PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company		STMicroelectronics International N.V
1.2 PCN No.		ADG/21/12959
1.3 Title of PCN		SPC56x (FB74): Activation of TSMC as Additional Diffusion Plant
1.4 Product Category		see list
1.5 Issue date		2021-10-11

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	Luca RODESCHINI
2.1.2 Marketing Manager	Matteo MOIOLI
2.1.3 Quality Manager	Alberto MERVIC

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: Wafer fabrication	Subcontractor TSMC (Taiwan) - Receiving Plant

4. Description of change

	Old	New
4.1 Description	ST Crolles (France) Diffusion Plant	ST Crolles (France) Diffusion Plant and Subcon. TSMC (Taiwan)
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	No Impact	

5. Reason / motivation for change

5.1 Motivation	Dual source strategy
5.2 Customer Benefit	DOUBLE SOURCING

6. Marking of parts / traceability of change

6.1 Description	Dedicated Finished Good Codes

7. Timing / schedule

7.1 Date of qualification results	2022-09-30
7.2 Intended start of delivery	2022-11-30
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description			
8.2 Qualification report and qualification results	In progress	Issue Date	

9. Attachments (additional documentations)

12959 Public product.pdf
12959 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**
	SPC564B64L7C9E0X	
	SPC56EC64L7B9E0Y	

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PRODUCT/PROCESS CHANGE NOTIFICATION

TITLE	**SPC56x (FB74): Activation of TSMC as Additional Diffusion Plant**
IMPACTED PRODUCTS	ST silicon line FB74 assembled in LQFP 176 24x24x1.4 package: ⬇ SPC564B64L7C800Y ⬇ SPC564B64L7C9E0X ⬇ SPC564B70L7B9E0X ⬇ SPC564B74L7B8E0X ⬇ SPC564B74L7C8E0X ⬇ SPC564B74L7C9ECX ⬇ SPC56EC64L7B9E0X ⬇ SPC56EC64L7B9E0Y ⬇ SPC56EC70L7C9E0X ⬇ SPC56EC74L7C9ECY ST silicon line FB74 assembled in LQFP 208 28x28x1.4 package: ⬇ SPC564B64L8C9E0X ⬇ SPC56EC74L8C9E0X ST silicon line FB74 assembled in LBGA 256 17x17x1.7 package: ⬇ SPC564B74B3C9E0X ⬇ SPC56EC74B3C9EEX
MANUFACT. STEP	Silicon Diffusion
INVOLVED PLANT	TSMC (recipient Plant – ST Subcontractor Fab14A 300mm located in Tainan (Taiwan) - Automotive qualified and certified IATF16949
CHANGE DESCRIPTION	Activation of TSMC Fab14A as additional or alternative diffusion source. FB64 – Bolero1.5M, FB50 – Bolero 512K and FP50 – Pictus 512K, other automotive devices of the same Technology Platform, are currently running in TSMC – FB14A

	TRACEABILITY	Traceability will be guaranteed through the creation of dedicated Finished Good Codes

Package	Commercial Product	Crolles Finished Good	TSMC Finished Good
LQFP 176 24x24	SPC564B64L7C800Y	64B64L7C2800Y700	64B64L7C2800Y709
	SPC564B64L7C9E0X	64B64L7C29E0X700	64B64L7C29E0X709
	SPC564B70L7B9E0X	64B70L7B29E0X700	64B70L7B29E0X709
	SPC564B74L7B8E0X	64B74L7B28E0X700	64B74L7B28E0X709
	SPC564B74L7C8E0X	64B74L7C28E0X700	64B74L7C28E0X709
	SPC564B74L7C9ECX	64B74L7C29ECX700	64B74L7C29ECX709
	SPC56EC64L7B9E0X	6EC64L7B29E0X700	6EC64L7B29E0X709
	SPC56EC64L7B9E0Y	6EC64L7B29E0Y700	6EC64L7B29E0Y709
	SPC56EC70L7C9E0X	6EC70L7C29E0X700	6EC70L7C29E0X709
	SPC56EC74L7C9ECY	6EC74L7C29ECY700	6EC74L7C29ECY709
LQFP 208 28x28	SPC564B64L8C9E0X	64B64L8C29E0X700	64B64L8C29E0X709
	SPC56EC74L8C9E0X	6EC74L8C29E0X700	6EC74L8C29E0X709
LBGA 256 17x17	SPC564B74B3C9E0X	64B74B3C29E0X70M	64B74B3C29E0X709
	SPC56EC74B3C9EEX	6EC74B3C29EEX70M	6EC74B3C29EEX709

