PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data	
1.1 Company	STMicroelectronics International N.V
1.2 PCN No.	MICROCONTROLLERS/24/14886
1.3 Title of PCN	AMKOR ATP (Philippines) LQFP100 14x14 and LQFP144 20x20 Copper wire proliferation on STM32H74x/75x and STM32H7Ax/H7Bx listed products
1.4 Product Category	STM32H74x/75x and STM32H7Ax/H7Bx
1.5 Issue date	2024-08-18

2. PCN 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
Materials	Direct Material: Bond Wire - Metallurgy (metallic composition/ raw material)	AMKOR ATP (Philippines)

4. Description of change		
	Old	New
4.1 Description	Current Wire bonding material: - ASEKH (Taiwan) gold wire - ASEKH (Taiwan) copper palladium wire. - AMKOR ATP (Philippines) gold wire	Current Wire bonding material: - ASEKH (Taiwan) gold wire - ASEKH (Taiwan) copper palladium wire. - AMKOR ATP (Philippines) gold wire New Wire bonding material : - AMKOR ATP (Philippines) copper palladium wire
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	no impact on Form, Fit, Function	

5. Reason / motivation for change	
5.1 Motivation	To improve service
5.2 Customer Benefit	SERVICE IMPROVEMENT

6. Marking of parts / traceability of change	
6.1 Description	traceability ensured by ST Internal tools

7. Timing / schedule	
7.1 Date of qualification results	2024-08-06
7.2 Intended start of delivery	2024-11-01
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation			
8.1 Description	14886 MDG-GPM-RER2312 V3.0 PCN14486 ATP1-LQFP14x14 100L LQFP20x20 144L-CuPd RER Eval.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2024-08-18

9. Attachments (additional documentations)
14886 Public product.pdf 14886 MDG-GPM-RER2312 V3.0 PCN14486 ATP1-LQFP14x14 100L LQFP20x20 144L-CuPd RER Eval.pdf 14886 PCN14886_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
	STM32H742VGT6	
	STM32H742VIT6	
	STM32H742ZGT6	
	STM32H743VGT6	
	STM32H743VIT6	
	STM32H743VIT6TR	
	STM32H743ZGT6	
	STM32H743ZIT6	
	STM32H743ZIT6U	
	STM32H745ZIT3	
	STM32H745ZIT6	
	STM32H750VBT6	
	STM32H750VBT6TR	
	STM32H750ZBT6	
	STM32H753VIT6	
	STM32H753ZIT6	
	STM32H755ZIT6	
	STM32H7A3VGT6	
	STM32H7A3VIT6	
	STM32H7A3VIT6Q	
	STM32H7A3ZIT6	
	STM32H7A3ZIT6Q	
	STM32H7B0VBT6	
	STM32H7B0VBT6TR	
	STM32H7B3VIT6	
	STM32H7B3ZIT6Q	

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Reliability Evaluation Report

MDG-GPM-RER2312

AMKOR ATP1 LQFP14x14 - LQFP20x20 Copper wire introduction and standardization to post plated leadframes on listed products

General Information	
Commercial Product	STM32F427VGT6 STM32L4R9VIT6 STM32F402VCT6 STM32F469ZIT6 STM32L496ZGT6 STM32H743ZIT6
Product Line	419X66; 470X66; 423X66; 434X66; 461X66 ; 450X66
Die revision	419 cut 2.2 470 cut 1.5 423 cut 1.1 434 cut 1.0 461 cut 2.0 450 cut 2.2
Product Description	STM32F4 STM32L4 STM32H7
Package	LQFP 100 14x14x1.4 LQFP144 20x20x1.4
Silicon Technology	CMOSM10; TN090 ; M40
Division	MDRF-GPM

Traceability	
Diffusion Plant	Crolles300, TSMC Fab14
Assembly Plant	SC AMKOR ATP1 - PHILIPPINES

Reliability Assessment	
Pass	X
Fail	

Release	Date	Author	Function
1.0	29th September 2023	Gabin Bosco	GPM BE Q&R
2.0	7th Mai 2024	Gabin Bosco	GPM BE Q&R
3.0	26th July 2024	Gabin Bosco	GPM BE Q&R

Approved by:

Version	Name	Function	Location	Date
1.0	Berengere ROUTIER-SCAPPUCCI	GPM BE Q&R Manager	ROUSSET	2nd October 2023
	Pascal NARCHE	Subgroup Quality Manager	ROUSSET	2nd October 2023
2.0	Pascal NARCHE	Subgroup Quality Manager	ROUSSET	7th May 2024
3.0	Berengere ROUTIER SCAPPUCCI	GPM BE Q&R Manager	ROUSSET	2st August 2024

This report is a summary of the reliability trials performed in good faith by STMicroelectronics. This report does not imply for STMicroelectronics expressly or implicitly any contractual obligations other than as set forth in STMicroelectronics General Terms and Conditions of Sale.

