PRODUCT/PROCESS CHANGE NOTIFICATION

PCN MMS-MMY/07/2795
Notification Date 08/02/2007

ST Shenzhen new and additional assembly and test plant for the serial SPI bus EEPROM products in TSSOP8

MMY - MEMORY

Table 1. Change Identification

Product Identification (Product Family/Commercial Product)	Serial SPI bus EEPROM products from 1Kbit to 512Kb
Type of change	Package assembly location change
Reason for change	Additional source and production capacity increase
Description of the change	TSSOP8 new and additional assembly and test plant
Product Line(s) and/or Part Number(s)	See attached
Description of the Qualification Plan	See attached
Change Product Identification	Assembly country and plant ID
Manufacturing Location(s)	

Table 2. Change Implementation Schedule

Forecasted implementation date for change	01-Sep-2007
Forecasted availabillity date of samples for customer	06-Aug-2007
Forecasted date for **STMicroelectronics** change Qualification Plan results availability	01-Sep-2007
Estimated date of changed product first shipment	01-Sep-2007

Table 3. List of Attachments

Customer Part numbers list	
Qualification Plan results	

- -

Customer Acknowledgement of Receipt	**PCN MMS-MMY/07/2795**
Please sign and return to STMicroelectronics Sales Office	**Notification Date 08/02/2007**
☐ Qualification Plan Denied	Name:
☐ Qualification Plan Approved	Title:
	Company:
☐ Change Denied	Date:
☐ Change Approved	Signature:

Remark

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DOCUMENT APPROVAL

Name	Function
Poli, Christian	Division Marketing Manager
Rodrigues, Benoit	Division Product Manager
Yackowlew, Nicolas	Division Q.A. Manager

PRODUCT / PROCESS CHANGE NOTIFICATION

ST Shenzhen new and additional assembly and test plant for the serial SPI bus EEPROM products in TSSOP8 package

What is the change?

The serial EEPROM SPI bus based products (from 1Kbit to 512Kbit) assembled and tested in TSSOP8 package in ST Muar (Malaysia) and Amkor (Philippines) subcontractor will now also be assembled and tested in a new assembly and test line located in ST Shenzhen (China).

Why?

The strategy of the STMicroelectronics Memory division is to support the growth of our customers on a long-term basis. In line with this commitment, the qualification of the ST Shenzhen (China) assembly and test plant will secure an additional source. It will also increase the production capacity and throughput, reduce the lead-time and consequently improve the service to our customers.

When?

The assembly and test will ramp up in September 2007 and shipments could start from September 2007 onward.

How will the change be qualified?

It will be qualified using the standard STMicroelectronics Corporate Procedures for Quality and Reliability.

The Qualification Report QREE0705 will be available Week 36 / 2007.

