PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company	STMicroelectronics International N.V
1.2 PCN No.	MDG/23/14068
1.3 Title of PCN	JSCC (China) additional source in UFQFPN 5X5 32L, UFQFPN 7X7 48L and VFQFPN 8X8 68L package for listed products
1.4 Product Category	STM8xx Listed Products STM32xx Listed Products
1.5 Issue date	2023-10-25

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	Assembly lines / wire bonding: - JSCC (China) / Gold wire - ASE Kaohsiung (Taiwan) / Gold wire Packages: - UFQFPN 5X5 32L - UFQFPN 7X7 48L - and VFQFPN 8X8 68L	Assembly lines / wire bonding: - JSCC (China) / Copper Palladium wire additional source - JSCC (China) / Gold wire - ASE Kaohsiung (Taiwan) / Gold wire Packages: - UFQFPN 5X5 32L - UFQFPN 7X7 48L - and VFQFPN 8X8 68L
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	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.	

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

7. Timing / schedule

7.1 Date of qualification results	2023-12-27
7.2 Intended start of delivery	2024-01-08
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description	14068 MDG-GPM-RER2220 JSCC UQFN 32L_48L VQFN 68L CuPdAu wires STM32- reliability plan.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	**Issue Date**	2023-10-25

9. Attachments (additional documentations)

14068 Public product.pdf
14068 MDG-GPM-RER2220 JSCC UQFN 32L_48L VQFN 68L CuPdAu wires STM32- reliability plan.pdf
14068 PCN14068_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**
	STM32C031C4U6	
	STM32C031C6U6	
	STM32C031K4U6	
	STM32C031K6U6	
	STM32G031C6U6	
	STM32G031C8U6	
	STM32G031C8U7	
	STM32G031K6U6	
	STM32G031K8U6	
	STM32G031K8U7	
	STM32G031K8U7TR	
	STM32G051C6U6	
	STM32G051C8U6	
	STM32G051K8U6	
	STM32G051K8U7	
	STM32G061C6U6	
	STM32G061C8U6	
	STM32G071C8U3	
	STM32G071C8U6TR	
	STM32G071C8U7	
	STM32G071C8U7TR	
	STM32G071CBU3	
	STM32G071CBU6	
	STM32G071CBU6TR	
	STM32G071CBU7TR	
	STM32G071K8U6	
	STM32G071KBU3	
	STM32G071KBU6	
	STM32G071KBU6N	
	STM32G071KBU6TR	
	STM32G071KBU7	
	STM32G081CBU6	
	STM32G081KBU6	
	STM32G0B1CBU3	
	STM32G0B1CBU6	
	STM32G0B1CCU6	
	STM32G0B1CEU6	
	STM32G0B1CEU6N	
	STM32G0B1KBU3N	

	STM32G0B1KBU6	
	STM32G0B1KBU6N	
	STM32G0B1KCU6	
	STM32G0B1KCU7	
	STM32G0B1KEU6	
	STM32G0B1KEU6N	
	STM32G0C1CEU6	
	STM32G0C1KCU6	
	STM32G0C1KEU6	
	STM32G431CBU3	
	STM32G431CBU6	
	STM32G431KBU3	
	STM32G431KBU6	
	STM32G441KBU6	
	STM32G473CBU6	
	STM32G473CCU6	
	STM32G473CEU6	
	STM32G474CEU6	
	STM32G484CEU6	
	STM32G491CCU6	
	STM32G491CEU6	
	STM32H563RGV6	
	STM32H573RIV6	
	STM32L412C8U6	
	STM32L412CBU6	
	STM32L412CBU6P	
	STM32L412CBU6TR	
	STM32L412K8U6	
	STM32L412KBU3	
	STM32L412KBU6	
	STM32L422CBU6	
	STM32L422KBU6	
	STM32L431CBU6	
	STM32L431CCU6	
	STM32L431CCU6TR	
	STM32L431KBU3	
	STM32L431KBU6	
	STM32L431KBU6TR	
	STM32L431KCU6	
	STM32L432KBU6	
	STM32L432KCU3	
	STM32L432KCU6	
	STM32L433CBU6	
	STM32L433CCU3	
	STM32L433CCU6	
	STM32L442KCU6	
	STM32L443CCU6	
	STM32L451CCU3	
	STM32L451CCU6	
	STM32L451CCU6TR	
	STM32L451CEU6	

	STM32L451CEU6TR	
	STM32L452CCU6	
	STM32L452CEU3	
	STM32L452CEU6	
	STM32L462CEU6	
	STM32L462CEU6TR	
	STM32L4P5CEU6	
	STM32L4P5CGU6	
	STM32L4Q5CGU6	
	STM32L4Q5CGU6P	
	STM32L552CCU6	
	STM32L552CEU6	
	STM32L552CEU6P	
	STM32L562CEU6	
	STM32L562CEU6P	

