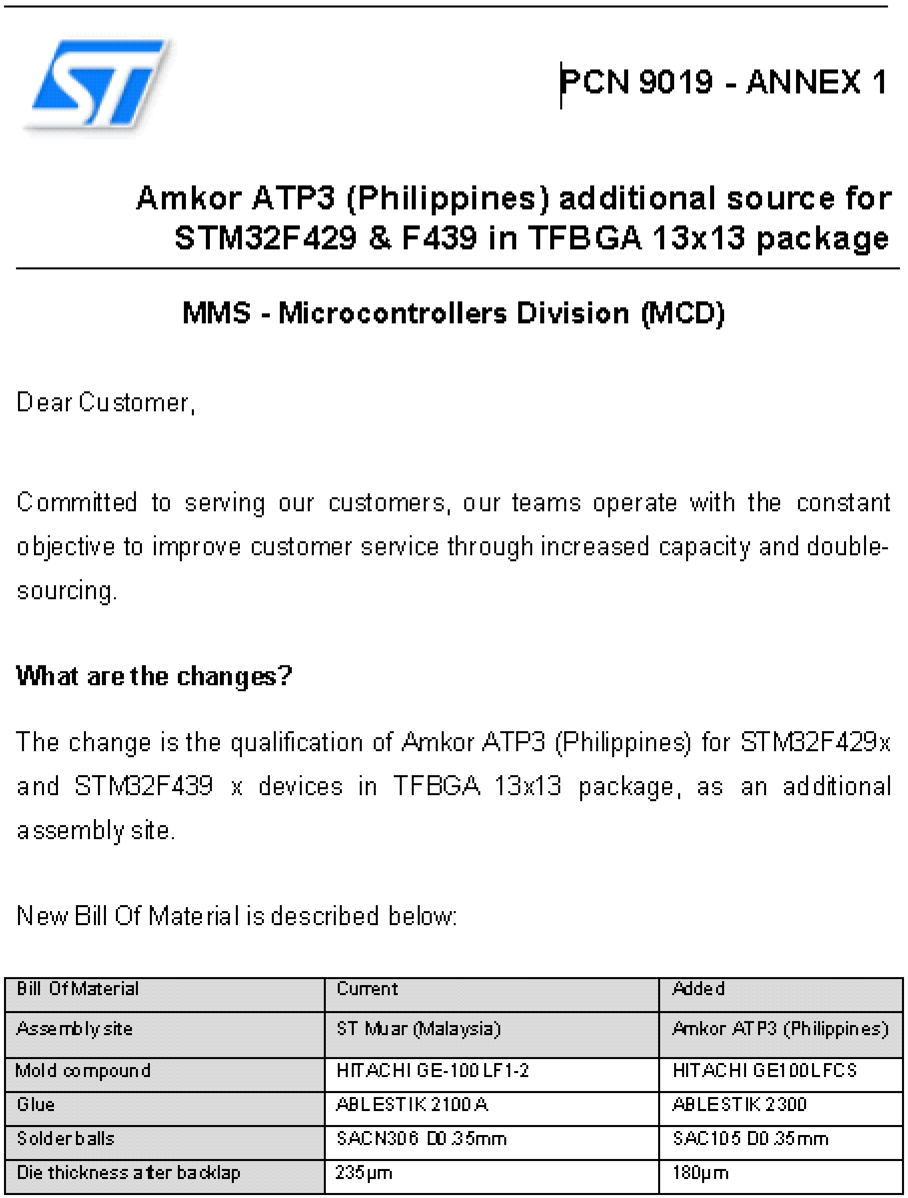


PCN 9019 - ANNEX 1

Amkor ATP3 (Philippines) additional source for STM32F429 & F439 in TFBGA 13x13 package

MMS - Microcontrollers Division (MCD)

Dear Customer,

Committed to serving our customers, our teams operate with the constant objective to improve customer service through increased capacity and double-sourcing.

What are the changes?

The change is the qualification of Amkor ATP3 (Philippines) for STM32F429x and STM32F439x devices in TFBGA 13x13 package, as an additional assembly site.

