

Product Change Notification - GBNG-27ULJU095

Date:

29 Aug 2019

Product Category:

Memory

Affected CPNs:

7

Notification subject:

CCB 3864 Final Notice: Qualification of MMT as a new assembly site for selected Atmel Parallel EEPROM products of the 19.1K and 19.5K wafer technologies available in 28L (13.6x15.1x2.57mm) and 30L (13.6x16x2.57mm) CPGA packages.

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 MMT as a new assembly site for selected Atmel Parallel EEPROM products of the 19.1K and 19.5K wafer technologies available in 28L (13.6x15.1x2.57mm) and 30L (12.6x16x2.57mm) CRCA packages

(13.6x16x2.57mm) CPGA packages.

Pre Change:

Assembled at ANAP assembly site.

Post Change:

Assembled at MMT assembly site.

Pre and Post Change Summary:

| | Pre Change | Post Change |
|---------------------|--------------------------------------------------------|-------------------------------------------------|
| Assembly Site | Amkor Technology Philippine (P1/P2), INC. (ANAP) | Microchip Technology Thailand (Branch) / MMT |
| Wire material | Al | AI |
| Die attach material | JM7000 | JM7000 |
| Lead frame material | Ceramic Alloy | Ceramic Alloy |

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve on-time delivery performance by qualifying MMT as a new assembly site. ANAP will no longer have manufacturing support to process selected Atmel Parallel EEPROM products available in 28L and 30L CPGA packages.

Change Implementation Status:

In Progress

Estimated First Ship Date:

September 29, 2019 (date code: 1940)

NOTE: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

Time Table Summary:



| | August 2019 | | | September 2019 | | | | | | |
|----------------------------------|----------------|----|----|-------------------|----|----|----|----|----|----|
| Workweek | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Final PCN Issue Date | | | | | Х | | | | | |
| Qual Report Availability | | | | | Х | | | | | |
| Estimated Implementation Date | | | | | | | | | | Х |

Method to Identify Change:

Traceability code

Qualification Report:

Please open the attachments included with this PCN labeled as PCN_#_Qual Report.

Revision History:

August 29, 2019: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on September 29, 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_GBNG-27ULJU095_Qual_Report.pdf

Please contact your local <u>Microchip sales office</u> with questions or concerns regarding this notification.

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If you wish to <u>change your PCN profile</u>, <u>including opt out</u>, please go to the <u>PCN home page</u> select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

GBNG-27ULJU095 - CCB 3864 Final Notice: Qualification of MMT as a new assembly site for selected Atmel Parallel EEPROM products of the 19.1K and 19.5K wafer technologies available in 28L (13.6x15.1x2.57mm) and 30L (13.6x16x2.57mm) CPGA packages.

Affected Catalog Part Numbers (CPN)

AT28C010-12UM/883 AT28C010-15UM/883 AT28C010-20UM/883 AT28C010E-12UM/883 AT28C256-15UM/883 AT28C256-15UM/883-610 AT28C256-15UM/883-815 AT28C256-20UM/883 AT28C256-20UM/883-815 AT28C256-25UM/883 AT28C256-25UM/883-815 AT28C256E-15UM/883 AT28C256E-15UM/883-815 AT28C256E-20UM/883 AT28C256E-25UM/883 AT28C256E-25UM/883-815 AT28C256F-15UM/883 AT28HC256-12UM/883 AT28HC256-90UM/883 AT28HC256E-12UM/883 AT28HC256E-90UM/883 AT28HC256F-12UM/883 AT28HC256F-90UM/883



Qualification Report Summary

PCN #: GBNG-27ULJU095

Date May 15, 2019

Qualification of MMT as a new assembly site for selected Atmel Parallel EEPROM products of the 19.1K and 19.5K wafer technologies available in 30L (13.6x16x2.57mm) CPGA package. The selected Atmel products available in 28L (13.6x15.1x2.57mm) CPGA package will qualify by similarity.

Purpose: Qualification of MMT as a new assembly site for selected Atmel Parallel EEPROM products of the 19.1K and 19.5K wafer technologies available in 30L (13.6x16x2.57mm) CPGA package. The selected Atmel products available in 28L (13.6x15.1x2.57mm) CPGA package will qualify by similarity.

I. Summary:

In keeping with guidelines established in MIL-STD-883, one lot of AT28C010-12UM-883 / AT19506- MU1KT product was subjected to qualification testing to meet the requirements for hermetic package reliability.

II. Conclusion:

Based on the results below, 30 lead CPGA packages assembled by MTHAI can be shipped to Military customers.

