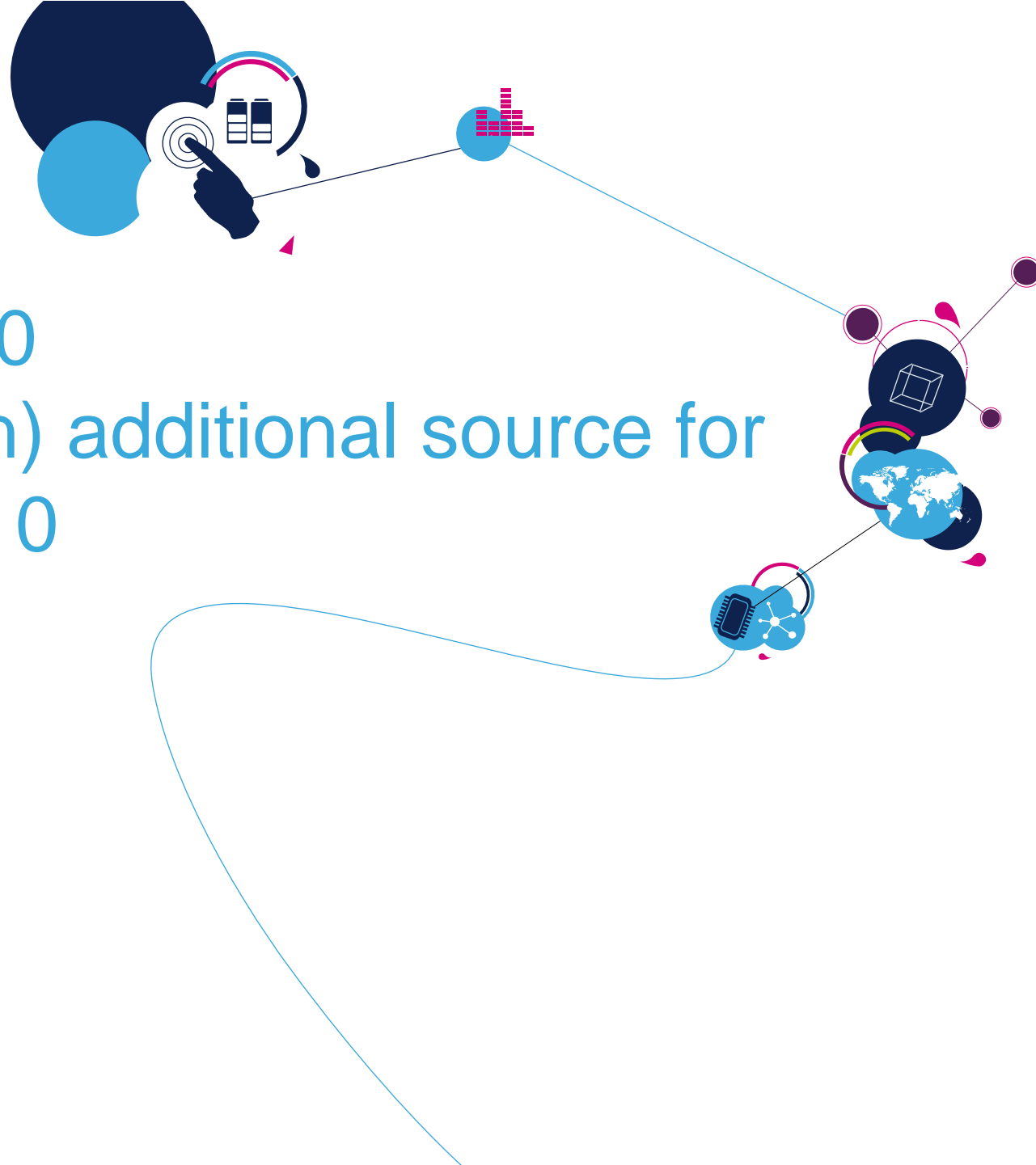
Existing		Additional	
PP code	Fab	PP code	Fab
7B	Amkor ATP Philippines	AA	ASE Kaohsiung Taiwan

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 10690**" into the NPO Electronic Sheet/**Regional Sheet**
- request sample(s) through Notice tool, indicating a single Commercial Product for each request





RER1901 for PCN10690 ASE Kaohsiung (Taiwan) additional source for UFBGA 5X5, 7X7, 10X10

Reliability Evaluation Plan

January 31st, 2019

MMS MCD Quality & Reliability Department

RER1901 ASE Kaohsiung (Taiwan) additional source for UFBGA 5X5, 7X7, 10X10 - 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 UFBGA.

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

- CMOS M40 Crolles / CMOS M10 TSMC / TSMC90 6M1T / CMOSF9S Rousset diffusion process
- UFBGA 5x5 / 7x7 / 10x10 on the same assembly line and using same materials for bonding wires, die attach glue and mold compound

Package line	Assembly Line	Package	Device (RawLine Code)	Diffusion Plants & Process	Number of Reliability Lots
UFBGA	UFBGA 10x10	176+25 L	E0MR*450ESXY	CMOS M40 Crolles	1
	UFBGA 10x10	176+25 L	E2MR*413ESX4	CMOS M10 TSMC	1
	UFBGA 7x7	100L	E0MJ*435ESXZ	TSMC90 6M1T	1
	UFBGA 5x5	64L	E32I*447ESXZ	CMOSF9S Rousset	1

RER1901 ASE Kaohsiung (Taiwan) additional source for UFBGA 5X5, 7X7, 10X10 - Package Reliability Trials

Reliability Trial & Standard		Test Conditions	Pass Criteria	Lot Strategy	Units per Lot
PC	Pre Conditioning: Moisture Sensitivity Jedec Level 3 J-STD-020/ JESD22-A113	Bake (125°C / 24h) Soak (30°C / 60% RH / 192h) for level 3 Convection reflow: 3 passes with Jedec level 3	3 Passes MSL3	4	231 to 308 (**)
UHASt (*) (**)	Unbiased Highly Accelerated Temperature & Humidity Stress JESD22-A118	130°C, 85%RH, 2 Atm	96h	1	77
TC (*)	Thermal Cycling JESD22-A104	-65°C +150°C	500Cy	4	77
THB (*)	Temperature Humidity Bias JESD22-A101	85°C, 85% RH, bias	1000h	4	77
HTSL (*)	High Temperature Storage Life JESD22-A103	150°C - no bias	1000h	4	77
Construction Analysis	JESD22-B102 JESD22-B100/B108	Including Solderability & Physical Dimensions	No concern	4	50
ESD CDM	ESD Charged Device Model ANSI/ESD STM5.3.1 JEDEC JS-002	Aligned with device datasheet	250V to 500V	4	3



(*) Tests performed after preconditioning
(**) UHASt done for 447 only

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a trademark of STMicroelectronics International NV and/or its affiliates, registered in the U.S. and other countries

© 2019 STMicroelectronics International NV and/or its affiliates - All Rights Reserved

www.st.com

