



RER1805 for PCN10630 ST SG9 (Singapore) additional source for STM8S001x, STM8S103x and STM8S903x products **Reliability Evaluation Plan**

May 17th, 2018

MDG Quality & Reliability Department



RERMCD1805 – F9GO1 Technology -Transfer to ST SG9 (Singapore) STM8S Die Test Vehicles

Die Vehicle	Process Perimeter	Assembly Line	Package	Number of Reliability Lots
767	F9GO1	MUAR	LQFP7*7 32L	3 lots to qualify Process Perimeter Then 1 lot by Die
765		MUAR	LQFP14*14 80L	
766		JSCC	LQFP7*7 48L	

RERMCD1805 – F9GO1 Technology Transfer to ST SG9 (Singapore)

STM8S 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	125°C REG-ON Configuration 125°C REG-OFF Configuration	No concern	1 to 3 lots 3 3
EDR + Bake	JESD22-A117 JESD22-A103	125°C & 3.6V Cycling 150°C Bake	10k cycles 1500h 1000h	1 to 3 lots 1 st lot 2 nd & 3 rd if any 77
EDR + Bake	JESD22-A117 JESD22-A103	25°C & 3.6V Cycling 150°C Bake	10k cycles 168h	1 to 3 lots 77
EDR + Bake	JESD22-A117 JESD22-A103	-40°C & 3.6V Cycling 150°C Bake	10k cycles 168h	1 to 3 lots 77
ELFR	MIL-STD-883 Method 1005 JESD22-A108 JESD74	125°C & 3.6V	48h	1 to 3 lots 500 units min per lot Total of 2000 units
HTOL	MIL-STD-883 Method 1005 JESD22-A108	125°C & 3.6V 100MHz	1200h 600h	1 st lot 2 nd & 3 rd if any 77

RERMCD1805 – F9GO1 Technology Transfer to ST SG9 (Singapore) STM8S Package Test Vehicles

Package Line	Assembly Line	Package	Wire	Die Vehicle / Rawline (*)	Number of Reliability Lots
LQFP	MUAR	LQFP7*7 48L	Ag	765 / 5B*765	3 lots to qualify F9GO1 Technology Then 1 lot by Package Assembly Line
	JSCC	LQFP7*7 48L	Ag	766 / 5B*766	
	JSCC	LQFP10*10 64L	Ag	765 / 5W*765	
	MUAR	LQFP10*10 80L	Au	765 / 1S*765	
QFN	ATP3	UFQFPN3*3 20L	Au	767 / E4*767	
	RSST	UFQFPN5*5 32L	Ag	767 / MG*767	
SO	SHENZHEN	SO8 0,15	Au	767 / O7*767	
	MUAR	SP20 0,30	Au	767 / Z7*767	
TSSOP	SHENZHEN	TSSOP 20 BODY	Ag	767 / YA*767	
PDIP	TONGFU	PDIP 32	Au	766 / 76*766	

RERMCD1805 – F9GO1 Technology Transfer to ST SG9 (Singapore) STM8S Package Reliability Trials

Reliability Trial & Standard		Test Conditions	Pass Criteria	Lot Strategy	Units per Lot
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	1 to 3 lots	231 to 308 (**)
	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	1 to 3 lots	77
TC (*)	Thermal Cycling JESD22-A104	-65°C +150°C	500Cy	1 to 3 lots	77
THB (*)	Temperature Humidity Bias JESD22-A101	85°C, 85% RH, bias	1000h	1 to 3 lots	77
HTSL (*)	High Temperature Storage Life JESD22-A103	150°C - no bias	1000h	1 to 3 lots	77
Construction Analysis	JESD22-B102	Including Solderability & Physical Dimensions	No concern	1 by package assembly line	15
	JESD22-B100/B108				10
ESD CDM	ESD Charged Device Model ANSI/ESD STM5.3.1	Aligned with device datasheet	250V to 500V	1 by package assembly line	3

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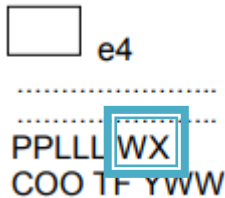
**PRODUCT/PROCESS
CHANGE NOTIFICATION
PCN 10630 – Additional information**

**ST SG9 (Singapore) additional source
for STM8S001x, STM8S103x and STM8S903x products**

MDG - Microcontrollers Division (MCD)

How can the change be seen?

The standard marking is:



WX code indicates the diffusion traceability plant code.

Please refer to the [DataSheet](#) for marking details.

The marking is changing as follows:

Existing		Additional	
WX code	Fab	WX code	Fab
VG	ST Rousset 8" (France)	VC	ST SG9 8" (Singapore)

How to order samples?

For all sample request linked to this PCN, please:

- request sample(s) through Notice tool, indicating a single Commercial Product for each request.
- insert "PCN 10630" into the remarks of your order.
- place **non standard** sample order using the following field in your system.

SO | NPO Sample

Header

SO Nr: Customer: SO Type: 38 Sample Order

PO Nr: Carrier Code: Price Policy: Currency:

Notes: Status: Issuing Date: Ord Val: 0.0000

Sch I Nr	PO I Nr	Finished Good	Comm Qty	Open Qty	Plant Open Qty	Reqd Qty	Unit Price	RD	CD	EDD	St

PO Item: Comm Prod: Qty: 0 RD: 06-Jan-15 Unit Price: 0.0000 Final Cost:

Cust Part Nr: Finishd Good: Partial Ship: 01 Price Pol: 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: Lab Sheet:

SO Nr: 7075S05890 Customer: 99800200 SGS-TH/USA PO Nr: Mos/TPapay/RBC-Ullmer

Company: STM Issuing Date: 29-JUL-2015 12:07:00 Ship To: 9980020081 SGS/USANPO Price Policy: 05 Curr Code: 02 U.S. DOLLAR

Carrier Code: 0001 * Bill To: 9980020001 SGS-TH/USA

Carriage Code: F1 F.I.S. Confirm To: 01

Transportn Mode: 01 AIR FREIGHT Sales Rep. ID: 07R00C NO COMMISSION

Payment Term: 0006 FREE OF CHARGE Cust Serv Rep ID: 11A000 Dummy FSA SWISS

SO Remark Details

SO Nr: 7075S05890

SO Remark Type	Text	Status Co	Last Upd
01 INVOICE & O/C REMARK	PER PCN 9108- THANK YOU	01	30-Jul-2015
*			