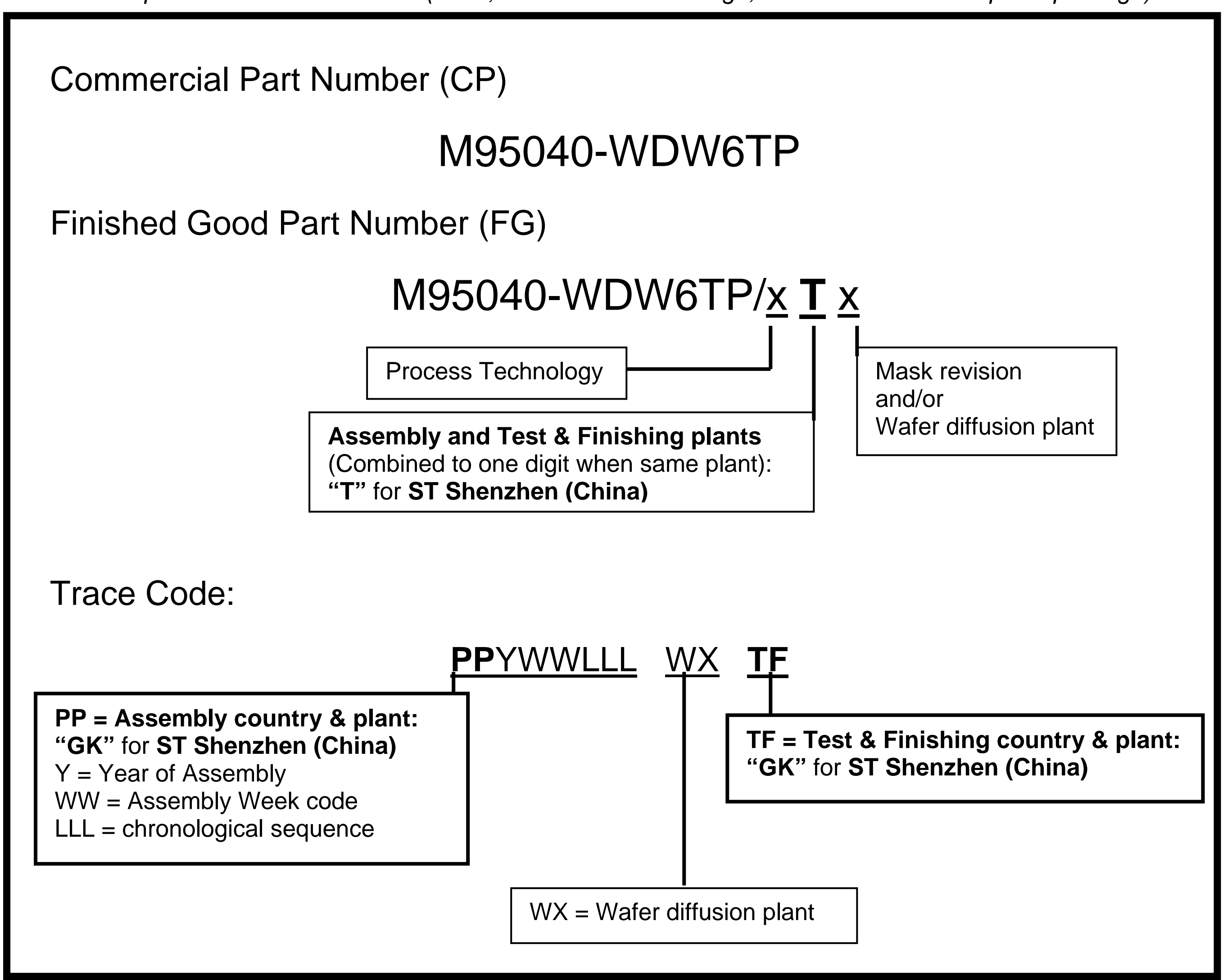
How can the change be seen?

- BOX LABEL MARKING

On the BOX LABEL MARKING, the change is visible inside the Finished Good Part Number:
The combined digit for **Assembly and Test & Finishing plants** identifiers (same plant) is "**T**" for **ST Shenzhen (China)**.

The change is also visible inside the Trace Code:
The **Assembly country & plant** (PP) and the **Test & Finishing** (TF) identifiers are "**GK**" for **ST Shenzhen (China)**.

➔ *Example for M95020-WDW6TP (2Kbit, 2.5V to 5.5V Vcc range, TSSOP8 RoHS* compliant package)*



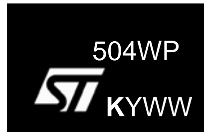
*RoHS: Restriction of the use of certain Hazardous Substances in electrical and electronic equipments

How can the change be seen?

- DEVICE MARKING

On the DEVICE MARKING, the change is visible on the top side marking, inside the second line of the trace code (PYWW):

The **Assembly Country & plant** identifier is "**K**" for **ST Shenzhen (China)**, the identifier being "9" for ST Muar (Malaysia) and "B" for Amkor (Philippines) subcontractor.

	ST Shenzhen (China)	*ST Muar (Malaysia)*	*subcon. Amkor (Philippines)*
TSSOP8 Example: M95040-WDW6TP			

The traceability for each device is as follows:

P = Assembly country and plant:
→ **"K"** for **ST Shenzhen (China)**
→ *"9" for ST Muar (Malaysia)*
→ *"B" for Amkor (Philippines) subcon.*

Y = Last digit of the Year of Assembly
WW = Assembly Week code

APPENDIX A - Product / Process Change Notification

Product family / Commercial products:	Serial SPI bus EEPROM products from 1Kbit to 512Kbit
Customer(s):	All
Type of change:	TSSOP8 new and additional assembly and test plant
Reason for the change:	Additional source and production capacity increase
Description of the change:	TSSOP8 new and additional assembly and test plant
Forecast date of the change:	September 2007
Forecast availability date of qualification sample for the customer(s):	Starting Week 32 / 2007
Forecast date for the internal STMicroelectronics change, Qualification report availability:	Week 36 / 2007
Marking to identify the changed product:	Assembly country and plant ID
Description of the qualification program:	Standard ST Microelectronics Corporate Procedures for Quality and Reliability
Product Line(s) and/or Part Number(s):	See appendix B
Manufacturing location:	ST Shenzhen (China)
Estimated date of first shipment:	September 2007
Division Product Manager: B. RODRIGUES	Date: July 17, 2007
Group QA Manager: N. YACKOWLEW	Date: July 25, 2007

