



RER1714 for PCN 10458

ASE Kaohsiung (Taiwan) additional source for WLCSP products listed in the PCN

Reliability Evaluation Plan

December 19th 2017

MMS MCD Quality & Reliability Department



ASE Kaohsiung (Taiwan) additional source for WLCSP products listed in the PCN

Test vehicles

Package line	Assembly Line	Package	Device (Partial RawLine Code)	Diffusion Process	Number of Lots
WLCSP	ASEKH	WLCSP 49 balls	STM32 (51*447)	F9GO2S	3
	ASEKH	WLCSP 36 balls	STM32 (2A*417)	F9GO2S	1
	ASEKH	WLCSP 64 balls	STM32 (CR*414)	TSMC 0.18 M8	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 WLCSP using same F9GO2S and TSMC 0.18 diffusion process

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Reliability Trials

Reliability Trial & Standard		Test Conditions	Pass Criteria	Unit per Lot	Lot qty
PC	Pre Conditioning: Moisture Sensitivity Jedec Level 1 J-STD-020/ JESD22-A113	Bake (125°C / 24 hrs) Soak (85°C / 85% RH / 168 hrs) for level 1 Convection reflow: 3 passes	3 passes MSL1	308	3 for 447 1 for 417 1 for 414
Uhast(*)	UnBiased Highly Accelerated Temperature and Humidity Stress JESD22 A118	130°C, 85%RH, 2 atm	96h	77	3 for 447 1 for 417 1 for 414
TC(*)	Thermal Cycling JESD22 A104	-50°C, +150°C Or equivalent -65°C +150°C	1000Cy 500Cy	77	3 for 447 1 for 417 1 for 414
THB(*)	Temperature Humidity Bias JESD22 A101	85°C, 85% RH- bias	1000h	25 77 77	3 for 447 1 for 417 1 for 414
HTSL	High Temperature Storage Life JESD22 A103	150°C- no bias	1000h	77	3 for 447 1 for 417 1 for 414
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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**PRODUCT/PROCESS
CHANGE NOTIFICATION
PCN 10458 – Additional information**

**ASE Kaohsiung (Taiwan) additional source
for WLCSP listed products**

MDG - Microcontrollers Division (MCD)

What are the changes?

Assembly site	Current back-end sources:		Additional back-end source
	Stats ChipPAC SCS Singapore	Amkor ATT Taiwan	ASE Kaohsiung Taiwan
Solder Ball	SAC405 SACN125	SACN125	SAC405
Enhanced traceability in marking	No digit	No digit	Enhanced traceability in marking depends on package size, see relevant table (1)

(1) Enhanced traceability in marking depends on package size:

PACKAGE DESCRIPTION	Enhanced traceability in marking
WLCSP 25L P 0.4 mm	No digit
WLCSP 36L P 0.4 mm	No digit
WLCSP 49L P 0.4 mm	No digit
WLCSP 49L P 0.5 mm	2 digits added
WLCSP 63L P 0.4 mm	2 digits added
WLCSP 64L P 0.4 mm	2 digits added
WLCSP 66L P 0.4 mm	2 digits added
WLCSP 104L P 0.4 mm	2 digits added

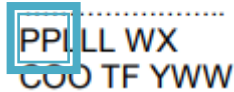
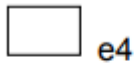
When ?

The production will start from:

Products	Date of Final Qualification Report Availability	Date of first Shipment
STM32L07 products	Week 16 2018	Week 16 2018
Other products	Week 26 2018	Week 26 2018

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
8N	Stats ChipPAC SCS (Singapore)	AA	ASE Kaohsiung (Taiwan)
A3	Amkor ATT (Taiwan)		

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 10458" 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	Last Update
01 INVOICE & O/C REMARK	PER PCN 9108- THANK YOU	01	30-Jul-2015
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