PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company	STMicroelectronics International N.V
1.2 PCN No.	ADG/19/11372
1.3 Title of PCN	L99H01QF (UH49): Product Optimization
1.4 Product Category	L99H01QF L99H01QFTR
1.5 Issue date	2019-03-21

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	Mario ASTUTI,Vito GRAZIANO
2.1.2 Marketing Manager	Stello Matteo BILLE'
2.1.3 Quality Manager	Francesco MINERVA

3. Change

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Materials	New direct material part number (same supplier, different supplier or new supplier), Lead frame base material	ST Muar - Malaysia

4. Description of change

	Old	New
4.1 Description	WIRE GOLD D1.2 MIL RESIN SUMITOMO EME G700L GLUE LOCTITE ABLESTIK QMI9507-2A1 FRAME MATRIX FRAME PPF plating	WIRE COPPER D1.2 MIL RESIN SUMITOMO EME G700LS GLUE LOCTITE ABLESTIK QMI9507-2A1 FRAME MATRIX FRAME SpAg + TnCu3
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	No Impact	

5. Reason / motivation for change

5.1 Motivation	Product optimization
5.2 Customer Benefit	SERVICE CONTINUITY

6. Marking of parts / traceability of change

6.1 Description	Dedicated Finished Good Code

7. Timing / schedule

7.1 Date of qualification results	2019-02-15
7.2 Intended start of delivery	2019-05-31
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description	11372 RR000218CT2222_1.0_ L99H01_LQFP32_Cu 1.2mils qualification.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	**Issue Date**	2019-03-21

9. Attachments (additional documentations)
11372 Public product.pdf 11372 RR000218CT2222_1.0_ L99H01_LQFP32_Cu 1.2mils qualification.pdf 11372 details.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
	L99H01QFTR	

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PRODUCT/PROCESS CHANGE NOTIFICATION

SUBJECT **L99H01QF (UH49): Product Optimization**

IMPACTED PRODUCTS	✚ L99H01QF ✚ L99H01QFTR
MANUFACTURING STEP	Assembly
INVOLVED PLANT	ST Muar - Malaysia
CHANGE REASON	Company road map for product rationalization
CHANGE DESCRIPTION	Qualification of new Bill of material See below the details
TRACEABILITY	Dedicated Finished Good Codes
REPORTS	See enclosed validation report RR000218CT2222_1.0_ L99H01_LQFP32_Cu 1.2mils qualification.pdf

LQFP 32Leads – UH49

- From Pre-Plated Frame (PPF) to SpAg+TnCu3 Plating Process
- Migration to Copper wire

February, 2019

Change description

Assembly Plant: MUAR

Migration from LQFP 7x7 32leads frame PPF plated to frame with Spot Ag + TnCu3

- **REASON**: Company roadmap for product rationalization
- **ADVANTAGE**: TnCu3 is a process to obtain rough copper. This rough surface is increasing the mold compound adhesion on the leadframe.

New Bill of Material (BOM)

- Copper frame SpAg with TnCu3 treatment for rough surface
- Copper wire bonding
- Resin Sumitomo EME-G700LS
- Glue Loctite Ablestik QMI9507- 2A1

Matte Tin plating process introduction

C.P.: L99H01QF → (Silicon line **UH49**)

