# Product Change Notification - RMES-16DZWG089

**Date:**
13 Sep 2019
**Product Category:**
Successive Approximation Register (SAR) A/D Converters
**Affected CPNs:**

**Notification subject:**
CCB 2929.001 Final Notice: Qualification of NSEB as a new assembly site for selected products available in 10L MSOP (3x3mm) package.
**Notification text:**

**PCN Status:**
Final notification
**PCN Type:**
Manufacturing Change
**Microchip Parts Affected:**
Please open one of the icons found in the Affected CPNs section above.
NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).
**Description of Change:**
Qualification of NSEB as a new assembly site for selected products available in 10L MSOP (3x3mm) package.

**Pre Change:**
Assembled at ANAP site using 8290 die attach and G700K mold compound material.
**Post Change:**
Assembled at NSEB site using 8200T die attach and G600 mold compound material.
**Pre and Post Change Summary:**

| | Pre Change | Post Change |
|---|---|---|
| Assembly Site | Amkor Technology Philippines (ANAP) | UTAC Thai Limited (NSEB) |
| Wire material | Au | Au |
| Die attach material | 8290 | 8200T |
| Molding compound material | G700K | G600 |
| Lead frame material | C7025 | C7025 |

**Impacts to Data Sheet:**
None
**Change Impact:**
None
**Reason for Change:**
To improve on time delivery performance by qualifying NSEB as a new assembly site.
**Change Implementation Status:**
In Progress
**Estimated First Ship Date:**
October 13, 2019 (date code: 1942)
NOTE: Please be advised that after the estimated first ship date customers may receive pre and

post change parts.

**Time Table Summary:**

| | April 2019 | | | | | -> | September 2019 | | | | October 2019 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Workweek | 14 | 15 | 16 | 17 | 18 | | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| Initial PCN Issue Date | | | X | | | | | | | | | | | | |
| Qual Report Availability | | | | | | | | X | | | | | | | |
| Final PCN Issue Date | | | | | | | | X | | | | | | | |
| Estimated Implementation Date | | | | | | | | | | | | | X | | |

**Method to Identify Change:**
Traceability code
**Qualification Report:**
Please open the attachments included with this PCN labeled as PCN_#_Qual Report.
**Revision History**:
**April 17, 2019:** Issued initial notification.
**September 13, 2019:** Issued final notification. Attached the qualification report. Provided estimated first date to be on October 13, 2019
The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.
**Attachment(s):**
PCN_RMES-16DZWG089_Qual_Report.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

**Terms and Conditions:**

If you wish to receive Microchip PCNs via email please register for our PCN email service at our PCN home page select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the PCN FAQ section.
If you wish to change your PCN profile, including opt out, please go to the PCN home page select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

Affected Catalog Part Numbers (CPN)

MCP33111-05-E/MS
MCP33111-05T-E/MS
MCP33111-10-E/MS
MCP33111-10T-E/MS
MCP33111D-05-E/MS
MCP33111D-05T-E/MS
MCP33111D-10-E/MS
MCP33111D-10-I/MS
MCP33111D-10T-E/MS
MCP33111D-10T-I/MS
MCP33121-05-E/MS
MCP33121-05T-E/MS
MCP33121-10-E/MS
MCP33121-10T-E/MS
MCP33121D-05-E/MS
MCP33121D-05T-E/MS
MCP33121D-10-E/MS
MCP33121D-10-I/MS
MCP33121D-10T-E/MS
MCP33121D-10T-I/MS
MCP33131-05-E/MS
MCP33131-05T-E/MS
MCP33131-10-E/MS
MCP33131-10T-E/MS
MCP33131D-05-E/MS
MCP33131D-05T-E/MS
MCP33131D-10-E/MS
MCP33131D-10-I/MS
MCP33131D-10T-E/MS
MCP33131D-10T-I/MS

# QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

## PCN #: RMES-16DZWG089

**Date:**
**August 05, 2019**

## Qualification of NSEB as a new assembly site for selected products available in 10L MSOP (3x3mm) package.

# PACKAGE QUALIFICATION REPORT

**Purpose** **Qualification of NSEB as a new assembly site for selected products available in 10L MSOP (3x3mm) package.**

| | |
|---|---|
| **CN** | ES295627 |
| **QUAL ID** | Q19076 Rev. A |
| **MP CODE** | TAPA44E3XA11 |
| **Part No.** | MCP33111-10-E/MS |
| **Bonding No.** | BDE-005353 Rev. 01 |
| **Package** | |
| **Type** | 10L MSOP |
| **Package size** | 3 x 3 mm. |
| **Die thickness** | 8 mils |
| **Die size** | 60.7 x 84.3 mils |
| **Lead Frame** | |
| **Paddle size** | 82 x 94 mils |
| **Material** | C7025 |
| **Surface** | Ag Spot plated |
| **Process** | Stamped |
| **Lead Lock** | No |
| **Part Number** | FM0009 |
| **Treatment** | None |
| **Material** | |
| **Epoxy** | 8200T |
| **Wire** | Au wire |
| **Mold Compound** | G600 |
| **Plating Composition** | Matte Tin |

# PACKAGE QUALIFICATION REPORT

**Manufacturing Information**

| Assembly Lot No. | Wafer Lot No. | Date Code |
|---|---|---|
| NSEB200400001.000 | TC08919468004.400 | 1917T0M |
| NSEB200400002.000 | TC08919468004.400 | 1917T0R |
| NSEB200400003.000 | TC08919468004.400 | 1917T0T |

**Result** [x] Pass [ ] Fail [ ] _____

10L MSOP assembled by NSEB pass reliability test per QCI-39000.This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard.

# PACKAGE QUALIFICATION REPORT

| Test Number (Reference) | Test Condition | Standard / Method | Qty. (Acc.) | Def/SS | Result | Remarks |
|---|---|---|---|---|---|---|
| **Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)** | 85°C/ 85%RH Moisture Soak 168 hrs.<br>System: TABAI ESPEC Model PR-3SPH<br>3x Convection-Reflow 265°C max<br>System: Vitronics Soltec MR1243<br><br>( IPC/JEDEC J-STD-020E) | IPC/JEDEC J-STD-020E | 135 | 0/135 | Pass | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **<u>Precondition Prior Perform Reliability Tests</u>**<br><br>**(At MSL Level 1)** | **Electrical Test :**+25°C and 125°C<br>System: J750_HD | JESD22-A113 | 693(0) | 693 | | Good Devices |
| | Bake 150°C, 24 hrs<br>System: CHINEE | | | 693 | | |
| | 85°C/85%RH Moisture Soak 168 hrs.<br>System: TABAI ESPEC Model PR-3SPH | | | 693 | | |
| | 3x Convection-Reflow 265°C max | | | 693 | | |
| | System: Vitronics Soltec MR1243 | | | | Pass | |
| | **Electrical Test :**+25°C and 125°C<br>System: J750_HD | | | 0/693 | | |

# PACKAGE QUALIFICATION REPORT

| Test Number (Reference) | Test Condition | Standard/ Method | Qty. (Acc.) | Def/SS. | Result | Remarks |
|---|---|---|---|---|---|---|
| **Temp Cycle** | **Stress Condition:**<br>-65°C to +150°C, 500 Cycles<br>System : TABAI ESPEC TSA-70H | JESD22-A104 | | 231 | | Parts had been pre-conditioned at 260°C |
| | **Electrical Test:** + 125°C<br>System: J750_HD | | 231(0) | 0/231 | Pass | 77 units / lot |
| | **Bond Strength:** | | 15 (0) | 0/15 | Pass | |
| | Wire Pull (> 2.5 grams) | | | | | |
| | Bond Shear (>15.00 grams) | | 15 (0) | 0/15 | Pass | |

# PACKAGE QUALIFICATION REPORT

| Test Number (Reference) | Test Condition | Standard/ Method | Qty. (Acc.) | Def/SS. | Result | Remarks |
|---|---|---|---|---|---|---|
| **Solderability**<br>**Temp 245°C** | **Steam Aging:** Temp 93°C,8Hrs<br>System: SAS-3000<br>Solder Dipping:Solder Temp.245°C<br>Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6<br>System: ERSA RA 2200D<br>Visual Inspection: External Visual Inspection | J-STD-002 | 22 (0) | 22<br>22<br>0/22 | Pass | |
| **Physical**<br>**Dimensions** | Physical Dimension,<br>10 units from 1 lot | JESD22-B100/B108 | 30(0) Units | 0/30 | Pass | |
| **Bond Strength**<br>**Data Assembly** | Wire Pull (> 2.5 grams)<br>Bond Shear (>15.00 grams) | M2011<br>JESD22-B116 | 30 (0) Wires<br>30 (0) bonds | 0/30<br>0/30 | Pass<br>Pass | |