RELIABILITY EVALUATION OVERVIEW

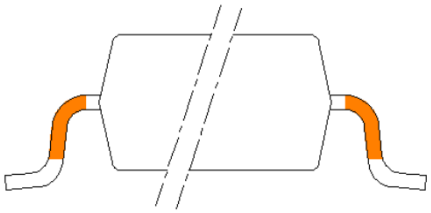
- **OBJECTIVE**

The aim of this report is to present the reliability evaluation performed for the qualification of ATP1 (Philippines) LQFP14x14 to 20x20 assembly line with copper wires on techno TSMC N90, Crolles M10, TSMC M10, Crolles M40 and Crolles E40 by similarity as BEOL and pad geometry is covered by M40.

PCN14039 changes are described here below:

	Existing back-end line	Added back-end line
Assembly line	AMKOR ATP (Philippines)	
Leadframe	Pre-plated (PPF) Leadfinishing e4 (1)	Post-Plated (DR) Leadfinishing e3
Epoxy (2)	CRM-1076YB (Sumitomo)	3230 (Henkel)
Wire	Gold 0.8mil	Copper Palladium (0.8mil)
Marking composition	Without 2D With e4	With 2D Marking With e3

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



(2) Package darkness changes depending on molding compound. Pin1 identifier can change in terms of form and positioning. Marking position and size could be different upon assembly site, without any loss of information.

PCN14886 changes are described here below:

	Existing back-end line		Added back-end line	
Assembly line	ASE Kaohsiung (Taiwan)		AMKOR ATP (Philippines)	
Die attach material	Sumitomo CRM 1076WA	HITACHI EN4900G	Evertech AP4200 Ablestik 3230	Ablestik 3230
Wire	Gold 0.8mil	CuPd 0.8mil	Gold 0.8mil	CuPd 0.8mil
Marking composition	Without 2D	With 2D Marking	Without 2D	With 2D Marking

- **CONCLUSION**

All reliability tests have been completed with positive results. Neither functional nor parametric rejects were detected at final electrical testing.
Package oriented tests have not put in evidence any criticality. Physical analysis performed on samples submitted to tests has not put in evidence any issue. ESD CDM are in accordance with ST spec.

Based on the overall results obtained, products below have positively passed reliability evaluation:

Line code	Commercial product	Diff plant	Assy plant
419X66	STM32F427VG	TSMC FAB14	SC AMKOR ATP1
470X66	STM32L4R9VI	TSMC FAB14	
423X66	STM32F402VC	Crolles 300	
434X66	STM32F469ZI	Crolles 300	
461X66	STM32L496ZG	TSMC FAB14	
450X66	STM32H743ZIT6	Crolles 300	

According to good reliability tests results in line with validated product mission profile and reliability strategy, the qualification is granted for all products with same silicon technology (TSMC N90/M40, Crolles M10/M40/E40) as Test vehicles in LQFP14x14 and LQFP20x20 at ATP1 (Amkor - Philippines) in copper-palladium wire.

Refer to Section 3.0 for reliability test results.

TABLE OF CONTENT

1. RELIABILITY STRATEGY

Reliability trials performed as part of this reliability evaluation are in agreement with ST 0061692 specification, in full compliancy with the JESD-47 international standard.

For details on test conditions, generic data used and specifications references, refer to test results summary in section 3.

2. PRODUCT OR TEST VEHICLE CHARACTERISTICS

2.1. Generalities

Package line	Partial rawline code	Number of lots
LQFP 100 14x14x1.4	1L*419	1
	1L*470	1
	1L*423	1
LQFP144 20x20x1.4	1A*434	1
	1A*461	1
	1A*450	1

2.2. Traceability

2.2.1. Wafer Fab Information

Die 419

Wafer Fab Information		
FAB1		
Wafer fab name / location	TSMC Fab14 DIFF / Taiwan	
Wafer diameter (inches)	12	
Wafer thickness (µm)	775± 25	
Silicon process technology	CMOSM10	
Number of masks	42	
Die finishing front side (passivation) materials / thickness (µm)	USG + NITRIDE/ 1.9µm	
Die finishing back side Materials	RAW SILICON	
Die area (Stepping die size)	25.43 mm² (5582 µm, 4556 µm)	
Die pad size	**Geometry**	**Open(X,Y)**
	Rectangular	59,123 µm
Sawing street width (X,Y) (µm)	80,80	