Additional info

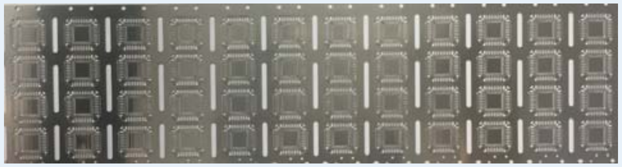
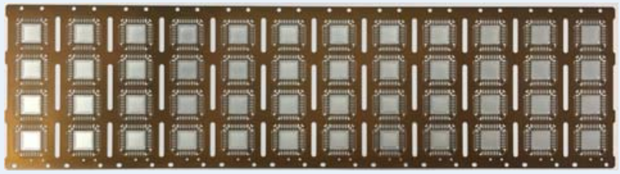
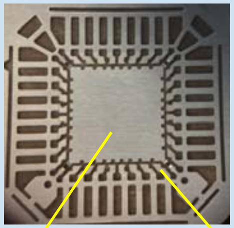
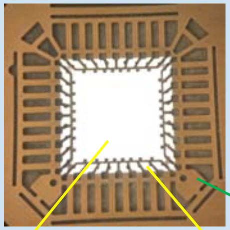
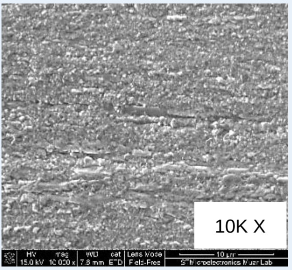
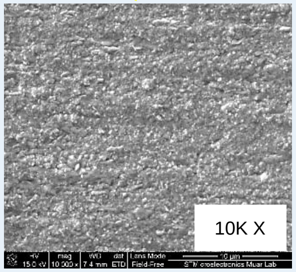
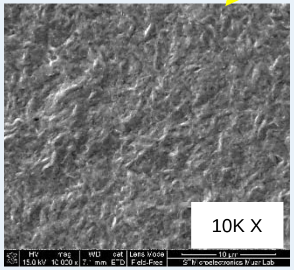
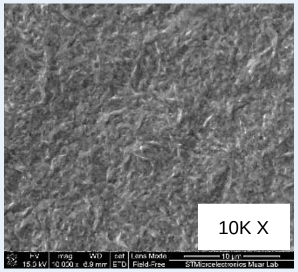
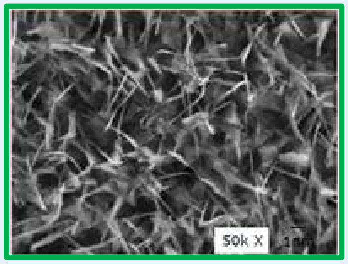
No change in the frame drawing

No change in datasheet, nor on electrical and mechanical parameters.

Dedicated Finished Good will be available. No change of commercial product

Samples available

Existing frame vso new

	UH49 PPF 5FT34612	**UH49 TNCu3 5FT50173**
LF description	FRAME LQFP 32L 7x7mm 5x5 FPad NiPdAu	FRAME LQFP 32L 7x7 5x5 OpB SpAg+TNCu3
LF layout	4row x 12columns = 48 units/ strips 	4row x 12columns = 48 units/ strips 
Unit image	Pre-plated frame, PPF (NiPdAu) 	Spot Ag + CuOx(TNCu3) 
SEM image	 Die pad  Lead tip	 Die pad  Lead tip  CuOx (TNCu3) Electrochemical treatment **CuOx (TNCu3) purpose: Needle shape morphology to improve adhesion vs Mold compound**

BOM comparison

Product Line: UH49

Current Bill of Material	
ITEM	**MATERIAL**
WIRE	GOLD D1.2 MIL
RESIN	SUMITOMO EME G700L
GLUE	LOCTITE ABLESTIK QMI9507 – 2A1
FRAME	MATRIX FRAME PPF plating

➡

New Bill of Material	
ITEM	**MATERIAL**
WIRE	COPPER D1.2 MIL
RESIN	SUMITOMO EME-G700LS
GLUE	LOCTITE ABLESTIK QMI9507 – 2A1
FRAME	MATRIX FRAME SpAg +TnCu3

life.augmented

Leadframe Comparison

ITEM	EXISTING	NEW
Frame size	215.7 x 57 mm	215.7 x 57 mm
Units/Strip	48	48
Pad size	5 x 5	5 x 5
Surface treatment	No	TnCu3
Inner Lead Plating	PPF (NiPdAu)	Spot Ag
Frame base material	Copper	Copper
Frame process	Stamped	Stamped
Plating	PPF (NiPdAu)	Sn
Leadframe Supplier	SHINKO	SHINKO

Public Products List

Publict Products are off the shelf products. They are not dedicated to specific customers, they are available through ST Sales team, or Distributors, and visible on ST.com

PCN Title : L99H01QF (UH49): Product Optimization
PCN Reference : ADG/19/11372

Subject : Public Products List

Dear Customer,

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

L99H01QFTR	**L99H01QF**	

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