

PRODUCT/PROCESS CHANGE NOTIFICATION PCN11575 – Additional information

STM32L0 listed products Crolles CRL300

MDG - Microcontrollers Division (MCD)

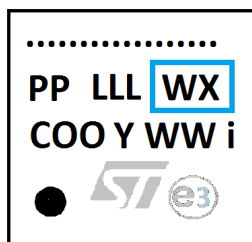
How can the change be seen?

- WX code indicates the diffusion traceability plant code.
- In case WX code is absent on marking (ie: TSSOP20 package), you can refer to the one digit i additional Information.

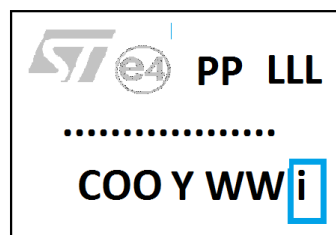
	Existing		Additional	
	Code	Fab	Code	Fab
WX plant	VG	ST Rousset (France)	VQ	ST Crolles CR300 (France)
i Additional information	X		1	

- **Examples of marking with WX and without WX:**

TSSOP 14



TSSOP 20



- Please refer to product DataSheet for marking details.

How to order samples?

For all samples request linked to this PCN, please:

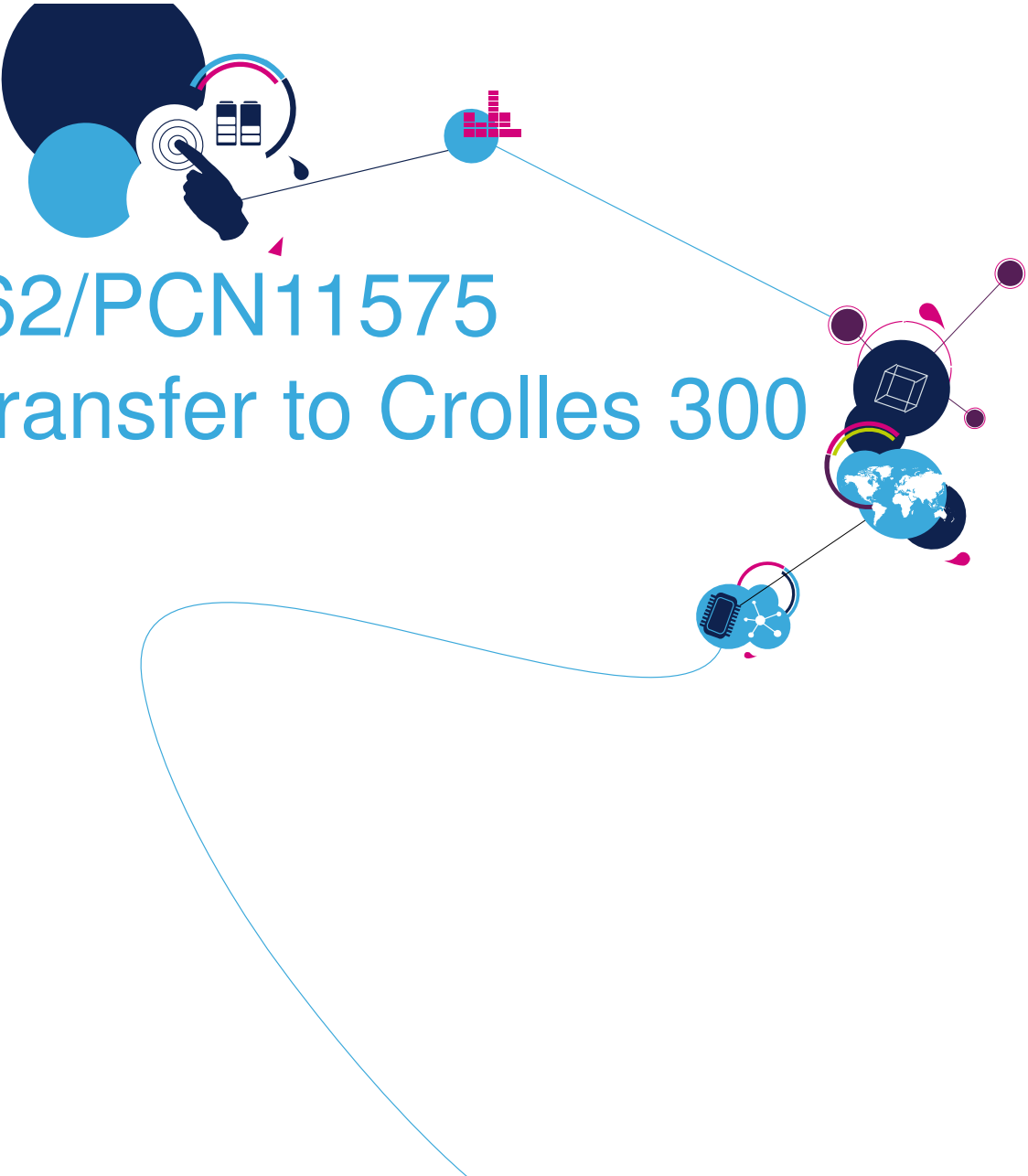
- place a **Non-standard** sample order (choose Sample Non Std Type from pull down menu)
- insert the PCN number "**PCN11575**" into the NPO Electronic Sheet/**Regional Sheet**
- request sample(s) through Notice tool, indicating a single Commercial Product for each request