Metal levels/Materials/Thicknesses	**Wire bond pad metal**	**Composition**	**Thickness**
	1	TaN/Ta/CuSeed/Cu	0.22 µm
	2	TaN/Ta/CuSeed/Cu	0.28 µm
	3	TaN/Ta/CuSeed/Cu	0.28 µm
	4	TaN/Ta/CuSeed/Cu	0.28 µm
	5	TaN/Ta/CuSeed/Cu	0.28 µm
	6	Ta/TaN/AlCu	0.73 µm
	7	AlCu	1.2 µm

Die 470

Wafer Fab Information		
FAB1		
Wafer fab name / location	TSMC Fab14 DIFF / Taiwan	
Wafer diameter (inches)	12	
Wafer thickness (µm)	775±25	
Silicon process technology	TN090	
Number of masks	46	
Die finishing front side (passivation) materials / thickness	PSG+NITRIDE / 1.9µm	
Die finishing back side Materials	RAW SILICON	
Die area (Stepping die size)	27.685 mm² (5259.6 µm, 5263.8 µm)	
Die pad size	**Geometry**	**Open(X,Y)**
	Rectangular	123,59 µm
Sawing street width (X,Y) (µm)	80,80	
Metal levels/Materials/Thicknesses	**Wire bond pad metal**	**Composition** / **Thickness**
	1	TaN/Ta/CuSeed/Cu / 0.24 µm
	2	TaN/Ta/CuSeed/Cu / 0.31 µm
	3	TaN/Ta/CuSeed/Cu / 0.31 µm
	4	TaN/Ta/CuSeed/Cu / 0.31 µm
	5	TaN/Ta/CuSeed/Cu / 0.31 µm
	6	TaN/Ta/CuSeed/Cu / 0.85 µm
	7	AlCu / 1.45 µm

Die 423

Wafer Fab Information	
FAB1	
Wafer fab name / location	Crolles 300/France
Wafer diameter (inches)	12
Wafer thickness (µm)	775±25
Silicon process technology	CMOSM10ULP
Number of masks	44
Die finishing front side (passivation) materials / thickness	PSG + NITRIDE/ 1.1µm
Die finishing back side Materials	RAW SILICON
Die area (Stepping die size)	9,000 mm² (3000 µm, 3000 µm)
Die pad size	**Geometry**: Rectangular; **Open(X,Y)**: 59,123 µm
Sawing street width (X,Y) (µm)	80,80

Metal levels/Materials/Thicknesses

Wire bond pad metal	Composition	Thickness
1	TaN/CuSeed/Cu	0.24 µm
2	TaN/CuSeed/Cu	0.33 µm
3	TaN/CuSeed/Cu	0.33 µm
4	TaN/CuSeed/Cu	0.33 µm
5	TaN/CuSeed/Cu	0.33 µm
6	TaN/CuSeed/Cu	0.85 µm
7	AlCu/TinArc	1.45 µm

Die 434

<table>
<tr><th colspan="2">Wafer Fab Information</th></tr>
<tr><th colspan="2">FAB1</th></tr>
<tr><td>Wafer fab name / location</td><td>Crolles 300/France</td></tr>
<tr><td>Wafer diameter (inches)</td><td>12</td></tr>
<tr><td>Wafer thickness (µm)</td><td>775±25</td></tr>
<tr><td>Silicon process technology</td><td>CMOSM10ULP</td></tr>
<tr><td>Number of masks</td><td>43</td></tr>
<tr><td>Die finishing front side (passivation) materials</td><td>PSG + NITRIDE/ 1.1µm</td></tr>
<tr><td>Die finishing back side Materials</td><td>RAW SILICON</td></tr>
<tr><td>Die area (Stepping die size)</td><td>28,24 mm² (5730 µm, 4928 µm)</td></tr>
<tr><td>Die pad size</td><td>
<table>
<tr><th>Geometry</th><th>Open(X,Y)</th></tr>
<tr><td>Rectangular</td><td>59,123 µm</td></tr>
</table>
</td></tr>
<tr><td>Sawing street width (X,Y) (µm)</td><td>80,80</td></tr>
<tr><td>Metal levels/Materials/Thicknesses</td><td>
<table>
<tr><th>Wire bond pad metal</th><th>Composition</th><th>Thickness</th></tr>
<tr><td>1</td><td>TaN/CuSeed/Cu</td><td>0.24 µm</td></tr>
<tr><td>2</td><td>TaN/CuSeed/Cu</td><td>0.33 µm</td></tr>
<tr><td>3</td><td>TaN/CuSeed/Cu</td><td>0.33 µm</td></tr>
<tr><td>4</td><td>TaN/CuSeed/Cu</td><td>0.33 µm</td></tr>
<tr><td>5</td><td>TaN/CuSeed/Cu</td><td>0.33 µm</td></tr>
<tr><td>6</td><td>TaN/CuSeed/Cu</td><td>0.85 µm</td></tr>
<tr><td>7</td><td>AlCu/TinArc</td><td>1.45 µm</td></tr>
</table>
</td></tr>
</table>