APPENDIX B: Concerned Products

Commercial sales types
M95010-RDW6TP
M95010-WDW6TP
M95020-RDW6TP
M95020-WDW6TP
M95040-RDW6TP
M95040-WDW6TP
M95080-RDW6TP
M95080-WDW6TP
M95160-RDW6TP
M95160-WDW6TP
M95320-RDW6TP
M95320-WDW6TP
M95640-RDW6TP
M95640-WDW6TP
M95128-RDW6TP
M95256-RDW6TP
M95256-WDW6TP
M95512-RDW6TP
M95512-WDW6TP

APPENDIX C: Qualification Plan

TSSOP8 package

using Strip test line **in SHENZHEN plant**

PROCESSES & FAB DESCRIPTION

Process	CMOSF8	F6S26DP	F6SP36
Diffusion	**RS8F - ST Rousset**	**CHAF - Chartered**	**AM6F – ST Ang Mo Kio**

PACKAGE DESCRIPTION

BOM REFERENCE: not yet codified

	Reference	Description
Die attach material		**ABLEBOND 8390**
Frame		**New frame NiPdAu**
Wire		**Gold wire 0.8 mils**
Molding compound		**Sumitomo G700**

SIMILARITY

Diffusion plants and process are already qualified in TSSOP8 package in Muar plant.
M24C16 is the only vehicle which die is under qualification for fab transfer purpose.

RELIABILITY

Number of lots required by Process/FAB qualification:

Process	CMOSF8	F6S26DP	F6SP36
Diffusion	**RS8F – ST Rousset**	**CHAF - Chartered**	**AM6F – ST Ang Mo Kio**
Num of lots	**2**	**2**	**2**

A minimum of 3 lots is required for package qualification.

Package-related reliability tests

Test Procedure	Method	Test Conditions	Criteria
Preconditioning	**AEC - Q100 - J–STD-020C**	**Level 1**	**0 fail**
Pressure Pot	**AEC - Q100 - JA 102** **JESD22-A102**	**121°C, 2atm, 100% RH, 168 hrs**	**0/80**
Temperature and Humidity Bias	**AEC - Q100 - JA 101** **JESD22-A101**	**85°C, 85% RH, 5.5V, 1000 hrs**	**0/80**
High Temperature Bake	**AEC – Q100 JA 103** **JESD22-A103B**	**150°C, 1000hrs**	**0/80**
Temperature Cycling	**AEC - Q100 - JA 104** **JESD22-A104B**	**-65°C / 150°C, 1000 cycles**	**0/80**
Thermal Shock	**Mil Std 883 Method 1011B** **JESD22-A106B**	**-55°C / 125°C, 200 shocks**	**0/25**
Electrostatic Discharge CDM	**AEC-Q100-011**	**Charge Device Model (Field Induced CDM):** **Up to 1500V (step 250V)**	**0/18**

APPENDIX D: BOM COMPARISON

Line location	**ST SHENZHEN**	*ST MUAR*	*AMKOR subcon.*
Package	TSSOP8	TSSOP8	TSSOP8
Package size	See POA ref 0079397	See POA ref 0079397	See POA ref 0079397
Lead frame material	Copper (Matrix)	Copper (Matrix)	Copper (Matrix)
Die attach material	Silver epoxy	Silver epoxy	Silver epoxy
Type	glue Ablestick 8390	glue Ablestick 8390	glue Ablestick 8290
Manufacturer	Ablebond	Ablebond	Ablebond
Bonding wire / Method	Gold 0.8 mil, Ball bond	Gold 0.8 mil, Ball bond	Gold 0.8 mil, Ball bond
Mold compound type	G700K	184-3	G700K
Mold compound manufacturer	Sumitomo	KMC	Sumitomo
Lead finish	Pre Plated Frame: NiPdAU	Pre Plated Frame: NiPdAU	Pre Plated Frame: NiPdAU

PRODUCT / PROCESS CHANGE NOTIFICATION

Document Revision History

Document Revision History		
Date	Rev.	Description of the Revision
Jul. 02, 2007	1.00	Draft Document creation (C. POLI)

Used Source Documents		
Source document Title	Rev.:	Date:

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