


# PRODUCT / PROCESS CHANGE NOTIFICATION

## 1. PCN basic data

1.1 Company		STMicroelectronics International N.V
1.2 PCN No.	MDG/22/13615	
1.3 Title of PCN	ASE Kaohsiung (Taiwan) additional source for UQFPN 5x5 32L and UQFPN 7x7 48L package - on listed products	
1.4 Product Category	STM32C0x STM32G0x STM32G4x STM32L4x STM32U0x	
1.5 Issue date	2022-09-21	

## 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	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
Transfer	Line transfer for a full process or process brick (process step, control plan, recipes) from one site to another site: Assembly site (SOP 2617)	ASE Kaohsiung Taiwan

## 4. Description of change

	Old	New
4.1 Description	Back-end sources: - STATSChipPAC JSCC (China)	Back-end sources: - STATSChipPAC JSCC (China) - ASE Kaohsiung (Taiwan)
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	same Form, Fit, Function - No change in spec. Different manufacturing site	

## 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 site to maintain state of the art service level to our customers thanks to extra capacity.
5.2 Customer Benefit	CAPACITY INCREASE

## 6. Marking of parts / traceability of change

6.1 Description	Tracability is ensure by ST internal tools. Please refer to PCN13615 – Additional information attached document.
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## 7. Timing / schedule

7.1 Date of qualification results	2022-12-15
7.2 Intended start of delivery	2022-12-20
7.3 Qualification sample available?	Upon Request

## 8. Qualification / Validation

8.1 Description	13615 MDG-GPM-RER2216 PCN13615 ASE Kaohsiung (Taiwan) QFN5X5 32L-QFN7x7 48L .pdf
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8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2022-09-21
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9. Attachments (additional documentations)
13615 Public product.pdf 13615 MDG-GPM-RER2216 PCN13615 ASE Kaohsiung (Taiwan) QFN5X5 32L-QFN7x7 48L .pdf 13615 PCN13615_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
	STM32G031C6U6	
	STM32G031C8U6	
	STM32G031K6U6	
	STM32G031K8U6	
	STM32G031K8U7TR	
	STM32G051C8U6	
	STM32G051K8U6	
	STM32G071C8U6TR	
	STM32G071CBU6	
	STM32G071K8U6	
	STM32G071KBU3	
	STM32G071KBU6	
	STM32G071KBU6N	
	STM32G081KBU6	
	STM32G0B1CBU6	
	STM32G0B1CCU6	
	STM32G0B1CEU6	
	STM32G0B1KEU6	
	STM32G431CBU3	
	STM32G431CBU6	
	STM32G431KBU3	
	STM32G431KBU6	
	STM32G441KBU6	
	STM32G473CBU6	
	STM32G473CCU6	
	STM32G473CEU6	
	STM32G474CEU6	
	STM32G491CCU6	
	STM32G491CEU6	
	STM32L412C8U6	
	STM32L412CBU6	
	STM32L412CBU6P	
	STM32L412CBU6TR	
	STM32L412K8U6	
	STM32L412KBU6	
	STM32L422CBU6	
	STM32L422KBU6	
	STM32L431CBU6	
	STM32L431CCU6	
	STM32L431CCU6TR	
	STM32L431KBU3	

	STM32L431KBU6	
	STM32L431KBU6TR	
	STM32L431KCU6	
	STM32L432KBU6	
	STM32L432KCU3	
	STM32L432KCU6	
	STM32L433CBU6	
	STM32L433CCU3	
	STM32L433CCU6	
	STM32L442KCU6	
	STM32L443CCU6	
	STM32L451CCU3	
	STM32L451CCU6	
	STM32L451CCU6TR	
	STM32L451CEU6	
	STM32L452CCU6	
	STM32L452CEU3	
	STM32L452CEU6	
	STM32L462CEU6	
	STM32L4P5CEU6	
	STM32L4P5CGU6	
	STM32L4Q5CGU6	
	STM32L4Q5CGU6P	
	STM32L552CCU6	
	STM32L552CEU6	
	STM32L552CEU6P	
	STM32L562CEU6	
	STM32L562CEU6P	

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**RERGP2216 for PCN13615**  
**ASE Kaohsiung (Taiwan) –UQFPN 5x5 32L and UQFPN**  
**7x7 48L package GOLD wire**