Die 461

<table>
<tr><th colspan="2">Wafer Fab Information</th></tr>
<tr><th colspan="2">FAB1</th></tr>
<tr><td>Wafer fab name / location</td><td>TSMC Fab14 DIFF / Taiwan</td></tr>
<tr><td>Wafer diameter (inches)</td><td>12</td></tr>
<tr><td>Wafer thickness (µm)</td><td>775±25</td></tr>
<tr><td>Silicon process technology</td><td>TN090CE</td></tr>
<tr><td>Number of masks</td><td>45</td></tr>
<tr><td>Die finishing front side (passivation) materials</td><td>PSG + NITRIDE/ 1µm</td></tr>
<tr><td>Die finishing back side Materials</td><td>RAW SILICON</td></tr>
<tr><td>Die area (Stepping die size)</td><td>19,438 mm² (4177,2 µm, 4653,4 µm)</td></tr>
<tr><td>Die pad size</td><td>
<table>
<tr><th>Geometry</th><th>Open(X,Y)</th></tr>
<tr><td>Rectangular</td><td>123,59 µm</td></tr>
</table>
</td></tr>
<tr><td>Sawing street width (X,Y) (µm)</td><td>80,80</td></tr>
<tr><td>Metal levels/Materials/Thicknesses</td><td>
<table>
<tr><th>Wire bond pad metal</th><th>Composition</th><th>Thickness</th></tr>
<tr><td>1</td><td>TaN/Ta/CuSeed/Cu</td><td>0.24 µm</td></tr>
<tr><td>2</td><td>TaN/Ta/CuSeed/Cu</td><td>0.31 µm</td></tr>
<tr><td>3</td><td>TaN/Ta/CuSeed/Cu</td><td>0.31 µm</td></tr>
<tr><td>4</td><td>TaN/Ta/CuSeed/Cu</td><td>0.31 µm</td></tr>
<tr><td>5</td><td>TaN/Ta/CuSeed/Cu</td><td>0.31 µm</td></tr>
<tr><td>6</td><td>TaN/Ta/CuSeed/Cu</td><td>0.85 µm</td></tr>
<tr><td>7</td><td>AlCu</td><td>1.45 µm</td></tr>
</table>
</td></tr>
</table>

Die 450

<table>
<tr><th colspan="2">Wafer Fab Information</th></tr>
<tr><th colspan="2">FAB1</th></tr>
<tr><td>Wafer fab name / location</td><td>Crolles 300</td></tr>
<tr><td>Wafer diameter (inches)</td><td>12</td></tr>
<tr><td>Wafer thickness (µm)</td><td>775±25</td></tr>
<tr><td>Silicon process technology</td><td>CMOSM40MI</td></tr>
<tr><td>Number of masks</td><td>51</td></tr>
<tr><td>Die finishing front side (passivation) materials</td><td>PSG NITRIDE</td></tr>
<tr><td>Die finishing back side Materials</td><td>RAW SILICON</td></tr>
<tr><td>Die area (Stepping die size)</td><td>23.23 mm² (4983, 4662)</td></tr>
<tr><td>Die pad size</td><td><table><tr><th>Geometry</th><th>Open(X,Y)</th></tr><tr><td>Rectangular</td><td>54.9,54.4 µm</td></tr></table></td></tr>
<tr><td>Sawing street width (X,Y) (µm)</td><td>72,72</td></tr>
<tr><td>Metal levels/Materials/Thicknesses</td><td><table><tr><th>Wire bond pad metal</th><th>Composition</th><th>Thickness</th></tr><tr><td>1</td><td>TaN/Ta/CuSeed/Cu</td><td>0.13 µm</td></tr><tr><td>2</td><td>TaN/Ta/CuSeed/Cu</td><td>0.14 µm</td></tr><tr><td>3</td><td>TaN/Ta/CuSeed/Cu</td><td>0.14 µm</td></tr><tr><td>4</td><td>TaN/Ta/CuSeed/Cu</td><td>0.14 µm</td></tr><tr><td>5</td><td>TaN/Ta/CuSeed/Cu</td><td>0.14 µm</td></tr><tr><td>6</td><td>TaN/Ta/CuSeed/Cu</td><td>0.85 µm</td></tr><tr><td>7</td><td>TaN/Ta/CuSeed/Cu</td><td>0.85 µm</td></tr><tr><td>8</td><td>Ta/TaN/AlCu</td><td>1.525 µm</td></tr></table></td></tr>
</table>

