

PRODUCT / PROCESS CHANGE INFORMATION

1. PCI basic data

1.1 Company		STMicroelectronics International N.V
1.2 PCI No.	ADG/19/11411	
1.3 Title of PCI	SPC560Bxx (FB50), SPC560Bxx (FB64), SPC560Pxx (FP50): Activation of TSMC as Additional Diffusion Plant (EARLY NOTICE)	
1.4 Product Category	see list	
1.5 Issue date	2019-03-06	

2. PCI 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	Daniele Alfredo BRAMBILLA
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	ST Crolles (France) sending Plant TSMC (Subcontractor -Taiwan) receiving plant

4. Description of change

	Old	New
4.1 Description	ST Crolles Diffusion Plant	ST Crolles and Subcontractor TSMC Diffusion Plants
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	No impact	

5. Reason / motivation for change

5.1 Motivation	Capacity Increase
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	2019-12-31
7.2 Intended start of delivery	2020-03-31
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)

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
	SPC560B40L5C6E0X	
	SPC560B50L3B4E0X	
	SPC560B50L5C6E0Y	
	SPC560B54L5B6E0Y	
	SPC560C50L3C6E0X	
	SPC560P44L3CEFAR	
	SPC560P50L3BEABR	
	SPC560P50L3CEFAR	
	SPC560P50L5CEFAR	

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Public Products List

Public 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

PCI Title : SPC560Bxx (FB50), SPC560Bxx (FB64), SPC560Pxx (FP50): Activation of TSMC as Additional Diffusion Plant (EARLY NOTICE)

PCI Reference : ADG/19/11411

Subject : Public Products List

Dear Customer,

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

SPC560P44L3CEABY	SPC560B50L1B4E0X	SPC560P50L5BEABY
SPC560P50L5BEAAR	SPC560B64L3B6E0X	SPC560P50L5BEFAY
SPC560B60L7C6E0X	SPC560B50L3C6E0X	SPC560B50L3C4E0X
SPC560B40L5C6E0X	SPC560B50L5C6E0Y	SPC560B40L3C4E0X
SPC560B40L3B6E0X	SPC560B60L7B6E0Y	SPC560P50L5CEFAR
SPC560B60L3C6E0Y	SPC560B40L5B6E0X	SPC560B54L5C6E0X
SPC560C50L1B4E0X	SPC560B54L5B6E0Y	SPC560P50L3CEFAR
SPC560P44L3CEABR	SPC560P50L3CEFAY	SPC560P50L3CEFBY
SPC560B50L3B4E0Y	SPC560B64L5C6E0Y	SPC560B50L3B4E0X
SPC560B40L3B4E0X	SPC560P50L5BEFAR	SPC560C50L3C6E0Y
SPC560P44L3BEFAR	SPC560B54L3B4E0X	SPC560B60L3C6E0X
SPC560P50L5BEAAY	SPC560P50L3BEABY	SPC560B60L5B6E0Y
SPC560P44L3BEAAR	SPC560P50L3BEFAR	SPC560B50L3C6E0Y
SPC560B64L7C6E0Y	SPC560B40L3B6E0Y	SPC560P44L3BEAAY
SPC560B50L5C6E0X	SPC560B50L3B6E0X	SPC560P50L5BEABR
SPC560B64L7B6E0X	SPC560P50L3BEABR	SPC560B60L5C6E0X
SPC560B54L3C6E0X	SPC560B54L3C6E0Y	SPC560C50L3B4E0X
SPC560P44L3CEFAR	SPC560B60L5B6E0X	SPC560C50L3B6E0X
SPC560B64L5C6E0X	SPC560P50L3BEFAY	SPC560B60L3B6E0X
SPC560B60L7B6E0X	SPC560C50L3C6E0X	SPC560P44L3CEFAY
SPC560B54L3B6E0X	SPC560B54L5B6E0X	SPC560B50L5B4E0X
SPC560P50L5CEFAY	SPC560C40L3C6E0X	SPC560B64L7C6E0X
SPC560B40L3C6E0X	SPC560P50L3CEFBR	



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PRODUCT/PROCESS CHANGE INFORMATION

SUBJECT **SPC560Bxx (FB50), SPC560Bxx (FB64), SPC560Pxx (FP50): Activation of TSMC as Additional Diffusion Plant (EARLY NOTICE)**

IMPACTED PRODUCTS	ST silicon lines FB50, FB64 and FP50, presently diffused in ST Crolles 300mm Plant (France), pertaining to the SPC56x product family. All corresponding packaged versions are involved (see separated product list).
MANUFACTURING STEP	Silicon Diffusion (Front End).
INVOLVED PLANT	TSMC (recipient Plant – ST Subcontractor) Fab14A 300mm located in Tainan (Taiwan) Automotive qualified and certified IATF-16949.
CHANGE REASON	Expansion of current silicon diffusion capacity (volumes increase) and flexible/secure production asset – dual sourcing strategy.
CHANGE DESCRIPTION	Activation of TSMC Fab14A as additional or alternative source for CMOS-M10 technology microcontrollers, following related product qualification according to automotive standards (AEC-Q100).
TRACEABILITY	New dedicated Finished Good code (Internal Part Number).
VALIDATION	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):

AEC-Q100 Revision H		Temperature Humidity Bias or biased HAST
A2	THB	
A3	AC	Autoclave or Unbiased HAST
A4	TC	Temperature Cycling
A5	PTC	Power Temperature Cycling
B1	HTOL	High Temperature Operating Life
B2	ELFR	Early Life Failure Rate
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
E4	LJ	Latch up
E5	ED	Electrical Distribution
G1-4	MECH	Hermetic Package Test
G7	DS	Die Shear
		Parameter Analysis: Comparison of current with changed device characterization, electrical distribution

CURRENT PRODUCTS

Current products FB50, FB64 and FP50 will be progressively qualified and transferred to TSMC Fab14A Taiwan. ST Crolles 300mm diffusion line will remain active for remaining and/or the same products/technologies.

NEXT STEPS

This is an Early Notice anticipating above products move from ST Crolles to TSMC Taiwan. Dedicated PCN for each product will be released upon specific qualification achievement, according to a.m. validation plan. Expected PCN release schedule:

- ✚ PCN for FB64: December 2019
- ✚ PCN for FB50: March 2020
- ✚ PCN for FP50: March 2020

SAMPLES

To allow customer's validation, samples will be available starting September 2019.

IMPLEMENTATION

Proposed start of delivery is three months from corresponding PCN date.

REPORTS

Complete validation reports enclosed in dedicated PCN documentation, as per above proposed schedule.