PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data	
1.1 Company	STMicroelectronics International N.V
1.2 PCN No.	ADG/19/11657
1.3 Title of PCN	SPC564A80L7xx (FA80): New lead frame introduction (LQFP 176 24X24X1.4)
1.4 Product Category	see list
1.5 Issue date	2019-07-01

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	Paul KINOWSKI
2.1.3 Quality Manager	Alberto MERVIC

3. Change		
3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Materials	New direct material part number r (same supplier, different supplier or new supplier),(Lead frame dimensions)	ST Kirkop (Malta)

4. Description of change		
	Old	New
4.1 Description	Lead Frame Pad Size 12x12 mm	Lead Frame Pad Size 10x10 mm
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	No impact	

5. Reason / motivation for change	
5.1 Motivation	Quality Improvement. To avoid possible resin voids
5.2 Customer Benefit	QUALITY IMPROVEMENT

6. Marking of parts / traceability of change	
6.1 Description	New Finished Goods Codes

7. Timing / schedule	
7.1 Date of qualification results	2019-07-01
7.2 Intended start of delivery	2019-09-30
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation			
8.1 Description	11657 5FT39557-Reliability Report.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2019-07-01

9. Attachments (additional documentations)

11657 Public product.pdf
11657 5FT39557-Reliability Report.pdf
11657 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
	SPC564A80L7CFAR	

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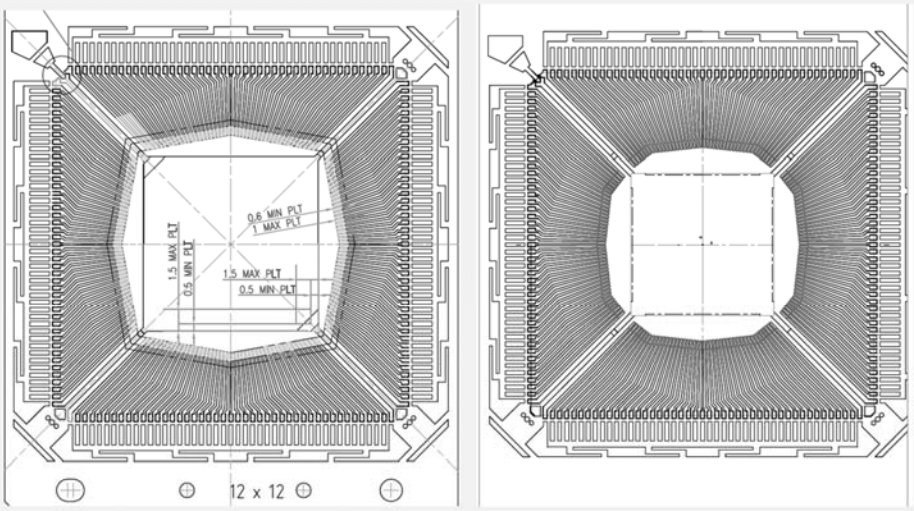
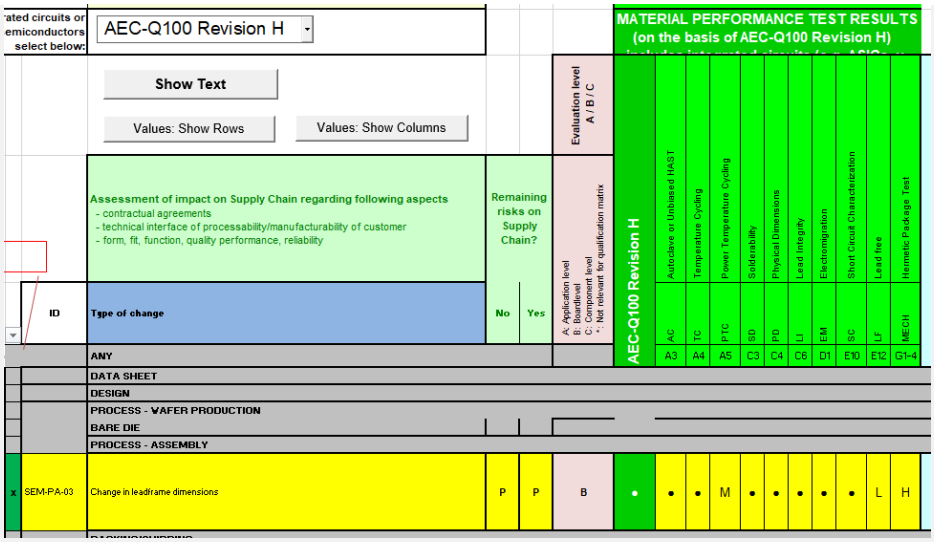
PRODUCT/PROCESS CHANGE NOTIFICATION

