12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20140421001**
**Qualification of TSMC F10 as an additional Wafer Fab site for CC2541 devices**
**Change Notification / Sample Request**

**Date:** 4/28/2014
**To:** MOUSER PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services
Phone: +1(214) 480-6037
Fax: +1(214) 480-6659

**20140421001**
**Attachment: 1**

## Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

| DEVICE | CUSTOMER PART NUMBER |
|---|---|
| CC2541F128RHAT | null |
| CC2541F256RHAR | null |
| CC2541F256RHAT | null |

Technical details of this Product Change follow on the next page(s).

| | | | |
|---|---|---|---|
| **PCN Number:** | 20140421001 | **PCN Date:** | 04/28/2014 |
| **Title:** | Qualification of TSMC F10 as an additional Wafer Fab site for CC2541 devices | | |
| **Customer Contact:** | PCN Manager | **Phone:** +1(214)480-6037 | **Dept:** Quality Services |
| ***Proposed 1st Ship Date:** | 07/28/2014 | **Estimated Sample Availability:** | Date Provided at Sample request |

| **Change Type:** | | | | | |
|---|---|---|---|---|---|
| ☐ | Assembly Site | ☐ | Assembly Process | ☐ | Assembly Materials |
| ☐ | Design | ☐ | Electrical Specification | ☐ | Mechanical Specification |
| ☐ | Test Site | ☐ | Packing/Shipping/Labeling | ☐ | Test Process |
| ☐ | Wafer Bump Site | ☐ | Wafer Bump Material | ☐ | Wafer Bump Process |
| ☒ | Wafer Fab Site | ☐ | Wafer Fab Materials | ☐ | Wafer Fab Process |
| | | ☐ | Part number change | | |

## PCN Details

**Description of Change:**

This change notification is to announce the addition of TSMC-F10 (Fab 10) as an additional Wafer Fab site option for the products listed in the product affected section of this document.

| Current Wafer Fab Site | Additional Wafer Fab Site |
|---|---|
| Site/Process/Wafer Diameter | **Site/Process/Wafer Diameter** |
| TSMC-WFT/0.18UM TSMC Process/200mm | **TSMC-F10/0.18UM TSMC Process/200mm** |

**Reason for Change:**

Continuity of supply.

**Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):**

None

**Changes to product identification resulting from this PCN:**

**Current**

| Chip Site | Chip site code (20L) | Chip country code (21L) |
|---|---|---|
| TSMC-WFT | T13 | USA |

**Additional**

| Chip Site | Chip site code (20L) | Chip country code (21L) |
|---|---|---|
| **TSMC-F10** | **TSS** | **CHN** |

**Sample Product Shipping Label** (not actual product label)

| Product Affected: | | | |
|---|---|---|---|
| CC2541CRHA | CC2541F128RHAT | CC2541F256RHAT | HPA01215RHAR |
| CC2541CRHAR | CC2541F256RHAR | CC2541F256YS | HPA01216RHAR |
| CC2541F128RHAR | | | |

## Qualification Data: Approved 4/2/2014

This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.

**Qualification Device: CC1260RGZ** (MSL LEVEL3-260C)

| Wafer Fab Site: | TSMC Fab 10 | Wafer Fab Process: | TSMC 0.18UM |
|---|---|---|---|
| Wafer Diameter: | 200mm | | |

**Qualification:** ☐ **Plan** ☒ **Test Results**

| Reliability Test | Conditions | Sample Size / Fail Lot#1 | Lot#2 | Lot#3 |
|---|---|---|---|---|
| Latch-up | Per JESD78 | 6/0 | 6/0 | 6/0 |
| Biased Temperature and Humidity | 85C/85%RH (1000 hours) | 26/0 | 26/0 | 26/0 |
| **Unbiased HAST | 110C/85%RH (264 hours) | 77/0 | 77/0 | 77/0 |
| **Temp Cycle | -55/125C (1000 cycles) | 77/0 | 77/0 | 77/0 |
| **High Temp Storage Bake | 150C (1000 hours) | 77/0 | 77/0 | 77/0 |
| Electrical Characterization | Per datasheet | Pass | Pass | Pass |
| ESD HBM | +/-1000V | 3/0 | - | - |
| ESD CDM | +/-250V | 3/0 | - | - |

**Preconditioning: Level 3-260C

## Qualification Data: Approved 1/25/2013

This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.