2.2.2.Assembly Information

Assembly Information	
Package: LQFP 100 14x14x1.4	**419 470 423**
Assembly plant name / location	SC AMKOR ATP1/ PHILIPPINES
Pitch (mm)	0.5
Die thickness after back-grinding (µm)	375±25
Die sawing method	Laser groove + mechanical sawing
Bill of Material elements	
Lead frame material/reference	LF for LQFP14x14 100L CuAg 5.75sq
Lead frame finishing (material/thickness)	Pure Tin (e3): Tolerance 7 to 20 µm
Die attach material / glue /supplier	D/A Ablestik 3230
Wire bonding material/diameter	Wire CuPd 0.8 mils
Molding compound material/supplier/reference	Resin Sumitomo G631HQ
Package Moisture Sensitivity Level (JEDEC J-STD020D)	3

Assembly Information			
Package: LQFP 144 20x20x1.4	**434**	**461**	**450**
Assembly plant name / location	SC AMKOR ATP1 - PHILIPPINES		
Pitch (mm)	0.5		
Die thickness after back-grinding (µm)	290±25µm	375±25µm	290±25µm
Die sawing method	Laser groove + mechanical sawing		
Bill of Material elements			
Lead frame material/reference	LF for LQFP20x20 144L CuAg 6.2sq		LF LQFP144L Pur Tin 7sq
Lead frame finishing (material/thickness)	Pure Tin (e3): Tolerance 7 to 20 µm		
Die attach material / glue /supplier	D/A Ablestik 3230		
Wire bonding material/diameter/supplier	Wire CuPd 0.8 mils		
Molding compound material/supplier/reference	Resin Sumitomo G631HQ		
Package Moisture Sensitivity Level (JEDEC J-STD020D)	3		

2.2.3.Reliability testing information

Reliability Testing Information	
Reliability laboratory name / location	ATP Rel Lab, Grenoble Rel Lab, Muar BE Lab

Note: ST is ISO 9001 certified. This induces certification of all internal and subcontractor labs. ST certification document can be downloaded under the following link: http://www.st.com/content/st_com/en/support/quality-and-reliability/certifications.html

3. TEST RESULTS SUMMARY

3.1. Lot information

Lot #	Diffusion Lot / Wafer ID	Die Revision (Cut)	Assy Lot / Trace Code	Raw Line	Package	Note
Lot 1	9R301475	Cut 2.2	7B33538A	521L*419XXX5	LQFP 100 14x14x1.4	NA
Lot 2	9R150945	Cut 1.5	7B230593	601L*470QCXV	LQFP 100 14x14x1.4	NA
Lot 3	Q209709	Cut 1.1	7B230534	641L*423QCXZ	LQFP 100 14x14x1.4	NA
Lot 4	Q210616	Cut 1.0	7B230447	611A*434QCXA	LQFP144 20x20x1.4	NA
Lot 5	9R215035	Cut 2.0	7B229576	621A*461QCXB	LQFP144 20x20x1.4	NA
Lot 6	VQ319339	Cut 2.2	7B40629G	501A*450QCXV	LQFP144 20x20x1.4	NA

