# PRODUCT/PROCESS CHANGE NOTIFICATION

PCN MMS-SNV/07/2577
Notification Date 05/29/2007

**ST Shenzhen new and additional assembly and test plant**

**for the serial EEPROM I†C bus based products in TSSOP8 package**

**SNV - MEMORY**

### Table 1. Change Identification

| | |
|---|---|
| Product Identification (Product Family/Commercial Product) | Serial EEPROM I2C bus based from 1Kbit to 512Kbit |
| 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-Aug-2007 |
| Forecasted availabillity date of samples for customer | 04-Jun-2007 |
| Forecasted date for **STMicroelectronics** change Qualification Plan results availability | 01-Aug-2007 |
| Estimated date of changed product first shipment | 01-Aug-2007 |

**Table 3. List of Attachments**

| Customer Part numbers list | |
|---|---|
| Qualification Plan results | |

- - - - - - - - - - - - - - - - - - - - - - - - - - - - ✂

| Customer Acknowledgement of Receipt | **PCN MMS-SNV/07/2577** |
|---|---|
| Please sign and return to STMicroelectronics Sales Office | **Notification Date 05/29/2007** |
| ☐ 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 EEPROM I2C bus based products in TSSOP8 package

**What is the change?**

The serial EEPROM I²C 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 July 2007 and shipments could start from August 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 in August 2007.

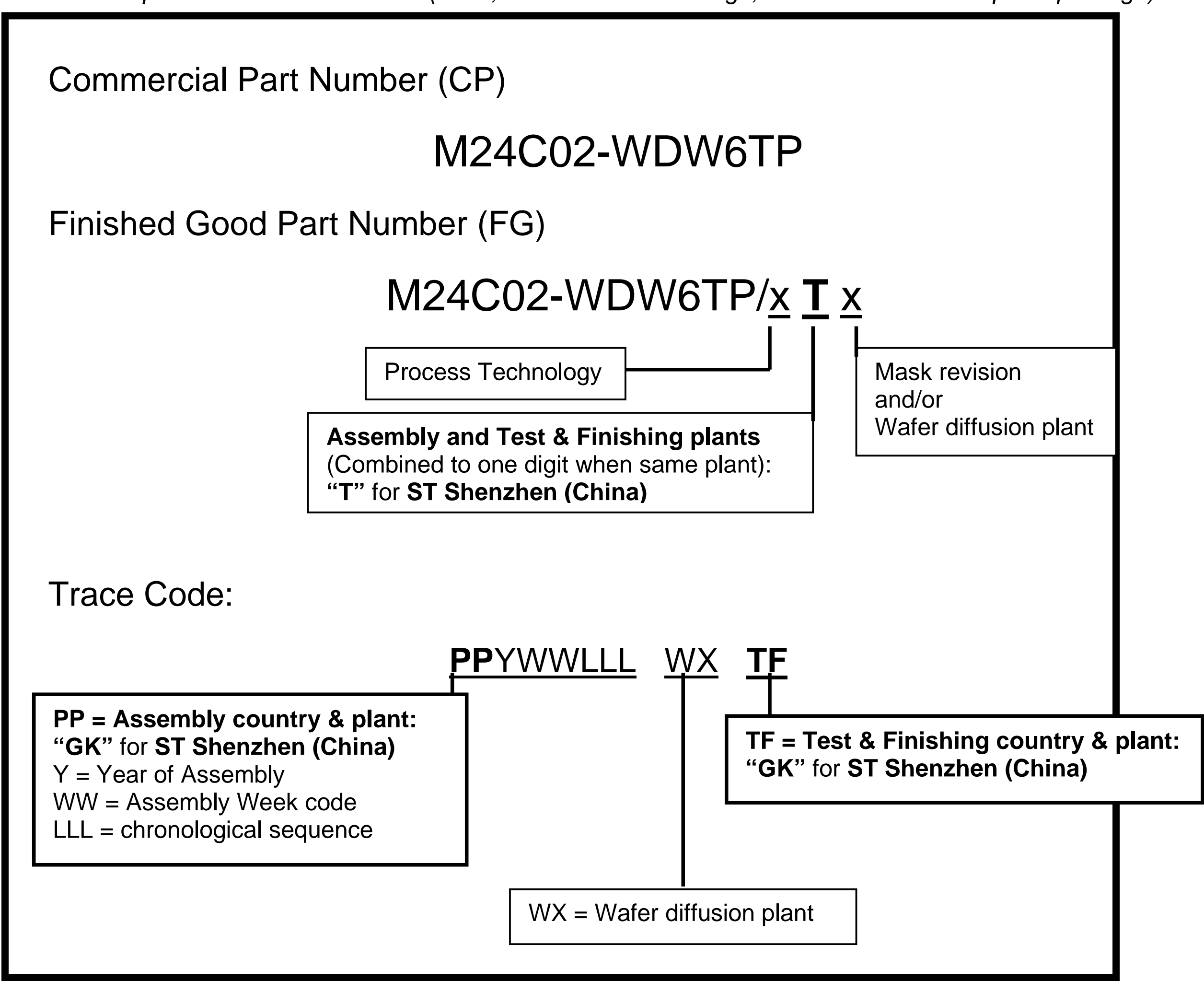
**How can the change be seen?**

***- 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 M24C02-WDW6TP (2Kbit, 2.5V to 5.5V Vcc range, TSSOP8 RoHS* compliant package)*