**Reliability Evaluation Plan**

**8<sup>th</sup> September, 2022**

**MDG GPM Quality & Reliability Department**



# RERGPM2216 – ASE Kaohsiung (Taiwan) - Additional source for UQFPN 5x5 32L and UQFPN 7x7 48L package

## Package Test Vehicles

Package line	Assembly Line	Package	Device (RawLine Code+FG)	Diffusion Plant & Process	Number of Reliability Lots
UFQFPN	UFQFPN 5X5	32L	E4MG*435ZZXZ ZZ32L442KCU6\$E2	TSMC90 N90eF / 6M1T TSMC Fab14	ESD/CDM only on Sumitomo PC+TC/HTSL/uHAST on Shinko
			E0MG*456QEXA QE32G051K8U6\$E1		ESD/CDM only on Sumitomo
	UFQFPN 7X7	48L	E0MI*460QEXB QE32G071CBU6\$E2		1 full reliability lot on Sumitomo
			E0MI*466ZZXZ ZZ32G031C66\$E2		1 full reliability lot on Sumitomo
			E0MI*471QEXZ QE32L4P5CGU6\$E2		1 full reliability lot on Sumitomo

# RERGPM2216 – ASE Kaohsiung (Taiwan) - Additional source for UQFPN 5x5 32L and UQFPN 7x7 48L package

## Package Reliability Trials

Reliability Trial & Standards		Test Conditions	Pass Criteria	Unit per Lot	435 Lot Qty		456 Lot Qty		460 Lot Qty	466 Lot Qty	471 Lot Qty	
					Sumitomo	Shinko	Sumitomo	Shinko	Sumitomo	Sumitomo	Sumitomo	Shinko
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	231 or 308	-	1 (231u)	-	-	1 (308u)	1 (308u)	1 (308u)	-
Uhast(*)	UnBiased Highly Accelerated Temperature and Humidity Stress JESD22 A118	130°C, 85%RH, 2.3 atm	96h	77	-	1	-	-	1	1	1	-
TC(*)	Thermal Cycling JESD22 A104	-65°C +150°C	500cy	77	-	1	-	-	1	1	1	-
THB(*)	Biased temperature & humidity stress JESD22 A101	85°C, 85% RH bias	1000h	77	-	-	-	-	1	1	1	-
HTSL(*)	High Temperature Storage Life JESD22 A103	150°C- no bias	1000h	77	-	1	-	-	1	1	1	-
Construction analysis	JESD 22B102 JESDB100/B108	Internal ST specifications	0 reject	50	1	1	1	1	-	1	-	1
ESD	ESD Charge Device Model JESD22-C101	Aligned with device datasheet	Aligned with device datasheet	3	1	1	1	-	1	1	1	-

(\*) After preconditioning

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**– Additional information**

**ASE Kaohsiung (Taiwan) additional source for UQFPN 5x5 32L  
and UQFPN 7x7 48L package - on listed of products**

**MDG - Microcontrollers Division (MCD)**

**What are the changes?**

Changes described in table below:

	Existing back-end sites	Added back-end site
Assembly site	Stats ChipPAC JSCC Jiangyin China	ASE Kaohsiung Taiwan
Leadframe	Copper Frame Double Ring Ag Plating	Copper Frame Double Ring Ag Plating
Leadfinishing	Pure Tin (e3)	Pure Tin (e3)
Resin (1)	Sumitomo G770	Sumitomo G631H
Glue	Ablebond 8290 Hitachi EN4900GC	Hitachi EN4900GC
Wire	Gold 0.8mil	Gold 0.8mil
Enhanced Traceability in marking	2 digits	2 digits

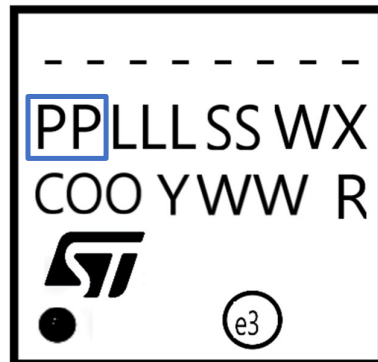
(1) Package darkness changes depending on molding compound.

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.

## How can the change be seen?

The standard marking is:



**PP** code indicates assembly traceability plant code.

Please refer to [DataSheet](#) for marking details.

The marking is changing as follows:

Existing		Additional	
PP code	Fab	PP code	Fab
GQ	Stats ChipPAC JSCC Jiangyin China	AA	ASE Kaohsiung Taiwan

## 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 "**PCN13615**" 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: 0018502433 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 Cust: PO Item: 000001 Comm Prod: STM32F429NIH6 Qty: 30 RD: 25-Jun-18 Unit Price: 0.0000 Final Cust: 8800367006 SANSHIN/NPI

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:

Regional Sheet: Lab Sheet:

PCN 10595

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## Public Products List

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**PCN Title :** ASE Kaohsiung (Taiwan) additional source for UQFPN 5x5 32L and UQFPN 7x7 48L package - on listed products