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MDG-GPM-RER2220
JSCC UQFN32L_48L VQFN68L
CuPdAu wire Qualification

Reliability Evaluation Plan

11- Aug, 2023

MDG GPM Q&R

MDG-GPM-RER2220
JSCC UQFN32L_48L VQFN68L CuPdAu wire Package Test Vehicles

Package line	Assembly Line	Package	Version	Device (RawLine Code)	Diffusion Process Plant	Number of Reliability Lots	Full
QFN	UQFPN 5x5	32L	Legacy	MG*447	Rousset F9S	1	Full
	UQFPN 7x7	48L	Legacy	MI*423	Crolles M10	1	Full
	UQFPN 7x7	48L	Legacy	MI*460	TSMC N90	2	Full
	VQFPN 8x8	68L	Legacy	GB*483	Crolles M40	1	Full
	UQFPN 7x7	48L	Legacy	MI*474	Crolles E40	1	Full
	UQFPN 7x7	48L	Legacy	MI*455	TSMC N40	1	Full

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MDG-GPM-RER2220
JSCC UQFN32L_48L VQFN68L CuPdAu wire
Reliability plan

(*) tests performed after preconditioning

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	7
Uhast(*)	UnBiased Highly Accelerated Temperature and Humidity Stress JESD22 A118	130°C, 85%RH, 2.3 atm	96h	77	7
TC(*)	Thermal Cycling JESD22 A104	-65°C +150°C	500cy	77	7
THB(*)	Biased temperature & humidity stress JESD22 A101	85°C, 85% RH bias	1000h	77	7
HTSL(*)	High Temperature Storage Life JESD22 A103	150°C- no bias	1000h	77	7
Construction analysis	ST internal specifications	Ball shear, pull test, IMC inspection , internal analysis	NA	50	6
ESD	ESD Charge Device Model JEDEC JS-002	Aligned with device datasheet	Aligned with device datasheet	3	6

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PRODUCT/PROCESS CHANGE NOTIFICATION
PCN14068 – Additional information

JSCC (China) additional source in UFQFPN 5X5 32L, UFQFPN 7X7 48L and VFQFPN 8X8 68L package for listed products

MDG – 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:

UFQFPN 5X5 32L	Existing back-end assembly line		New assembly line
Assembly site	ASE Taiwan	StatsChipPAC JSCC Jiangyin China	
Lead frame	Copper Frame Double Ring Ag Plating	HD Copper Frame Ag Plating	
Die Attach	Hitachi EN4900G	ABLEBOND 8290	HITACHI EN4900GC
Molding compound (1)	Sumitomo EME-G631H	SUMITOMO G770	SUMITOMO G700LALA
Wire bonding	Gold 0.8Mils	Gold 0.8Mils	CuPd 0.8Mils

UFQFPN 7X7 48L	Existing back-end assembly line		New assembly line
Assembly site	ASE Taiwan	StatsChipPAC JSCC Jiangyin China	
Lead frame	Copper Frame Double Ring Ag Plating	STD Copper Frame Ag Plating	HD Copper Frame Ag Plating
Die Attach	Hitachi EN4900G	ABLEBOND 8290	HITACHI EN4900GC
Molding compound (1)	Sumitomo EME-G631H	SUMITOMO G770	SUMITOMO G700LALA
Wire bonding	Gold 0.8Mils		CuPd 0.8Mils

VFQFPN 8X8 68L	Existing back-end assembly line	New assembly line
Assembly site	StatsChipPAC JSCC Jiangyin China	
Lead frame	STD Copper Frame Ag Plating	
Die Attach	HITACHI EN4900GC	
Molding compound /Resin (1)	SUMITOMO G770	SUMITOMO G700LALA
Wire bonding	Gold 0.8Mils	CuPd 0.8Mils