The image shows a screenshot of the SAP NPO Sample form. A red arrow points from the 'Sample Non Std Type' option in a dropdown menu to the 'Sample Type' field in the main form. The 'Regional Sheet' field is circled in red and contains the PCN number 'PCN 10595'.

Partial details from the screenshot:

- Partial Ship: 01 | Price Pol: 05 | Status: 01 | Canc: []
- Sample Type: Sample Non Std Type
- Closing Type: Sample Std Type, Sample Non Std Type, Sample Non Std w Spl Tests
- Lab Sheet: []
- SO | NPO Sample
- Header: SO Nr: 8018502433 | Customer: 99770200 | ST-TOKYO | SO Type: 30 | Sample Order | Cost Center: JT3129 | SAMPLES /SALES
- PO Nr: [] | Carrier Code: 0001 | Price Policy: 05 | Currency: 02 | U.S. DOLLAR | Req Name: []
- Notes: Status: 01 | All items pending_m | Issuing Date: 25-JUN-2018 | Ord Val: 0.0000 | Sample Req Date: 25-Jun-2018
- Table:

Sch I Nr	PO I. Nr.	Finished Good	Comm Qty	Open Qty	Plant Open Qty	Reqd Qty	Unit Price	RD	CD	EDD	St
1.1.10	000001	STM32F429NIH6	30	30	30	30	0.0000	25-Jun-18	01-Mar-59	01-Mar-59	01
- Final Cust: PO Item: 000001 | Comm Prod: STM32F429NIH6 | Qty: 30 | RD: 25-Jun-18 | Unit Price: 0.0000 | Final Cust: 8800367006 | SANSHIN/NPO
- Cust Part Nr: [] | Finishd Good: [] | Partial Ship: 01 | Price Pol: 05 | Status: 01 | Canc: []
- Notes: [] | TAM K Pieces: 0 | Our Share: 0 | Sample Type: Sample Non Std Type
- Project Name: [] | Closing Date: [] | Closing Type: []
- Regional Sheet: PCN 10595
- Lab Sheet: []



RER1809 for PCN10962/PCN11575 F9GO2S Technology Transfer to Crolles 300

Reliability Evaluation Plan

June 12th, 2019

MDG MCD Quality & Reliability Department



RER1809 – F9GO2S Technology Transfer to Crolles 300 STM32 Die Test Vehicles

Die Vehicle	Process Perimeter	Assembly Line	Package	Number of Reliability Lots
447	F9GO2S	MUAR / ATP	LQFP14*14 100L	3 lots to qualify Process Perimeter Then 1 lot for each additional Die
417		JSCC / MUAR	LQFP10*10 64L	
437		ATP	LQFP20*20 144L	
427		MUAR / ATP	LQFP14*14 100L	
429		MUAR / ATP	LQFP14*14 100L	
457		JSCC / MUAR / ATP	LQFP7*7 32L	
425		JSCC / MUAR / ATTP	LQFP7*7 48L	

