


PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company	 STMicroelectronics International N.V
1.2 PCN No.	MDG/24/14536
1.3 Title of PCN	JSCC(China) UFQFPN 5X5 32L, UFQFPN 7X7 48L and VFQFPN 8X8 68L new BOM for STM32H50x & STM32H56x/H57x listed product .
1.4 Product Category	STM32H503xx, STM32H562xx, STM32H563xx & STM32H573xx
1.5 Issue date	2024-04-04

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	New direct material part number (same supplier, different supplier or new supplier), Bond wire material, diameter	StatsChipPAC JSCC Jiangyin China

4. Description of change

	Old	New
4.1 Description	<p>Assembly lines / wire bonding:</p> <ul style="list-style-type: none"> - JSCC (China) / Gold wire <p>Packages:</p> <ul style="list-style-type: none"> - UFQFPN 5X5 32L - UFQFPN 7X7 48L - VFQFPN 8X8 68L 	<p>Assembly lines / wire bonding:</p> <ul style="list-style-type: none"> - JSCC (China) / Copper Palladium wire additional source - JSCC (China) / Gold wire <p>Packages:</p> <ul style="list-style-type: none"> - UFQFPN 5X5 32L - UFQFPN 7X7 48L - VFQFPN 8X8 68L
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	<p>No change in Form, no change in Fit, no change in Function. Package darkness might change depending on molding compound. Pin1 identifier remain in the same corner but might slightly change in terms of form and positioning.</p>	

5. Reason / motivation for change

5.1 Motivation	Due to the success on the market of STM32 devices, ST Microcontrollers Division decided to qualify an additional back-end assembly line to maintain state of the art service level to our customers thanks to extra capacity.
5.2 Customer Benefit	SERVICE IMPROVEMENT

6. Marking of parts / traceability of change

6.1 Description	Traceability ensure by ST internal tools
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7. Timing / schedule

7.1 Date of qualification results	2024-06-25
7.2 Intended start of delivery	2024-06-25
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation			
8.1 Description	14536 MDRF-GPM-RER2220 JSCC UQFN VQFN CuPdAu Reliability PLAN.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2024-04-04

9. Attachments (additional documentations)	
14536 Public product.pdf 14536 MDRF-GPM-RER2220 JSCC UQFN VQFN CuPdAu Reliability PLAN.pdf 14536 PCN14536_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
	STM32H503CBU6	
	STM32H503KBU6	
	STM32H562RIV6	
	STM32H563RGV6	
	STM32H573RIV6	

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MDG-GPM-RER2401 for PCN14536

JSCC(China) UFQFPN 5X5 32L, UFQFPN 7X7 48L and VFQFPN 8X8 68L new BOM for STM32H50x & STM32H56x/H7x listed product

Reliability Evaluation Plan

25 March, 2024

MDRF GPM GPM Quality & Reliability Department



MDG-GPM-RER2401 JSCC(China) UFQFPN 5X5 32L, UFQFPN 7X7 48L and VFQFPN 8X8 68L new BOM Package Test Vehicles

Package line	Assembly Line	Package	Device (RawLine Code)	Diffusion Process Plant	Number of Reliability Lots	Full
UQFN	UQFPN 7x7	48L	MI*474	Crolles E40	1	Full
	UQFPN 7x7	48L	MI*455	TSMC N40	2	Full

Reliability strategy:

- Reliability will be performed on 3 lots from representative test vehicles of STM32H50x & STM32H56x/H7x listed products, to cover both Crolles E40 / TSMC N40 technologies. Refer to details in above and next tables.

MDG-GPM-RER2401

JSCC(China) UFQFPN 5X5 32L, UFQFPN 7X7 48L and VFQFPN 8X8 68L new BOM Package Reliability Trials

