


PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company		STMicroelectronics International N.V
1.2 PCN No.	ADG/20/11988	
1.3 Title of PCN	SPC560Bxx (FB64): Activation of TSMC as Additional Diffusion Plant (Following PCI ADG/19/11411)	
1.4 Product Category	see list	
1.5 Issue date	2020-02-06	

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	Selica RUSSI
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	TSMC Subcontractor recipient (Taiwan)

4. Description of change

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

5. Reason / motivation for change

5.1 Motivation	Dual sourcing strategy. Following PCI ADG/19/11411 dated March 2019
5.2 Customer Benefit	CAPACITY INCREASE

6. Marking of parts / traceability of change

6.1 Description	Dedicated Finished Good Codes
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7. Timing / schedule

7.1 Date of qualification results	2020-01-31
7.2 Intended start of delivery	2020-10-01
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description	11988 Qualification.zip		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2020-02-06

9. Attachments (additional documentations)
11988 Public product.pdf 11988 Qualification.zip 11988 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
	SPC560B54L3C6E0X	
	SPC560B54L5B6E0Y	
	SPC560B60L5B6E0Y	
	SPC560B64L5C6E0X	
	SPC560B64L7C6E0X	

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Public Products List

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PCN Title : SPC560Bxx (FB64): Activation of TSMC as Additional Diffusion Plant (Following PCI ADG/19/11411)

PCN Reference : ADG/20/11988

Subject : Public Products List

Dear Customer,

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

SPC560B64L5C6E0X	SPC560B54L5C6E0X	SPC560B54L5B6E0Y
SPC560B54L3C6E0X	SPC560B54L3B4E0X	SPC560B60L3B6E0X
SPC560B64L7C6E0X	SPC560B60L7B6E0X	SPC560B60L3C6E0X
SPC560B64L7B6E0X	SPC560B60L5B6E0Y	SPC560B64L3B6E0X
SPC560B60L5C6E0X	SPC560B60L5B6E0X	



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PRODUCT/PROCESS CHANGE NOTIFICATION

SUBJECT **SPC560Bxx (FB64) CONTI: Activation of TSMC as Additional Diffusion Plant (following PCI ADG/19/11411)**

**IMPACTED
PRODUCTS**

ST silicon line FB64 assembled in different packages:

PACKAGE DESCRIPTION	COMMERCIAL PRODUCT
LQFP 100 14x14x1.4	SPC560B54L3B4E0X
	SPC560B54L3C6E0X
	SPC560B60L3B6E0X
	SPC560B60L3C6E0X
	SPC560B60L3C6E0Y
	SPC560B64L3B6E0X
LQFP 144 20X20X1.4	SPC560G50L3B6E0X
	SPC560B54L5B4E0X
	SPC560B54L5B6E0X
	SPC560B54L5B6E0Y
	SPC560B54L5C6E0X
	SPC560B60L5B6E0X
	SPC560B60L5B6E0Y
	SPC560B60L5C6E0X
LQFP 176 24x24x1.4	SPC560B64L5C6E0X
	SPC560B60L7B6E0X
	SPC560B64L7B6E0X
	SPC560B64L7C6E0X

**MANUFACT.
STEP**

Silicon Diffusion (Front End)

**INVOLVED
PLANT**

TSMC (recipient Plant – ST Subcontractor) Fab14A 300mm located in Tainan (Taiwan) - Automotive qualified and certified IATF16949

Expansion of current silicon diffusion capacity (volumes increase) and flexible/secure production asset – dual sourcing strategy

Activation of TSMC Fab14A as additional or alternative source for CMOS-M10 technology microcontrollers, following related product qualification according to automotive standards (AEC-Q100 – Q006)

New dedicated Finished Good code (Internal Part Number)

According to AEC-Q100 qualification plan for Integrated Circuits and ZVEI Guideline (change description: SEM-PW-13 Move of all or part of wafer fab to a different location/site/subcontractor):

•	Line evaluation (can be evaluated by data or audition site check)
•	AEC-Q100 Revision H
•	A2 THB Temperature Humidity Bias or biased HAST
•	A3 AC Autoclave or Unbiased HAST
•	A4 TC Temperature Cycling
M	A5 PTC Power Temperature Cycling
•	B1 HTOL High Temperature Operating Life
•	B2 ELFR Early Life Failure Rate
J	B3 EDR NVM Endurance, Data Retention, and Operational Life
•	C1 WBS Wire Bond Shear
•	C2 WBP Wire Bond Pull
•	D1 EM Electromigration
•	D2 TDOB Time Depending Dielectric Breakdown
•	D3 HCI Hot Carrier Injection
•	D4 NBTI Negative Bias Temperature Instability
•	D5 SM Stress Migration
•	E2 HBM Electronic Discharge Human Body Model
•	E3 CDM Electronic Discharge Charged Device Model
•	F4 LU Latch up
•	E5 ED Electrical Distribution
H	G1.4 MECH Hermetic Package Test
H	G7 DS Die Shear
•	Parameter Analysis: Comparison of current with changed device characteristics, electrical distribution
•	For Cu Wire Products: Consider AEC-Q006

Current product (silicon line FB64) will be transferred (all packages) to TSMC Fab14A Taiwan. ST Crolles 300mm diffusion line will remain active as alternate solution.

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 DESCRIPTION	COMMERCIAL PRODUCT	PTN	REPLACEMENT
LQFP 100 14x14x1.4	SPC560B54L3B4E0X	NO	
	SPC560B54L3C6E0X	NO	
	SPC560B60L3B6E0X	NO	
	SPC560B60L3C6E0X	NO	
	SPC560B60L3C6E0Y	YES	SPC560B60L3C6E0X
	SPC560B64L3B6E0X	NO	
	SPC560G50L3B6E0X	NO	
LQFP 144 20x20x1.4	SPC560B54L5B4E0X	NO	
	SPC560B54L5B6E0X	YES	SPC560B54L5C6E0X
	SPC560B54L5B6E0Y	NO	
	SPC560B54L5C6E0X	NO	
	SPC560B60L5B6E0X	NO	
	SPC560B60L5B6E0Y	NO	
	SPC560B60L5C6E0X	NO	
	SPC560B64L5C6E0X	NO	
LQFP 176 24x24x1.4	SPC560B60L7B6E0X	NO	
	SPC560B64L7B6E0X	NO	
	SPC560B64L7C6E0X	NO	

REPORTS

Validation procedure and results are reported in the attached Reliability Report (AEC-Q100) and Electrical Validation Report. AEC-Q006 reliability trials are in progress and will be provided by March 2020