RER1809 – F9GO2S Technology Transfer to Crolles 300 STM32 Die Reliability Trials

Reliability Trial & Standard		Test Conditions	Pass Criteria	Lot Strategy	Units per Lot
ESD HBM	0060102 JESD22-A114ANSI/ESDA JEDEC JS-001	25°C	2kV (class 2)	1 to 3 lots	3
ESD CDM	ESD Charged Device Model ANSI/ESD STM5.3.1	Aligned with device datasheet	250V to 500V	1 lot	3
LU	0018695 JESD78	105°C/125°C REG-ON/REG-OFF Configuration Aligned with device datasheet	No concern	1 to 3 lots	3 3
EDR + Bake	JESD22-A117 JESD22-A103	105°C & 3.6V Cycling 150°C Bake	10K + 100k cycles 1500h 1000h	1 to 3 lots For process perimeter (*) For die perimeter (**)	77
EDR + Bake	JESD22-A117 JESD22-A103	25°C & 3.6V Cycling 150°C Bake	10K + 100k cycles 168h	1 to 3 lots	77
EDR + Bake	JESD22-A117 JESD22-A103	-40°C & 3.6V Cycling 150°C Bake	10K + 100k cycles 168h	1 to 3 lots	77
ELFR	MIL-STD-883 Method 1005 JESD22-A108 JESD74	125°C & 3.6V	48h	3 lots for process perimeter 1 lot for Die perimeter	2000 units min in total
HTOL	MIL-STD-883 Method 1005 JESD22-A108	125°C & 3.6V 100MHz	1200h 600h	1 to 3 lots For process perimeter (*) For die perimeter (**)	77

(*) on 1st lot of process perimeter

(**) on 2nd & 3rd of process perimeter or 1 lot of die perimeter

RER1809 – F9GO2S Technology Transfer to Crolles 300 STM32 Package Test Vehicles

Package Line	Assembly Line	Package	Die Vehicle / Partial Rawline code	Number of Reliability Lots
LQFP	MUAR	LQFP14*14 100L	447 / 1L*447	3 lots to qualify Process Perimeter Then 1 lot by Package Assembly Line
	JSCC	LQFP10*10 64L	417 / 5W*417	
	JSCC	LQFP7*7 48L	447 / 5B*447	
QFN	ATP1	UFQFPN3*3 20L	457 / E4*457	
	JSCC	UFQFPN4*4 28L	457 / MB*457	
	JSCC	UFQFPN5*5 32L	447 / MG*447	
WLCSP	ATT1	WLCSP 49L	447 / 51*447	
TSSOP20	ATP1	TSSOP 20	457 / YA*457	

RER1809 – F9GO2S Technology Transfer to Crolles 300 STM32 Package Test Vehicles

Package Line	Assembly Line	Package	Die Vehicle / Partial Rawline code	Number of Reliability Lots
LQFP	ASEKH	LQFP20*20 144L	437 / 1A*437	3 lots to qualify Process Perimeter Then 1 lot by Package Assembly Line
	ASEKH	LQFP14*14 100L	447 / 1L*447	
	ASEKH	LQFP10*10 64L	447 / 5W*447	
	ASEKH	LQFP7*7 32L	457 / 5V*457	
QFN	CALAMBA	UFQFPN5*5 32L	457 / MG*457	
WLCSP	ASEKH	WLCSP 49L	447 / 51*447	
UFBGA	ASEKH	UFBGA 5X5	447 / 2I*447	
TSSOP14	ATP1	TSSOP 14	457 / 6R*457	
TFBGA	MUAR	TFBGA 5X5	417 / R8*417	

RER1809 – F9GO2S Technology Transfer to Crolles 300 STM32 Package Reliability Trials

Reliability Trial & Standard		Test Conditions	Pass Criteria	Units per Lot	Lot Strategy
PC	Pre Conditioning: Moisture Sensitivity Jedec Level 1 J-STD-020/ JESD22-A113	Bake (125°C / 24h) Soak (85°C / 85% RH / 168h) for level 1 Convection reflow: 3 passes with Jedec level 1	3 Passes MSL1/3	231 to 308 (**)	1 to 3 lots
	Pre Conditioning: Moisture Sensitivity Jedec Level 3 J-STD-020/ JESD22-A113	Bake (125°C / 24h) Soak (30°C / 60% RH / 192h) for level 3 Convection reflow: 3 passes with Jedec level 3			
UHASt (*) (**)	Unbiased Highly Accelerated Temperature & Humidity Stress JESD22-A118	130°C, 85%RH, 2 Atm	96h	77	1 to 3 lots
TC (*)	Thermal Cycling JESD22-A104	-65°C +150°C	500Cy	77	1 to 3 lots
THB (*)	Temperature Humidity Bias JESD22-A101	85°C, 85% RH, bias	1000h	77	1 to 3 lots
HTSL (*)	High Temperature Storage Life JESD22-A103	150°C - no bias	1000h	77	1 to 3 lots
Construction Analysis	Upon In Process Control ST Specifications	Aligned with ST specifications	No concern	15	1 by package assembly line
				10	
ESD CDM	ESD Charged Device Model ANSI/ESD STM5.3.1	Aligned with device datasheet	250V to 500V	3	1 by package assembly line



(*) Tests performed after preconditioning

(**) UHASt not done for BGA

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