**PCN Reference :** MDG/22/13615

**Subject :** Public Products List

Dear Customer,

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

STM32G051C6U6	STM32G031C6U6	STM32L451CEU6
STM32G473CEU3	STM32G431KBU6	STM32G031K4U3
STM32L552CCU6	STM32G0B1CEU6N	STM32G0B1CCU6NTR
STM32L412C8U6TR	STM32G0B1CCU6N	STM32L562CEU6
STM32G031C8U3TR	STM32G051K8U7	STM32G031K8U7
STM32G0B1CBU6N	STM32G051C8U6	STM32G441CBU6
STM32G031C8U6	STM32G051K6U7	STM32G031K4U6TR
STM32G031K8U6TR	STM32L431CCU6TR	STM32L442KCU6
STM32G431K8U6TR	STM32L451CCU6	STM32L562CEU6P
STM32G031C4U6	STM32G431CBU3	STM32L432KCU3
STM32G061C6U6	STM32L451CCU3TR	STM32L442KCU6TR
STM32G474CCU3	STM32G441KBU6	STM32G431C6U6
STM32L433CCU6TR	STM32G0B1KCU7	STM32G0B1CCU6
STM32L452CEU3	STM32G473CCU6TR	STM32L422CBU6
STM32G041C8U6	STM32L412CBU6	STM32G061C8U6
STM32G431C8U3	STM32G0B1CBU6TR	STM32G431KBU3
STM32G0C1CCU6	STM32L431CCU6	STM32G0C1CEU6
STM32G0B1CEU6	STM32L4Q5CGU6	STM32G031C8U6TR
STM32G031C8U7	STM32L431KCU6TR	STM32G0B1KBU6N
STM32G0B1KEU7	STM32G031K8U7TR	STM32G431C8U6
STM32L412CBU6TR	STM32G474CEU6	STM32G473CCU6
STM32G431K8U6	STM32G071CBU6TR	STM32L4P5CEU6
STM32G071K8U6	STM32G0C1KEU6N	STM32G031K4U3TR
STM32G031K4U6	STM32G031C8U3	STM32G0B1KBU3NTR
STM32L443CCU6	STM32G0B1KEU6	STM32G071KBU6TR
STM32G031C8U7TR	STM32L552CEU6P	STM32L432KCU6
STM32G0C1KEU6	STM32G0B1KBU6	STM32G474CBU6
STM32G431CBU6	STM32G473CEU6F	STM32G071KBU6
STM32L412C8U6	STM32G061K6U6	STM32G491CEU3TR
STM32G0B1KCU6	STM32G041K8U6	STM32G061K8U6
STM32L432KBU6	STM32G081CBU6	STM32G473CCU3TR
STM32G0C1KCU6	STM32G071C8U3	STM32G0B1KCU7TR
STM32G071KBU7	STM32G0C1CEU6TR	STM32L4Q5CGU6P
STM32L431CBU6TR	STM32G071CBU6	STM32L552CEU6
STM32G051K6U6	STM32G031K6U6	STM32G0B1CBU6
STM32G081KBU6	STM32G483CEU6	STM32L412KBU6TR



## Public Products List

STM32G0B1CCU6TR	STM32G051K8U7TR	STM32G0B1KEU6N
STM32G071C8U7TR	STM32G0C1KCU6N	STM32G473CBU6
STM32L431KBU6TR	STM32G051K6U7TR	STM32G0B1KCU6N
STM32L433CCU3	STM32G0B1CBU7	STM32G071C8U6TR
STM32L412K8U6	STM32L433CCU3TR	STM32G0B1KBU3N
STM32G0B1KEU7TR	STM32L412KBU3	STM32G491CCU6
STM32L451CCU6TR	STM32G0B1CBU3	STM32L452CEU6
STM32G0B1CBU7TR	STM32G031K8U6	STM32L451CEU6TR
STM32G473CEU3F	STM32G051K8U6	STM32G431K6U3
STM32G491CEU6	STM32L422KBU6	STM32L451CCU3
STM32L431KBU3	STM32L562CEU3	STM32L431KBU3TR
STM32G473CEU6	STM32L562CEU6TR	STM32G071CBU3
STM32G484CEU6	STM32L431KCU6	STM32G071KBU3
STM32G474CCU6	STM32L431KBU6	STM32L412KBU6
STM32G491CEU3	STM32L432KBU6TR	STM32G431K6U6
STM32L462CEU6	STM32L462CEU6TR	STM32G071C8U3TR
STM32L433CCU6	STM32G071KBU7TR	STM32G474CEU6TR
STM32L433CBU6	STM32G071KBU6N	STM32L412K8U6TR
STM32L462CEU6F	STM32L431CBU6	STM32L412CBU6P
STM32L452CCU6	STM32G473CEU3TR	STM32L4P5CGU6
STM32G071C8U7	STM32L4P5CGU6P	STM32G4A1CEU6
STM32G473CCU3		



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