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

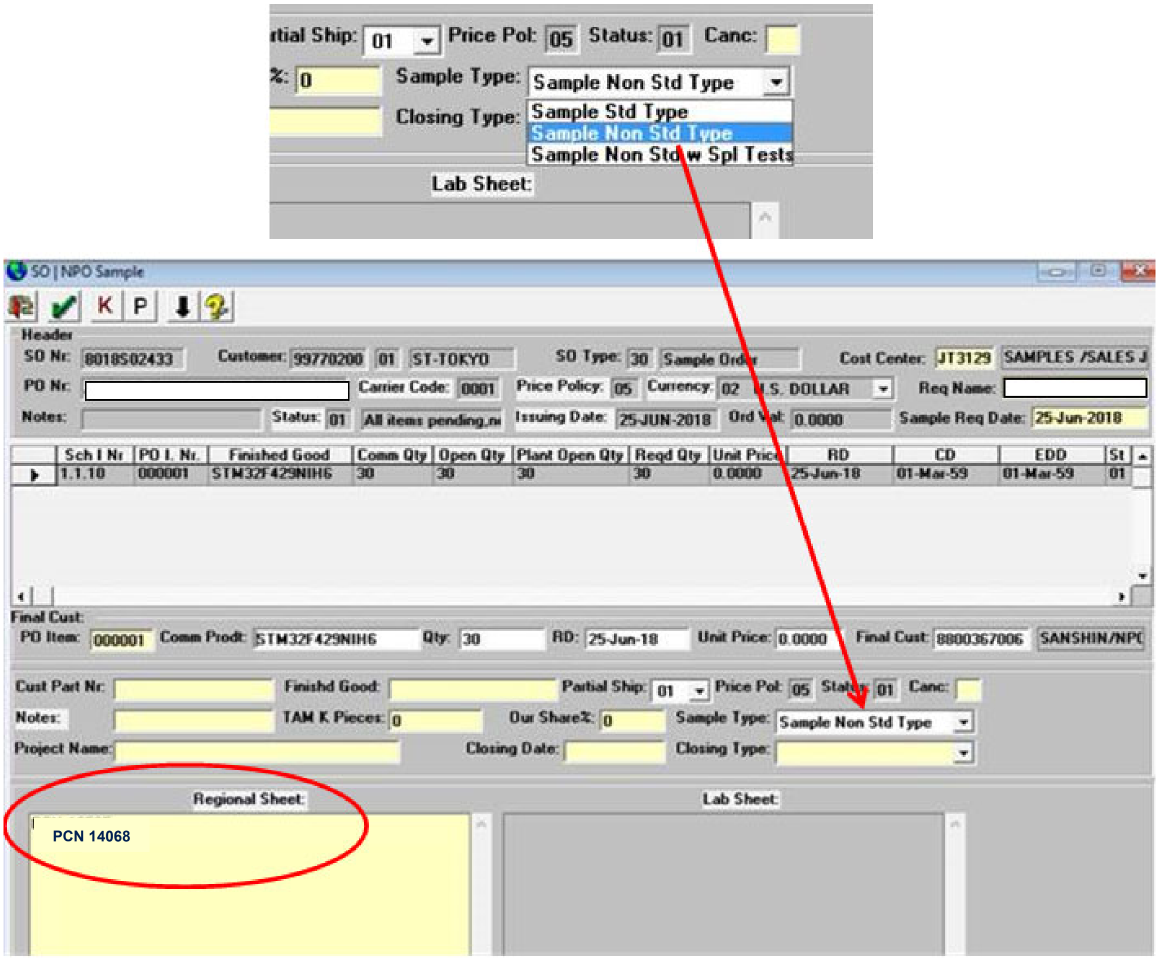
How can the change be seen?

The standard marking is not changing:
Traceability ensured by ST internal tools
Please refer to product **DataSheet** or 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 “**PCN14068**” into the NPO Electronic Sheet/**Regional Sheet**
- request sample(s) through Notice tool, indicating a single Commercial Product for each request



rtial Ship: 01 Price Pol: 05 Status: 01 Canc:
%: 0 Sample Type: Sample Non Std Type
Closing Type:

SO Nr: 8018S02433 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,n Issuing Date: 25-JUN-2018 Ord Val: 0.0000 Sample Req Date: 25-Jun-2018

Sch l 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

PO Item: 000001 Comm Prodt: STM32F429NIH6 Qty: 30 RD: 25-Jun-18 Unit Price: 0.0000 Final Cust: 8800367006 SANSHIN/NPC
Cust Part Nr: Finishd 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:

PCN 14068

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Public Products List

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PCN Title : JSCC (China) additional source in UFQFPN 5X5 32L, UFQFPN 7X7 48L and VFQFPN 8X8 68L package for listed products
PCN Reference : MDG/23/14068