3.2. Test results summary

ACCELERATED ENVIRONMENT STRESS TESTS

Test code	Stress method	Stress Conditions	Lots Qty	S.S.	Total	Results/Lot Fail/S.S.	Comments:(N/A =Not Applicable)
PC	JSTD 020 JESD 22-A113	24h bake@125°C, MSL3 (192h/30°C/60%RH) 3x Reflow simulation Peak Reflow Temp= 260°C	6	308	1848	Lot 1: 0/308 Lot 2: 0/308 Lot 3: 0/308 Lot 4: 0/308 Lot 5: 0/308 Lot 6: 0/308	NA
HTSL	JESD22-A103	Ta= 150°C Duration= 1000hrs ☑After PC	6	77	462	Lot 1: 0/77 Lot 2: 0/77 Lot 3: 0/77 Lot 4: 0/77 Lot 5: 0/77 Lot 6: 0/77	NA
TC	JESD22-A104	Ta= -65°C/150°C Cyc= 500 ☑After PC	6	77	462	Lot 1: 0/77 Lot 2: 0/77 Lot 3: 0/77 Lot 4: 0/77 Lot 5: 0/77 Lot 6: 0/77	NA
THB	JESD22-A101	Ta= 85°C / 85%RH Duration= 1000hrs ☑After PC	6	77	462	Lot 1: 0/77 Lot 2: 0/77 Lot 3: 0/77 Lot 4: 0/77 Lot 5: 0/77 Lot 6: 0/77	NA
UHAST	JESD22-A118	Ta= 130°C/85%RH Duration= 96hrs ☑After PC	6	77	462	Lot 1: 0/77 Lot 2: 0/77 Lot 3: 0/77 Lot 4: 0/77 Lot 5: 0/77 Lot 6: 0/77	NA

Electrical Verification Tests

Test code	Stress method	Stress Conditions	Lots Qty	S.S.	Total	Results/Lot Fail/S.S.	Comments:(N/A =Not Applicable)
ESD CDM	JEDEC JS-002	Voltage=250V for 419/470/434/461/450 Voltage=500V for 423	6	3	18	Lot 1: 0/3 Lot 2: 0/3 Lot 3: 0/3 Lot 4: 0/3 Lot 5: 0/3 Lot 6: 0/3	NA

PACKAGE ASSEMBLY INTEGRITY TESTS

Test code	Stress method	Stress Conditions	Lots Qty	S.S.	Total	Results/Lot Fail/S.S.	Comments:(N/A =Not Applicable)
CA	Construction analysis including solderability, physical dimensions, wire bond shear	JESD 22B102 JESD B100/ B108 ST internal specifications	6	50	300	Lot 1: 0/50 Lot 2: 0/50 Lot 3: 0/50 Lot 4: 0/50 Lot 5: 0/50 Lot 6: 0/50	NA

Note: Test method revision reference is the one active at the date of reliability trial execution.

4. APPLICABLE AND REFERENCE DOCUMENTS

Reference	Short description
JESD47	Stress-Test-Driven Qualification of Integrated Circuits
SOP2.4.4	Record Management Procedure
SOP2.6.2	Internal Change Management
SOP2.6.7	Finished Good Maturity Management
SOP2.6.9	Package & Process Maturity Management in BE
SOP2.6.11	Program Management for Product Development
SOP2.6.17	Management of Manufacturing Transfers
SOP2.6.19	Front-End Technology Platform Development and Qualification
DMS 0061692	Reliability Tests and Criteria for Product Qualification
JEDEC JS-002	Electrostatic discharge (ESD) sensitivity testing charge device model (CDM)
JESD 22-A103	High Temperature Storage Life
J-STD-020	Moisture/reflow sensitivity classification for non-hermetic solid state surface mount devices
JESD22-A113	Preconditioning of non-hermetic surface mount devices prior to reliability testing
JESD22-A118	Unbiased Highly Accelerated temperature & humidity Stress Test
JESD22-A104	Temperature cycling
JESD22-A101	Temperature Humidity Bias
JESD 22B102	Solderability test
JESD B100/ B108	Physical dimension

5. GLOSSARY

ESD - CDM	Electrostatic Discharge - Charged Device Model
CA	Construction analysis
HTSL	Storage Life High temperature storage life
PC	Preconditioning
TC	Temperature Cycling
THB	Temperature Humidity Bias
UHAST	Unbiased HAST (Highly Accelerated Stress Test)
DMS	ST Advanced Documentation Controlled system/ Documentation Management System
BEOL	Back-End Of Line

6. REVISION HISTORY

Release	Author	Content description	Approval list			
			Function	Location	Name	date
1.0	Gabin BOSCO	Initial release	Div. Quality Manager	ROUSSET	Pascal NARCHE	2nd October 2023
			BE Quality Manager	ROUSSET	Berengere ROUTIER-SCAPPUCCI	2nd October 2023
2.0	Gabin BOSCO	M10 final results	Div. Quality Manager	ROUSSET	Pascal NARCHE	7th May 2024
3.0	Gabin BOSCO	M40/E40 Crolles	BE Quality Manager	ROUSSET	Berengere ROUTIER-SCAPPUCCI	2st August 2024

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PRODUCT/PROCESS CHANGE NOTIFICATION
PCN14886 – Additional information

AMKOR ATP (Philippines) LQFP100 14x14 and LQFP144 20x20 package copper palladium bonding wire proliferation on STM32H74x/75x and STM32H7Ax/H7Bx listed products.

