PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company	STMicroelectronics International N.V
1.2 PCN No.	AMS/21/13128
1.3 Title of PCN	VBxxxxx / LDLN025xxx transfer from ATT and STS to CLB
1.4 Product Category	See product list
1.5 Issue date	2021-12-03

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	Marcello SAN BIAGIO
2.1.2 Marketing Manager	Salvatore DI VINCENZO
2.1.3 Quality Manager	Giuseppe LISI

3. Change

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Machines	(Not Defined)	ST Calamba

4. Description of change

	Old	New
4.1 Description	- Bumping ATT5 + EWS ATT T3 + Grinding and Assembly ATT3 - Bumping ATT5 + Grinding STS + Assembly and FT STS	- Bumping ATT5 + Grinding ATT3 + Assembly and Test P1C7 (Calamba)
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	No impact	

5. Reason / motivation for change

5.1 Motivation	To improve customers service and deliveries
5.2 Customer Benefit	CAPACITY INCREASE

6. Marking of parts / traceability of change

6.1 Description	New Finished good codes

7. Timing / schedule

7.1 Date of qualification results	2021-11-18
7.2 Intended start of delivery	2022-03-10
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description	13128 W1617-2021-6088_RER for new assembly plant Calamba for LDLN025J33 in CSP_VB37.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	**Issue Date**	2021-12-03

9. Attachments (additional documentations)

13128 Public product.pdf
13128 W1617-2021-6088_RER for new assembly plant Calamba for LDLN025J33 in CSP_VB37.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**
	LDLN025J12R	
	LDLN025J18R	
	LDLN025J25R	
	LDLN025J28R	
	LDLN025J2925R	
	LDLN025J29R	
	LDLN025J32R	
	LDLN025J33R	

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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 : VBxxxxx / LDLN025xxx transfer from ATT and STS to CLB

PCN Reference : AMS/21/13128

Subject : Public Products List

Dear Customer,

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

LDLN025J50R	**LDLN025J28R**	**LDLN025J25R**
LDLN025J2925R	**LDLN025J32R**	**LDLN025J18R**
LDLN025J12R	**LDLN025J33R**	**LDLN025J29R**

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Reliability Evaluation Report

New Assembly Plant

ST - Calamba – Philippines
CSPS 0.35

TV: LDLN025J33R

General Information	
Product Lines	VB3701
Product Description	Linear Voltage Regulator
P/N	*LDLN025J33R*
Product Group	*AMS (Analog MEMS & Sensor Group)*
Product division	*General Purpose Analog & RF Division* *POWER MANAGEMENT*
Package	*CSPS 0.35*
Silicon Process technology	*HF7CMOS*

Locations	
Wafer fab	*Crolles 8"*
Assembly plant	*ST - Calamba – Philippines*
Reliability Trials	*PASS*

Version	Date	Pages	Created by	Approved by	Comment
1.0	November 2021	6	Antonio Russo	Giuseppe Lisi	Final Report

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1 APPLICABLE AND REFERENCE DOCUMENTS

Document reference	Short description
JESD47	Stress-Test-Driven Qualification of Integrated Circuits

2 RELIABILITY EVALUATION OVERVIEW

2.1 OBJECTIVES

This report contains the reliability evaluation of LDLN025J33R (VB37) CSPS 0.35 in the new assembly plant ST - Calamba – Philippines. The reliability evaluation has been performed on three different assy lots as requested by JEDEC JESD47 for this type of change.

2.1 CONCLUSION

Qualification Plan requirements have been defined accordingly to JESD47. We have completed the reliability trials on all 3 assy lots and have shown that the devices behave correctly against environmental tests (no failure). Moreover, the stability of electrical parameters during the accelerated tests demonstrates the ruggedness of the products and safe operation, which is consequently expected during their lifetime. More details are available below in test and results summary.

3 CHANGE DESCRIPTION

Qualification of new Assembly Plant ST - Calamba - Philippines for CSPS 0.35

4 CONSTRUCTION NOTE

	UD09
Wafer/Die fab. Information	
Wafer fab manufacturing location	Crolles 8"
Technology	HF7CMOS
Die finishing back side	RAW SILICON
Die size	658 x 658 um
Passivation type	PSG + NITRIDE
Assembly information	
Assembly site	**ST - Calamba - Philippines**
Package description	CSPS 0.35

5 TESTS RESULTS SUMMARY

5.1 Test vehicle

Lot #	Commercial product	Rawline	Package	Product Line
1	LDLN025J33R	MVBZ*VB37ABV	CSPS 0.35	VB37
2				
3				

5.2 Test plan and results summary

Test	PC	Std ref.	Conditions	ss	Steps	SS			Note
						Lot 1	Lot 2	Lot 3	
Die Oriented Reliability trials									
HTSL	N	JESD22 A-103	Ta = 150°C	231	168 H	0/77	0/77	0/77	
					500 H	0/77	0/77	0/77	
					1000 H	0/77	0/77	0/77	
Package Oriented Reliability trials									
AC	Y	JESD22 A-102	Pa=2Atm / Ta=121°C	231	96 H	0/77	0/77	0/77	
					168 H	0/77	0/77	0/77	
TC	Y	JESD22 A-104	Ta = -40°C to 125°C	231	250 cy	0/77	0/77	0/77	
					850 cy	0/77	0/77	0/77	
THB	Y	JESD22-A101	85 °C, 85 % RH, Vcc max	231	168hrs	0/77	0/77	0/77	
					500hrs	0/77	0/77	0/77	
					1000 hrs	0/77	0/77	0/77	
Package Assembly Integrity trials									
Solderability	-	JESD22-B102	>95% lead coverage	15	Final	Pass	Pass	Pass	

6 ANNEXES

6.1 Pin connections

Please refer to product datasheet

6.2 Package Mechanical data

Please refer to product datasheet

7 TEST DESCRIPTION

Test name	Description	Purpose
Die Oriented		
HTSL High Temperature Storage Life	The device is stored in unbiased condition at the max. temperature allowed by the package materials, sometimes higher than the max. operative temperature.	To investigate the failure mechanisms activated by high temperature, typically wire-bonds solder joint ageing, data retention faults, metal stress-voiding.
Package Oriented		
AC Auto Clave (Pressure Pot)	The device is stored in saturated steam, at fixed and controlled conditions of pressure and temperature.	To investigate corrosion phenomena affecting die or package materials, related to chemical contamination and package hermeticity.
TC Temperature Cycling	The device is submitted to cycled temperature excursions, between a hot and a cold chamber in air atmosphere.	To investigate failure modes related to the thermo-mechanical stress induced by the different thermal expansion of the materials interacting in the die-package system. Typical failure modes are linked to metal displacement, dielectric cracking, molding compound delamination, wire-bonds failure, die-attach layer degradation.
THB Temperature Humidity Bias	The device is biased in static configuration minimizing its internal power dissipation, and stored at controlled conditions of ambient temperature and relative humidity.	To evaluate the package moisture resistance with electrical field applied, both electrolytic and galvanic corrosion are put in evidence.