Subject : Public Products List

Dear Customer,

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

STM32G071C8U7	STM32L451CEU6	STM32G473CEU3
STM32G431KBU6	STM32L412CBU6	STM32G0B1CCU6NTR
STM32G051K6U7	STM32L562CEU6	STM32G051K8U7
STM32L431CCU7TR	STM32G031K8U7	STM32G071CBU6
STM32G0B1CCU6TR	STM32G441CBU6	STM32L451CCU6TR
STM32G041K6U3	STM32G031K4U6TR	STM32L562CEU6P
STM32G061C6U6	STM32H562RGV6	STM32L433CCU3TR
STM32L442KCU6	STM32L431CCU6TR	STM32G061C8U6
STM32G431K8U6TR	STM32L451CCU6	STM32G071C8U3TR
STM32L451CEU6TR	STM32G071CBU6TR	STM32G081KBU6
STM32G474CCU6	STM32G0B1CEU6N	STM32G431K8U6
STM32L451CCU3TR	STM32L433CCU6	STM32H562RIV6
STM32G0B1CCU6	STM32G071C8U6TR	STM32G431K6U6
STM32L431CBU6	STM32G473CCU6TR	STM32G051C8U3TR
STM32G041C8U6	STM32L4P5CGU6P	STM32G0B1CBU6N
STM32G0B1CCU6N	STM32G071C8U7TR	STM32G051K8U6
STM32G474CEU6	STM32G0B1CCU3TR	STM32G031C8U6TR
STM32G0B1CEU6	STM32G031K8U7TR	STM32G0B1CCU7TR
STM32G051K6U6	STM32C031K6U6TR	STM32G071C8U3
STM32L4P5CEU6	STM32G071KBU7	STM32G081CBU6
STM32G071CBU3	STM32G031K4U3TR	STM32G031C8U3
STM32G431KBU3	STM32G0B1KCU6	STM32C031K4U6TR
STM32G0B1KEU6	STM32G4A1CEU6	STM32C031K4U7TR
STM32L552CEU6P	STM32G031C8U7TR	STM32L451CCU3
STM32G071CBU3TR	STM32G041K6U3TR	STM32G473CEU6F
STM32L412C8U6	STM32G051C8U7TR	STM32L422KBU6
STM32G071KBU6	STM32L432KBU6	STM32C031K6U6
STM32G051C8U6TR	STM32G0B1KCU7	STM32G071KBU6TR
STM32G473CCU3TR	STM32G0B1CBU3	STM32G473CCU3
STM32L4Q5CGU6P	STM32G031K6U6	STM32G051K8U7TR
STM32G061K8U6	STM32G0C1CCU6	STM32L412KBU6TR
STM32G0B1KEU6N	STM32L431KBU6TR	STM32L433CCU3
STM32L412C8U6TR	STM32L462CEU6	STM32L412K8U6
STM32G071KBU3	STM32G473CEU6	STM32G431K6U3
STM32G0B1KBU3N	STM32G0C1KCU6N	STM32C031C6U7

STM32G0B1KEU7TR	STM32G0B1CCU7	STM32G041K8U6
STM32L431KBU3	STM32G031K8U6	STM32G031C6U6
STM32L412KBU3	STM32G491CCU6	STM32H573RIV6
STM32H503CBU6	STM32G0B1CEU7	STM32G031C4U6
STM32C031C6U6	STM32G031C8U6	STM32C031C6U7TR
STM32L462CEU6TR	STM32H563RIV6	STM32L442KCU6TR
STM32G0B1CEU7TR	STM32C031C4U6	STM32G483CEU6
STM32C031K6U7TR	STM32G071K8U6	STM32L562CEU3
STM32G071KBU7TR	STM32G474CEU6TR	STM32G0B1CBU6TR
STM32C031K6U7	STM32L431CBU6TR	STM32L562CEU6TR
STM32L4P5CGU6	STM32G0C1KEU6N	STM32G071KBU6N
STM32G491CEU3	STM32G031K8U6TR	STM32L412KBU6
STM32G0C1KEU6	STM32L432KBU6TR	STM32G474CBU6
STM32L431KCU6TR	STM32G061K6U6	STM32L433CBU6
STM32L431KCU6	STM32G051K6U7TR	STM32L462CEU6F
STM32G0C1CEU6	STM32G0B1KBU3NTR	STM32L552CEU6
STM32L412CBU6P	STM32L452CCU6	STM32G0C1KCU6
STM32G473CEU3TR	STM32G0B1CBU7TR	STM32G031C8U7
STM32G051C8U7	STM32L431CCU6	STM32G0B1CBU7
STM32L412K8U6TR	STM32G431C8U3	STM32G0B1KEU7
STM32G051C8U6	STM32G051C6U6	STM32G031K4U3
STM32L552CCU6	STM32G031C8U3TR	STM32G431C8U6
STM32G441KBU6	STM32L431CCU7	STM32G431C6U6
STM32L431KBU3TR	STM32G431CBU3	STM32L432KCU3
STM32G0B1CCU3	STM32G491CEU3TR	STM32L433CCU6TR
STM32G0B1KCU7TR	STM32L452CEU3	STM32C031K4U6
STM32L422CBU6	STM32G0C1CEU6TR	STM32G484CEU6
STM32L4Q5CGU6	STM32L412CBU6TR	STM32G051C8U3
STM32L431KBU6	STM32C031K4U7	STM32G0B1KBU6N
STM32G0B1KBU6	STM32L443CCU6	STM32L432KCU6
STM32G031K4U6	STM32G431CBU6	STM32G431CBU6TR
STM32G474CCU3	STM32G0B1CBU6	STM32G491CEU6
STM32H503KBU6	STM32G473CBU6	STM32H563RGV6
STM32L452CEU6	STM32G473CEU3F	STM32G473CCU6
STM32G0B1KCU6N		

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