Reliability Trial & Standard		Test Conditions	Pass Criteria	Unit per Lot	Lot qty
PC	Pre Conditioning: Moisture Sensitivity Jedec Level 3 J-STD-020/ JESD22-A113	Bake (125°C / 24 hrs) Soak (30°C / 60% RH / 192 hrs) for level 3 Convection reflow: 3 passes	3 passes MSL3	308 (for 474) or 271 (for 455)	3
Uhast(*)	UnBiased Highly Accelerated Temperature and Humidity Stress JESD22 A118	130°C, 85%RH, 2.3 atm	96h 168h for monitoring	77	3
TC(*)	Thermal Cycling JESD22 A104	-65°C +150°C	500cy 1000cy for monitoring	77	3
THB(*)	Biased temperature & humidity stress JESD22 A101	85°C, 85% RH bias	1000h	77 (for 474) or 40 (for 455)	3
HTSL(*)	High Temperature Storage Life JESD22 A103	150°C- no bias	1000h	77	3
Construction analysis	JESDB100/B108 ST internal specifications	Construction analysis including physical dimensions measurement, Ball shear, pull test	NA	50	2
ESD	ESD Charge Device Model JEDEC JS-002	Aligned with device datasheet	Aligned with device datasheet	3	2

(*) tests performed after preconditioning

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PRODUCT/PROCESS CHANGE NOTIFICATION

PCN14536 – Additional information

JSCC(China) UFQFPN 5X5 32L, UFQFPN 7X7 48L and VFQFPN 8X8 68L new BOM for STM32H50x & STM32H56x/H57x listed product.

MDRF – General Purpose Microcontrollers Division (GPM)

What are the changes?

Introduction of an additional assembly line to continue our path through the deployment of our Low-cost wire strategy to secure our supply chain.

Changes are described in table below:

	Existing back-end assembly line		New assembly line
Assembly site	StatsChipPAC JSCC Jiangyin China		
package	UFQFPN 5x5 / 7x7	VFQFPN 8x8	UFQFPN 5x5 /7x7 & VFQFPN 8x8
Lead frame	Standard Copper Frame Ag Plating	High Density Copper Frame Ag Plating	
Molding compound ⁽¹⁾	SUMITOMO G770		SUMITOMO G631BQ-CJ
Wire bonding	Gold 0.8Mils		CuPd 0.8Mils

(1) Package darkness might change depending on molding compound. The visual aspect (color) might change depending on substrate material. Marking position and size could be different upon assembly site, without any loss of information.

How can the change be seen?

The standard marking is not changing : Traceability ensured by ST internal tools
Please refer to Technical Note **TN1433** for package marking details.

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 “**PCN14536**” into the NPO Electronic Sheet/**Regional Sheet**
- request sample(s) through Notice tool, indicating a single Commercial Product for each request

Partial Ship: 01 Price Pol: 05 Status: 01 Canc: ☐

%: 0 Sample Type: Sample Non Std Type

Closing Type: Sample Std Type
Sample Non Std Type
Sample Non Std w Spl Tests

Lab Sheet:

SO | NPO Sample

Header

SO Nr: 8018502433 Customer: 99770200 01 ST-TOKYO SO Type: 30 Sample Order Cost Center: JT3129 SAMPLES /SALES J

PO Nr: Carrier Code: 0001 Price Policy: 05 Currency: 02 U.S. DOLLAR Req Name:

Notes: Status: 01 All items pending,ni Issuing Date: 25-JUN-2018 Ord Val: 0.0000 Sample Req Date: 25-Jun-2018

Sch I Nr	PO I. Nr.	Finished Good	Comm Qty	Open Qty	Plant Open Qty	Reqd Qty	Unit Price	RD	CD	EDD	St
1.1.10	000001	STM32F429NIH6	30	30	30	30	0.0000	25-Jun-18	01-Mar-59	01-Mar-59	01

Final Cost:

PO Item: 000001 Comm Prod: STM32F429NIH6 Qty: 30 RD: 25-Jun-18 Unit Price: 0.0000 Final Cost: 8800367006 SANSHIN/NPC

Cust Part Nr: Finished Good: Partial Ship: 01 Price Pol: 05 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: PCN 14536

Lab Sheet:

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PCN Title : JSCC(China) UFQFPN 5X5 32L, UFQFPN 7X7 48L and VFQFPN 8X8 68L new BOM for STM32H50x & STM32H56x/H57x listed product .

PCN Reference : MDG/24/14536

Subject : Public Products List

Dear Customer,

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

STM32H562RIV6	STM32H503KBU7	STM32H573RIV6
STM32H503KBU6	STM32H503CBU7	STM32H562RGV6
STM32H563RIV6	STM32H563RGV6	STM32H503KBU7TR
STM32H503CBU6		

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