PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company	STMicroelectronics International N.V
1.2 PCN No.	ADG/20/12173
1.3 Title of PCN	SPC560Pxx (FP50): Activation of TSMC as Additional Diffusion Plant (Following PCI ADG/19/11411)
1.4 Product Category	see list
1.5 Issue date	2020-05-25

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	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 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

7. Timing / schedule

7.1 Date of qualification results	2020-05-19
7.2 Intended start of delivery	2020-10-01
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description	12173 Validation.zip		
8.2 Qualification report and qualification results	Available (see attachment)	**Issue Date**	2020-05-25

9. Attachments (additional documentations)

12173 Public product.pdf
12173 Validation.zip
12173 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
	SPC560P44L3BEAAY	
	SPC560P44L3CEFAR	
	SPC560P50L3BEABR	
	SPC560P50L3CEFAR	
	SPC560P50L3CEFAY	
	SPC560P50L5CEFAR	

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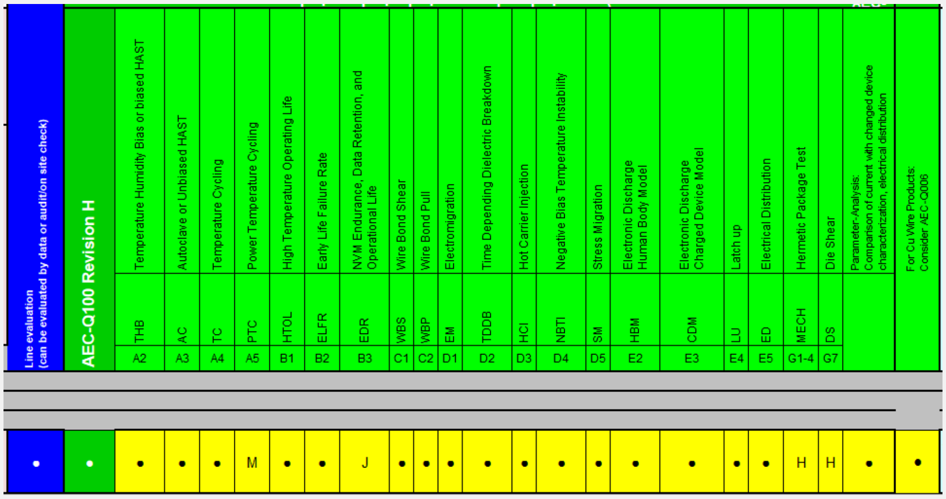
PRODUCT/PROCESS CHANGE NOTIFICATION

SUBJECT **SPC560Pxx (FP50): Activation of TSMC as Additional Diffusion Plant (Following PCI ADG/19/11411)**

IMPACTED PRODUCTS ST silicon line FP50 assembled in different packages:

PACKAGE DESCRIPTION	COMMERCIAL PRODUCT
LQFP 100 14x14x1.4	SPC560P44L3BEAAR
	SPC560P44L3BEAAY
	SPC560P44L3CEABR
	SPC560P44L3CEABY
	SPC560P44L3CEFAR
	SPC560P44L3CEFAY
	SPC560P50L3B1ABR
	SPC560P50L3B1ABY
	SPC560P50L3B2ABR
	SPC560P50L3B2ABY
	SPC560P50L3B2FAR
	SPC560P50L3B2FAY
	SPC560P50L3BEABR
	SPC560P50L3BEABY
	SPC560P50L3BEFAR
	SPC560P50L3BEFAY
	SPC560P50L3C2FBR
	SPC560P50L3C2FBY
	SPC560P50L3CEFAR
	SPC560P50L3CEFAY
	SPC560P50L3CEFBR
	SPC560P50L3CEFBY
	SPC560P50L3ENGCU
LQFP 144 20X20X1.4	SPC560P50L5BEAAR
	SPC560P50L5BEAAY
	SPC560P50L5BEABR
	SPC560P50L5BEABY
	SPC560P50L5BEFAR
	SPC560P50L5BEFAY
	SPC560P50L5CEFAR
	SPC560P50L5CEFAY
	SPC560P50L5ENQCU