SUBJECT	**SPC564A80L7xx (FA80): New Lead Frame Introduction (LQFP 176 24X24X1.4)**
IMPACTED PRODUCTS	ST silicon line FA80 assembled in LQFP 176 24x24x1.4 package: - SPC564A80L7CGMY - SPC564A80L7CGMR - SPC564A80L7CFAR - SPC564A80L7C2FAR - SPC564A80L7CFAY - SPC564A80L7CFBR - SPC564A80L7CFBY - SPC564A80L7COBR - SPC564A80L7COBY - SPC564A80L7CGMCY - SPC564A80L7CGMCR
MANUFACTURING STEP	Assembly
INVOLVED PLANT	ST Kirkop Plant (Malta)
CHANGE REASON	Manufacturing process improvement: current device configuration could be subject to molding issues during assembly production step (resin voids), affecting workability and potentially, product quality. Problem is linked with the specific geometry of the leadframe (die pad ratio) concerning pad tilt during resin injection. This could result in an incomplete fill at the bottom package, originating possible resin voids.

CHANGE DESCRIPTION	Replacement of current leadframe 12x12mm pad size with a different version 10x10 pad size. The smaller die pad ratio creates a more balanced flow during resin injection, overcoming possible resin voids generation issues. New frame has similar characteristics to the current one, only difference being the smaller die pad size. In terms of drawings, they appear as follows:  Current Leadframe (12x12 die pad) New Leadframe (10x10 die pad)
TRACEABILITY	New Finished Good (internal part number) code and Date Code.
VALIDATION	Validation has been performed through standard validation exercise according to ZVEI (AEC-Q100) recommendations. Following qualification plan has been executed:



ated circuits or emiconductors select below:	AEC-Q100 Revision H													MATERIAL PERFORMANCE TEST RESULTS (on the basis of AEC-Q100 Revision H)
	Show Text													Evaluation level A / B / C
	Values: Show Rows	Values: Show Columns												
	Assessment of impact on Supply Chain regarding following aspects - contractual agreements - technical interface of processability/manufacturability of customer - form, fit, function, quality performance, reliability													Remaining risks on Supply Chain?
	ID	Type of change												No / Yes
		ANY												
		DATA SHEET												
		DESIGN												
		PROCESS - WAFER PRODUCTION												
		BARE DIE												
		PROCESS - ASSEMBLY												
x	SEM-PA-03	Change in leadframe dimensions												P / P

AEC-Q100 Revision H	Autoclave or Unbiased HAST	Temperature Cycling	Power Temperature Cycling	Solderability	Physical Dimensions	Lead Integrity	Electromigration	Short Circuit Characterization	Lead free	Hermetic Package Test
A: Application level B: Boardlevel C: Component level *: Not relevant for qualification matrix	AC	TC	PTC	SD	PD	LI	EM	SC	Lf	MECH
	A3	A4	A5	C3	C4	C6	D1	E10	E12	GT-4
B	•	•	•	M	•	•	•	•	•	L	H

Due to the nature of the change itself, following validation trials have been applied:

- High Temperature Storage
- Autoclave
- Thermal Cycles
- Wire Bond Shear
- Wire Pull Test

CURRENT PRODUCTS

Current leadframe version will be no longer used, being replaced by the new one.

REPORTS

See attached report:

- 11657_5FT39557 Reliability Report

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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 : SPC564A80L7xx (FA80): New lead frame introduction (LQFP 176 24X24X1.4)

PCN Reference : ADG/19/11657

Subject : Public Products List

Dear Customer,

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

SPC564A80L7CFAY	SPC564A80L7CFBY	SPC564A80L7CFAR
SPC564A80L7COBR	SPC564A80L7COBY	SPC564A80L7CFBR

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