

PRODUCT / PROCESS CHANGE INFORMATION

1. PCI basic data

1.1 Company		STMicroelectronics International N.V
1.2 PCI No.		MDG/22/13163
1.3 Title of PCI		Amkor ATP (Philippines) UQFN3x3 Chip-On-Lead (COL) package – Assembly process uniformization for STM8Sx listed products
1.4 Product Category		STM8Sxxx (ie STM8S20x 8K)
1.5 Issue date		2022-01-04

2. PCI Team

2.1 Contact supplier		
2.1.1 Name		ROBERTSON HEATHER
2.1.2 Phone		+1 8475853058
2.1.3 Email		heather.robertson@st.com
2.2 Change responsibility		
2.2.1 Product Manager		Ricardo Antonio DE SA EARP
2.1.2 Marketing Manager		Veronique BARLATIER
2.1.3 Quality Manager		Pascal NARCHE

3. Change

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Methods	(Not Defined)	AMKOR ATP (Philippines)

4. Description of change

	Old	New
4.1 Description	Wirebond profile is Reverse Bonding. Ball on Leadfinger.	Wirebond profile is Forward Bonding. No Ball (Stitch only) on Leadfinger. (see description in additional information document).
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	no change	

5. Reason / motivation for change

5.1 Motivation	To increase capacity
5.2 Customer Benefit	CAPACITY INCREASE

6. Marking of parts / traceability of change

6.1 Description	Traceability of the change is ensured by ST internal tools.
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7. Timing / schedule

7.1 Date of qualification results	2022-03-16
7.2 Intended start of delivery	2022-04-20
7.3 Qualification sample available?	Not Applicable

8. Qualification / Validation

8.1 Description	13163 MDG-MCD-RER2115 - 767 QFPN3x3 Chip-on-Lead Forward bonding ATP3 - reliability plan V1.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2022-01-04

9. Attachments (additional documentations)

13163 Public product.pdf
13163 MDG-MCD-RER2115 - 767 QFPN3x3 Chip-on-Lead Forward bonding ATP3 - reliability plan V1.pdf
13163 PCI13163_Additional information.pdf

10. Affected parts

10. 1 Current		10.2 New (if applicable)
10.1.1 Customer Part No	10.1.2 Supplier Part No	10.1.2 Supplier Part No
	STM8S003F3U6TR	
	STM8S103F2U6TR	
	STM8S103F3U3TR	
	STM8S103F3U6TR	
	STM8S903F3U6TR	

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RER2115- Amkor ATP (Philippines) UQFN3X3 Chip-On-Lead (COL) package Assembly process uniformization for STM8Sx Reliability Evaluation Plan

December 10th, 2021

MDG MCD Quality & Reliability Department



RER2115- Amkor ATP (Philippines) UQFN3X3 Chip-On-Lead (COL) package Assembly process uniformization for STM8Sx



Package Test Vehicles

Reliability strategy has been defined with package related trials on 3 assembly lots of test vehicle die 767

Package line	Assembly Line	Package	Device (Partial RawLine Code)	Diffusion Plant & Process	Number of Reliability Lots
UQFN	UFQFPN 3X3X0.6 20L 0.5 MM PITCH	20L	STM8 (E4*767)	F9GO1	3

RER2115- Amkor ATP (Philippines) UQFN3X3 Chip-On-Lead (COL) package Assembly process uniformization for STM8Sx



Package Reliability Trials

Reliability Trial & Standards		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 (60°C / 60% RH / 168 hrs) for level 1 Convection reflow: 3 passes	3 passes MSL1	308	3
uHAST (*)	UnBiased Highly Accelerated Temperature and Humidity Stress JESD22 A118	130°C, 85%RH, 2 atm	96h	77	3
TC(*)	Thermal Cycling JESD22 A104	-65°C +150°C or equivalent	200cy/ 500cy	77	3
THB	Temperature Humidity Bias JESD22-A101	85°C, 85% RH, bias, 5,6V	1000h	25	3
HTSL (*)	High Temperature Storage Life JESD22 A103	150°C- no bias	500h/1000h	77	3
Construction analysis	Internal ST specifications	NA	NA	30	1

(*) After preconditioning



Thank you

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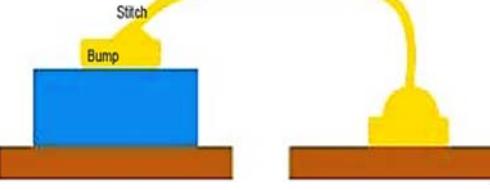


PRODUCT/PROCESS CHANGE INFORMATION PCI13163– Additional information

Amkor ATP (Philippines) UQFN3X3 Chip-On-Lead (COL) package – Assembly process uniformization for STM8Sx listed products

MDG - Microcontrollers Division (MCD)

What is the change?

	Current back-end process	New back-end process
Assembly site	AMKOR ATP (Philippines)	
Wirebonding process		
Wirebond profile	Reverse Bonding Ball on Leadfinger	Forward Bonding No Ball (Stitch only) on Leadfinger

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Public Products List

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PCI Title : Amkor ATP (Philippines) UQFN3X3 Chip-On-Lead (COL) package – Assembly process uniformization for STM8Sx listed products

PCI Reference : MDG/22/13163

Subject : Public Products List

Dear Customer,

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

STM8S103F3U6TR	STM8S003F3U6TR	STM8S903F3U6TR
STM8S903F3U3TR	STM8S103F2U6TR	STM8S103F3U3TR



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