	VALIDATION	According to ZVEI (AEC-Q100/Q006) recommendations, item SEM-PW-13 - Move all or parts of production to a different wafer fab site:

AEC-Q100 Revision H	Temperature Humidity Bias or biased HAST	Autoclave or Unbiased HAST	Temperature Cycling	Power Temperature Cycling	High Temperature Operating Life	Early Life Failure Rate	NVM Endurance, Data Retention, and Operational Life	Wire Bond Shear	Wire Bond Pull	Electromigration	Time Depending Dielectric Breakdown	Hot Carrier Injection	Negative Bias Temperature Instability	Stress Migration	Electronic Discharge Human Body Model	Electronic Discharge Charged Device Model	Latch up	Electrical Distribution	Hermetic Package Test	Die Shear	Parameter-Analysis: Comparison of current with changed device characterization, electrical distribution	For Cu Wire Products: Consider AEC-Q006
	THB	AC	TC	PTC	HTOL	ELFR	EDR	WBS	WBP	EM	TDDB	HCI	NBTI	SM	HBM	CDM	LU	ED	MECH	DS		
	A2	A3	A4	A5	B1	B2	B3	C1	C2	D1	D2	D3	D4	D5	E2	E3	E4	E5	G1-4	G7		
•	•	•	•	M	•	•	J	•	•	•	•	•	•	•	•	•	•	•	H	H	•	•

Only AEC-Q100 will be specifically run on FB74 – QFP208 & BGA256; AEC-Q006 will be covered by similarity with the other M10 products already qualified in TSMC i.e. FB64, FB50 & FP50.

For FB74 – QFP176 both AEC-Q100 and AEC-Q006 will be run

	CURRENT PRODUCTS	The share between Crolles and TSMC will be progressively modulated based on the capacity availability and customer demand

Together with the above activity, opportunity is taken to rationalize products portfolio by terminating some impacted devices (PTN – Product termination Notice in progress), as per below table:

Package	Terminated CP	Replacement
LQFP 175 24x24	SPC564B64L7C800X	SPC564B64L7C9E0X
	SPC564B64L7C8ECX	SPC564B74L7C9ECX
	SPC56EC70L7C800Y	SPC56EC74L7C9ECY - Superset
	SPC56EC74L7C800X	SPC56EC70L7C9E0X
LQFP 208 28x28	SPC564B74L8C9E0X	No replacement
	SPC564B74L8C9ECY	No replacement
LBGA 256 17x17	SPC564B74B3B9E0Y	SPC564B64L8C9E0X
	SPC56EC64B3C9EEY	No replacement

REPORTS	Transfer validation is presently in progress. AEC-Q100 Reliability Report will be available by Q3 2022. AEC-Q006, where requested, will be available in Q4 2022
IMPLEMENT.	Change activation is proposed upon ST full qualification, pending Customer approval. Production is expected to progressively start within Q4 2022

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 : SPC56x (FB74): Activation of TSMC as Additional Diffusion Plant

PCN Reference : ADG/21/12959

Subject : Public Products List

Dear Customer,

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

SPC56EC70L7C9E0X	SPC564B64L7C800Y	SPC564B74L7C8E0X
SPC56EC74L8C9E0X	SPC56EC64L7B9E0X	SPC56EC74L7C9ECY
SPC564B74L7B8E0X	SPC564B64L8C9E0X	SPC564B64L7C9E0X
SPC564B70L7B9E0X	SPC56EC64L7B9E0Y	

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