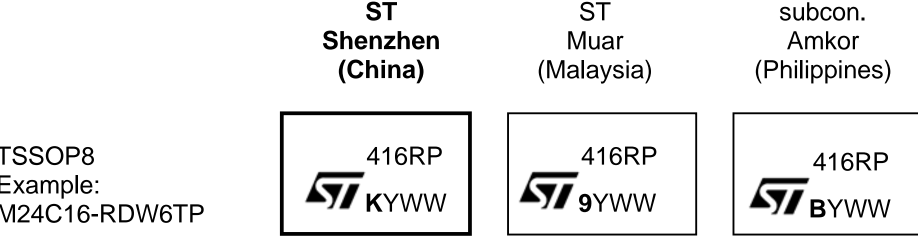

*RoHS: Restriction of the use of certain Hazardous Substances in electrical and electronic equipments

**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.




The traceability for each device is as follows:

**P = Assembly country and plant:**
→ **"K"** for **ST Shenzhen (China)**
Y = Last digit of the Year of Assembly
WW = Assembly Week code

## APPENDIX A - Product / Process Change Notification

| | |
|---|---|
| **Product family / Commercial products:** | Serial EEPROM I²C bus based from 1Kbit to 512Kbit Products |
| **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:** | August 2007 |
| **Forecast availability date of qualification sample for the customer(s):** | Starting Week 23 / 2007 |
| **Forecast date for the internal STMicroelectronics change, Qualification report availability:** | August 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:** | August 2007 (or earlier upon customer approval) |
| **Division Product Manager:** B. RODRIGUES | Date: |
| **Group QA Manager:** N. YACKOWLEW | Date: |

## APPENDIX B: Concerned Products

| Commercial sales types |
|---|
| M24C01-RDW6TP |
| M24C01-WDW6TP |
| M24C02-RDW6TP |
| M24C02-WDW6TP |
| M24C04-RDW6TP |
| M24C04-WDW6TP |
| M24C08-RDW6TP |
| M24C08-WDW6TP |
| M24C16-RDW6TP |
| M24C16-WDW6TP |
| M24C32-RDW6TP |
| M24C32-WDW6TP |
| M24C32-FDW5TP |
| M24C64-RDW6TP |
| M24C64-WDW6TP |
| M24C64-FDW5TP |
| M24128-BRDW6TP |
| M24128-BWDW6TP |
| M24256-BRDW6TP |
| M24256-BWDW6TP |
| M24512-RDW6TP |
| M24512-WDW6TP |

# APPENDIX C: Qualification Plan

TSSOP8 package
**using** Strip test line **in SHENZHEN plant**

## PRODUCT DESCRIPTION

| | Devices to qualify | | |
|---|---|---|---|
| Product name | **M24512** | **M24128** | **M24C16** |
| Process | **CMOSF8** | **F6S26DP** | **F6SP36** |
| Diffusion | **RS8F - Rousset** | **CHAF - Chartered** | **AM6F – 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 Product qualification:

| | Devices to qualify | | |
|---|---|---|---|
| Product name | **M24512** | **M24128** | **M24C16** |
| Process | **CMOSF8** | **F6S26DP** | **F6SP36** |
| Diffusion | **RS8F - Rousset** | **CHAF - Chartered** | **AM6F – 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**<br>**JESD22-A102** | **121°C, 2atm, 100% RH, 168 hrs** | **0/80** |
| **Temperature and Humidity Bias** | **AEC - Q100 - JA 101**<br>**JESD22-A101** | **85°C, 85% RH, 5.5V, 1000 hrs** | **0/80** |
| **High Temperature Bake** | **AEC – Q100 JA 103**<br>**JESD22-A103B** | **150°C, 1000hrs** | **0/80** |
| **Temperature Cycling** | **AEC - Q100 - JA 104**<br>**JESD22-A104B** | **-65°C / 150°C, 1000 cycles** | **0/80** |
| **Thermal Shock** | **Mil Std 883 Method 1011B**<br>**JESD22-A106B** | **-55°C / 125°C, 200 shocks** | **0/25** |
| **Electrostatic Discharge CDM** | **AEC-Q100-011** | **Charge Device Model (Field Induced CDM):**<br>**Up to 1500V (step 250V)** | **0/18** |

## APPENDIX D: BOM COMPARISON

| Line location | **ST SHENZHEN** | **ST MUAR** | **AMKOR** |
|---|---|---|---|
| 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 |
| Apr. 11, 2007 | 1.00 | Draft Document creation (C. POLI) |
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| Used Source Documents | | |
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