MDG – General Purpose Microcontrollers Division (GPM)

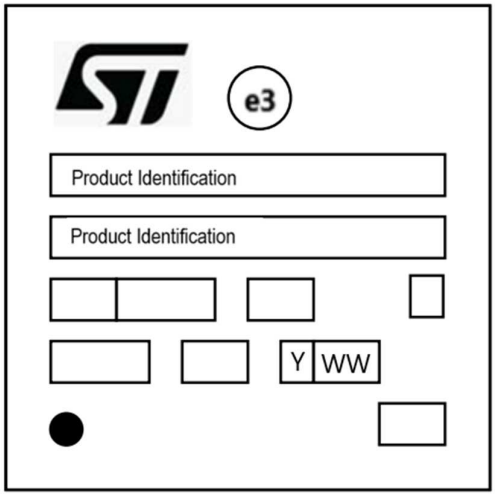
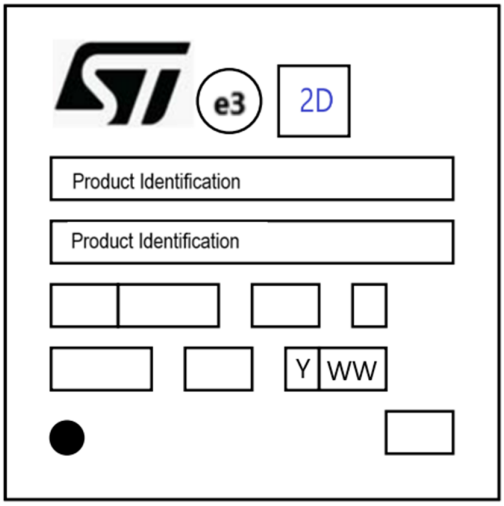
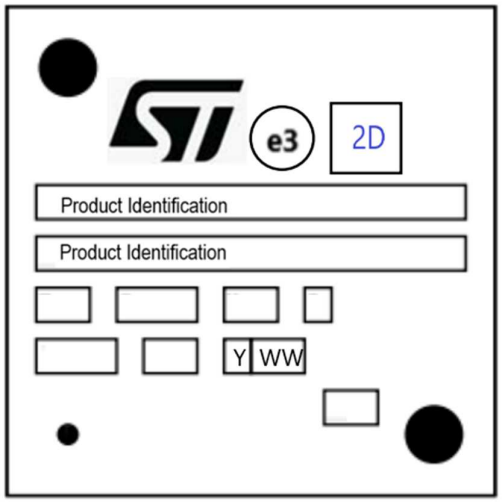
What are the changes?

Proliferation of Palladium Copper Coated wire for LQFP14x14 100L and LQFP20x20 144L package to replace gold (Au) wire.

Changes described in table below:

	Existing back-end line			Added back-end line
Assembly site	ASE KaoHsiung (Taiwan)		AMKOR ATP (Philippines)	
Die Attach Material	Sumitomo CRM 1076WA	HITACHI EN4900G	Evertech AP4200 Ablestik 3230	Ablestik 3230
Wire	Gold 0.8mil	CuPd 0.8mil	Gold 0.8mil	CuPd 0.8mil
Marking composition	Without 2D	With 2D Marking	Without 2D	With 2D Marking

How can the change be seen?

Package top view	Existing Marking	Added Marking
LQFP 100L 14x14		
LQFP 144L 20x20		

