


**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**

<b>2.1 Contact supplier</b>	
2.1.1 Name	ROBERTSON HEATHER
2.1.2 Phone	+1 8475853058
2.1.3 Email	heather.robertson@st.com
<b>2.2 Change responsibility</b>	
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 10<sup>th</sup>, 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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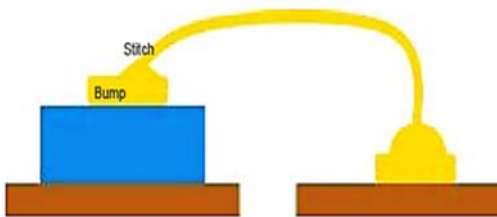
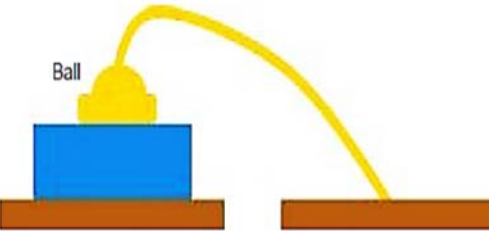


**PRODUCT/PROCESS  
CHANGE INFORMATION**  
**PCI13163– Additional information**

**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	<b>Reverse Bonding</b> Ball on Leadfinger	<b>Forward Bonding</b> 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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