MANUFACT. STEP	Silicon Diffusion (Front End).
INVOLVED PLANT	TSMC (recipient Plant – ST Subcontractor) Fab14A 300mm located in Tainan (Taiwan) - Automotive qualified and certified IATF16949.
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 – Q006).
TRACEABIL.	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):



Line evaluation (can be evaluated by data or audit/on site check)	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	•	•

CURRENT PRODUCTS

Current product (silicon line FB50) will be transferred 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	SPC560P44L3BEAAR	YES	SPC560P44L3BEAAY
	SPC560P44L3BEAAY	NO	
	SPC560P44L3CEABR	YES	SPC560P44L3CEFAR
	SPC560P44L3CEABY	YES	SPC560P44L3CEFAR
	SPC560P44L3CEFAR	NO	
	SPC560P44L3CEFAY	YES	SPC560P44L3CEFAR
	SPC560P50L3B1ABR	YES	SPC560P50L3B2ABR
	SPC560P50L3B1ABY	YES	SPC560P50L3BEABY
	SPC560P50L3B2ABR	NO	
	SPC560P50L3B2ABY	YES	SPC560P50L3BEABY
	SPC560P50L3B2FAR	NO	SPC560P50L3CEFAR
	SPC560P50L3B2FAY	YES	SPC560P50L3BEABY
	SPC560P50L3BEABR	NO	
	SPC560P50L3BEABY	NO	
	SPC560P50L3BEFAR	YES	SPC560P50L3CEFAR
	SPC560P50L3BEFAY	YES	SPC560P50L3BEABY
	SPC560P50L3C2FBR	YES	SPC560P50L3CEFBR
	SPC560P50L3C2FBY	YES	SPC560P50L3BEABY
	SPC560P50L3CEFAR	NO	
	SPC560P50L3CEFAY	YES	SPC560P50L3BEABY
	SPC560P50L3CEFBR	NO	
	SPC560P50L3CEFBY	YES	SPC560P50L3BEABY
	SPC560P50L3ENGCU	YES	SPC560P50L3CEFBR
LQFP 144 20X20X1.4	SPC560P50L5BEAAR	YES	SPC560P50L5BEFAR
	SPC560P50L5BEAAY	YES	SPC560P50L5BEFAR
	SPC560P50L5BEABR	YES	SPC560P50L5BEFAR
	SPC560P50L5BEABY	YES	SPC560P50L5BEFAR
	SPC560P50L5BEFAR	NO	
	SPC560P50L5BEFAY	YES	SPC560P50L5BEFAR
	SPC560P50L5CEFAR	NO	
	SPC560P50L5CEFAY	YES	SPC560P50L5CEFAY
	SPC560P50L5ENQCU	YES	SPC560P50L5CEFAY

REPORTS	Validation procedure and results are reported in the attached Reliability Report (AEC-Q100/Q006) and Electrical Validation Report. 12173 Validation.zip

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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 : SPC560Pxx (FP50): Activation of TSMC as Additional Diffusion Plant (Following PCI ADG/19/11411)

PCN Reference : ADG/20/12173

Subject : Public Products List

Dear Customer,

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

SPC560P50L3BEABY	SPC560P50L5BEFAR	SPC560P44L3CEFAR
SPC560P50L3CEFAR	SPC560P50L3BEABR	SPC560P44L3BEAAY
SPC560P50L3CEFBR	SPC560P50L5CEFAR	SPC560P50L3BEFAY
SPC560P50L3CEFBY	SPC560P50L3BEFAR	SPC560P44L3BEAAR
SPC560P44L3CEABR	SPC560P50L5BEAAR	SPC560P44L3CEFAY
SPC560P50L3CEFAY	SPC560P50L5BEABR	SPC560P50L5BEFAY
SPC560P50L5BEABY	SPC560P50L5BEAAY	SPC560P50L5CEFAY
SPC560P44L3CEABY		

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