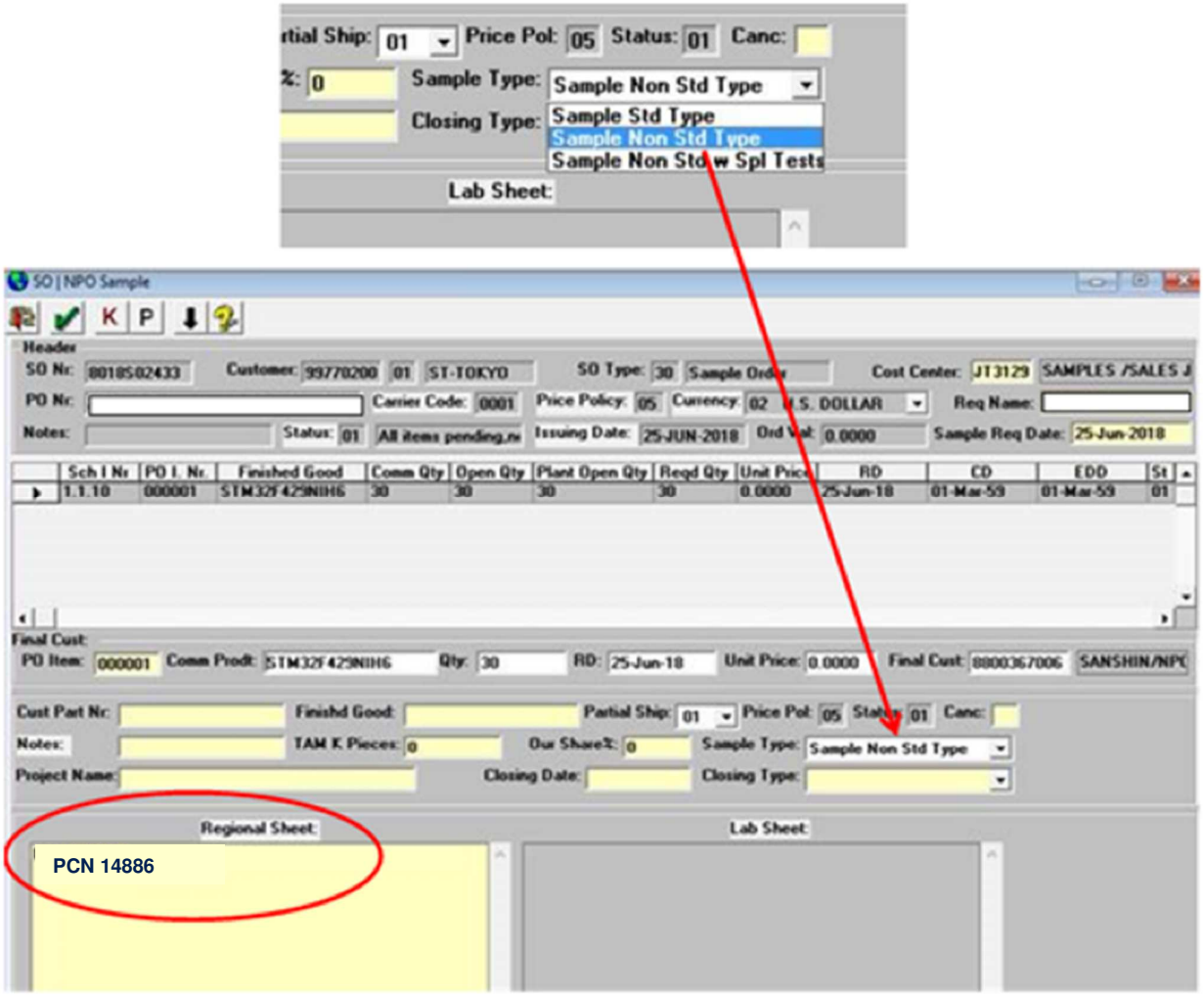
Codes already available on exisiting and added marking:

Y WW : Year Week (manufacturing date)

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 "**PCN14886**" into the NPO Electronic Sheet/**Regional Sheet**
- request sample(s) through Notice tool, indicating a single Commercial Product for each request



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PCN Title : AMKOR ATP (Philippines) LQFP100 14x14 and LQFP144 20x20 Copper wire proliferation on STM32H74x/75x and STM32H7Ax/H7Bx listed products

PCN Reference : MICROCONTROLLERS/24/14886

Subject : Public Products List

Dear Customer,

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

STM32H750VBT6TR	STM32H743ZIT6	STM32H7B3VIT6
STM32H745ZIT6	STM32H742VIT6TR	STM32H742ZIT6
STM32H753VIT6	STM32H742ZGT6	STM32H7A3VIT6
STM32H743VGT6	STM32H7B0VBT6	STM32H742VGT6
STM32H745ZGT6	STM32H750VBT6	STM32H7A3ZIT6
STM32H7B3VIT6Q	STM32H755ZIT3	STM32H7A3ZGT6
STM32H7A3VGT6	STM32H7A3VGT6TR	STM32H743VIT6
STM32H743ZGT6	STM32H755ZIT6	STM32H753ZIT6
STM32H742VIT6	STM32H743VIT6TR	STM32H7A3VIT6Q
STM32H7B3ZIT6	STM32H7B0VBT6TR	STM32H742VGT6TR
STM32H750ZBT6	STM32H745ZIT3	STM32H7B3ZIT6Q
STM32H7A3ZIT6Q	STM32H7B0ZBT6	

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