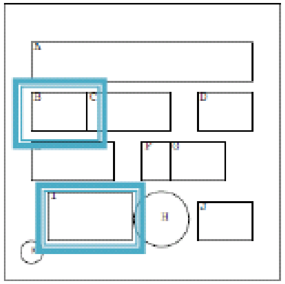
New Bill Of Material is described below:

Bill Of Material	Current	Added
Assembly site	ST Muar (Malaysia)	Amkor ATP3 (Philippines)
Mold compound	HITACHI GE-100 LF1-2	HITACHI GE100LFCS
Glue	ABLESTIK 2100A	ABLESTIK 2300
Solder balls	SACN306 D0.35mm	SAC105 D0.35mm
Die thickness after backlap	235µm	180µm

How can the change be seen?

Traceability of the change is ensured by ST internal tools.

The marking composition indicated on the products is changing:



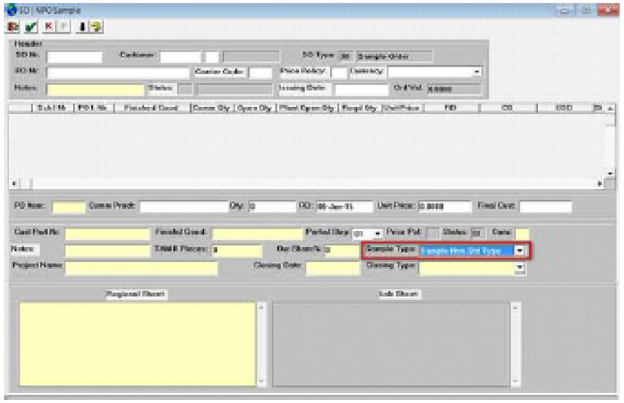
B : Assy plant
changes from 99 to 7B

I : Country Of Origin
changes from MYS to PHL

How to order samples?

For all sample request linked to this PCN, please:

- request sample through Notice tool.
- place **non standard** sample order using the following field in your system.
- insert "PCN 9019" into the remarks of your order.



We remain available to discuss any concern that you may have regarding this Product Change Notification.

With our sincere regards.

Michel Buffa

Microcontroller Division General Manager

PCN9019- RERMCD1421 RELIABILITY PLAN

Qualification Reference: **RERMCD1421**

Issued on: **Jan 26, 2015**

Assembly Plant: **AMKOR Philippines ATP3**

Assembly Line: **TFBGA 13x13**

Devices: **MCD Standard products/ STM32F**

Package / Process: **13x13x1.2 (216 balls)**

MSL: **MSL3**

Purpose

Qualification of a new assembly line for TFBGA 13x13 package assembled at ATP3 (Amkor Philippines).

Test Vehicles :

Assembly Line	Package balls count	Device (Partial RawLine Code)	Diffusion Process	Number of Lots
TFBGA 13x13x 1.2	216 balls pitch 0.8mm	STM32F4xx (RM*434)	ST Cr300 M10	1
		STM32F7xx (RM*449)		1
		STM32F4xx (RM*419)		1

QUAL PLAN for PCN9019

Package Reliability Trials :

(*) tests performed after preconditioning

Reliability Trial		Test Conditions	Pass Criteria	Unit per Lot	Qual Lot nb
PC	Pre Conditioning: Moisture Sensitivity Jedec Level 3 J-STD-020/ JESD22-A113	Bake (125°C / 24 hrs) Soak (30°C / 60% RH / 192 hrs) for Jedec level 3 Convection reflow: 3 passes	3 passes MSL3	308	3
UHAST(*)	UnBiased Highly Accelerated Temperature and Humidity Stress JESD22 A118	130°C, 85%RH, 2 atm	96h	77	3
TC(*)	Thermal Cycling JESD22 A104	-65°C, +150°C or equivalent	500Cy	77	3
THB(*)	Temperature Humidity Bias JESD22 A101	85°C, 85% RH- bias	1000h	77	3
HTSL	High Temperature Storage Life JESD22 A103	150°C- no bias	1000h	77	3
ESD	ESD Charge Device Model ANSI/ESDSTM5.3.1	6 discharges on each pin (3 positive + 3 negative) +/-250V	250V	3	All devices
CA	Construction Analysis including : • package dimensions • Solderability • Solder ball shear • Total ball shear • Wire bond pull • Wire bond shear	ADCS#8046024	No major concern	50	1

life.augmented