**Qualification Device: CC2544RHB** (MSL LEVEL3-260C)

| Wafer Fab Site: | TSMC Fab 10 | Wafer Fab Process: | TSMC 0.18UM |
|---|---|---|---|
| Wafer Diameter: | 200mm | | |

**Qualification:** ☐ **Plan** ☒ **Test Results**

| Reliability Test | Conditions | Sample Size / Fail Lot#1 | Lot#2 | Lot#3 |
|---|---|---|---|---|
| **Unbiased HAST | 110C/85%RH (264 hours) | 77/0 | 77/0 | 77/0 |
| **High Temp Storage Bake | 150C (600 hours) | 77/0 | 76/0 | 76/0 |
| Latch-up | Per JESD78 | 18/0 | - | - |
| **Temp Cycle | -55/+125C (700 cycles) | 77/0 | 77/0 | 76/0 |
| **Biased Temperature & Humidity | 85C/85%RH (600 hours) | 26/0 | 26/0 | 25/0 |
| ESD HBM | +/-1000V | 3/0 | - | - |
| ESD CDM | +/-250V | 3/0 | - | - |
| Electrical Characterization | Per datasheet | Pass | Pass | Pass |

**Preconditioning: Level 3-260C

## Qualification Data: Approved 10/08/2013

This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.

**Qualification Device: CC1200RHB** (MSL LEVEL3-260C)

| | | | |
|---|---|---|---|
| Wafer Fab Site: | TSMC Fab 10 | Wafer Fab Process: | TSMC 0.18UM |
| Wafer Diameter: | 200mm | | |

**Qualification:** ☐ **Plan** ☒ **Test Results**

| Reliability Test | Conditions | Sample Size / Fail Lot#1 | Lot#2 | Lot#3 |
|---|---|---|---|---|
| Operating Life Test | 125C (1000 hours) | 39/0 | 39/0 | 38/0 |

**Preconditioning: Level 3-260C

## Qualification Data: Approved 04/25/2014

This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.

**Qualification Device: CC2541RHAQ** (MSL LEVEL3-260C)

| | | | |
|---|---|---|---|
| Wafer Fab Site: | TSMC Fab 11 | Wafer Fab Process: | TSMC 0.18UM |
| Wafer Diameter: | 200mm | | |

**Qualification:** ☐ **Plan** ☒ **Test Results**

| Reliability Test | Conditions | Sample Size / Fail Lot#1 | Lot#2 | Lot#3 |
|---|---|---|---|---|
| Operating Life Test | 125C (408 hours) | 77/0 | 77/0 | 77/0 |

**Preconditioning: Level 3-260C

## Qualification Plan:

This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.

| | | | | |
|---|---|---|---|---|
| **Qualification Schedule:** | **Start:** | 2/25/2014 | **End:** | 6/25/2014 |

**Qualification Device: CC2541RHA** (MSL LEVEL3-260C)

| | | | |
|---|---|---|---|
| Wafer Fab Site: | TSMC Fab 10 | Wafer Fab Process: | TSMC 0.18UM |
| Wafer Diameter: | 200mm | Assembly Site: | TI Clark |

**Qualification:** ☒ **Plan** ☐ **Test Results**

| Reliability Test | Conditions | Sample Size / Fail Lot#1 | Lot#2 | Lot#3 |
|---|---|---|---|---|
| Electrical Characterization | Per datasheet | - | - | - |
| ESD HBM | +/-1000V | 3/0 | - | - |
| ESD CDM | +/-250V | 3/0 | - | - |
| Latch-up | Per JESD78 | 6/0 | - | - |
| Flash W/E endurance | 105K (20,000 cycles) | 12/0 | 12/0 | 12/0 |

**Preconditioning: Level 3-260C

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

| Location | E-Mail |
|---|---|
| USA | PCNAmericasContact@list.ti.com |
| Europe | PCNEuropeContact@list.ti.com |
| Asia Pacific | PCNAsiaContact@list.ti.com |
| Japan | PCNJapanContact@list.ti.com |