III. Device Description:

| Device | 1Meg Parallel EEPROM |
|---------------------------|----------------------|
| Qual Report Doc Control # | ML05201900AP |
| Document Revision | A |
| CCB No. | 3864 |

IV. Qualification Material:

| | Lot 1 |
|--------------|-----------------------------------------------------------------|
| WAFER LOT | 8B1903I |
| ASSEMBLY LOT | EH191AAA1.4 |
| PACKAGE | 30 Lead CPGA |
| QUAL TESTS | Mechanical Shock, Vibration, Constant Acceleration, Salt Fog |

V. Qualification Data:

Group B1 Resistance to Solvents

| Test Method | MIL-STD-883, 2015.14 |
|----------------------|----------------------|
| Sample Size | (3) |
| Result/Sample (Fail) | Pass/3 (0) |

Group B2 Bond Strength

| Test Method | MIL-STD-883, 2011 |
|------------------------|-----------------------------|
| Sample Size | (4) devices, total 22 wires |
| Result/Sample (Fail) | Pass/4 (0) 28 wires total. |
| Results/ Specification | MIN = 7.40gm |

Group B2 Die Shear Strength

| Test Method | MIL-STD-883, 2019 |
|----------------------|-------------------|
| Sample Size | (3) devices |
| Result/Sample (Fail) | Pass/3 (0) |

Group B3 Solderability

| Test Method | MIL-STD-883, 2003 |
|-----------------------------|-------------------|
| Sample Size Devices / Leads | (3) / 30 Leads |
| Result/Sample (Fail) | Pass/90 (0) |

Group D1 Physical Dimensions

| Test Method | MIL-STD-883, 2016 |
|----------------------|-------------------|
| Sample Size | (15) |
| Result/Sample (Fail) | Pass/15 (0) |

Group D2 Lead Integrity

| Test Method | MIL-STD-883, 2004.7, TM2004 |
|----------------------|-----------------------------|
| Sample Size | (15 leads), 3 devices |
| Result/Sample (Fail) | Pass/45 (0) |

Group D3 Environmental Tests

| Test Method | Liquid/Liquid Thermal Shocks MIL-STD-883, 1011 |
|----------------------------------------|-------------------------------------------------|
| Test Condition | Condition B -55C to +125C, 15 Cycles |
| Required Sample Size | 15 |
| Result/Sample (Fail) | Pass/15 (0) |
| Test Method | Air/Air Temperature Cycles MIL-STD-883, 1010 |
| Test Condition | 15 Cycles |
| Required Sample Size | 15/ 0 Fails |
| Result/Sample (Fail) | Pass/15 (0) |
| Test Method | Moisture Resistance MIL-STD-883, 1004 |
| Test Condition | 240 Hours |
| Required Sample Size | 15/ 0 Fails |
| Result/Sample (Fail) | Pass/15 (0) |
| Test Method | External Visual Inspection MIL-STD-883, 1004/10 |
| Visual Inspection | Pass/15 (0) |
| Final Test (25C) Result/Sample (Fail) | Pass/15 (0) |
| Final Test (125C) Result/Sample (Fail) | Pass/15 (0) |
| Final Test (-55C) Result/Sample (Fail) | Pass/15 (0) |
| Test Method | Seal Test Fine Leakage MIL-STD-883, 1014 |
| Test Condition | Condition B |
| Result/Sample (Fail) | Pass/15 (0) |
| Test Method | Seal Test Gross Leakage MIL-STD-883, 1014 |
| Test Condition | Condition C |
| Result/Sample (Fail) | Pass/15 (0) |

Group D4 Mechanical Tests

| Test Method | Mechanical Shock MIL-STD-883, 2002 |
|----------------------------------------|----------------------------------------------|
| Test Condition | Condition B |
| Required Sample Size | 15 |
| Test Method | Variable Vibration Mil-STD-883, 2007 |
| Test Condition | Condition A |
| Required Sample Size | 15 |
| Test Method | Constant Acceleration MIL-STD_883, 2001 |
| Test Condition | Condition A |
| Required Sample Size | 15 |
| Test Method | Seal Test Fine Leakage MIL-STD-883, 1014 |
| Test Condition | Condition B |
| Result/Sample (Fail) | Pass/15(0) |
| Test Method | Seal Test Gross Leakage MIL-STD-883, 1014 |
| Test Condition | Condition C |
| Result/Sample (Fail) | Pass/15(0) |
| Test Method | External Visual Inspection MIL-STD-883, 1010 |
| Result/Sample / (Fail) | Pass/15(0) |
| Final Test (25C) Result/Sample (Fail) | Pass/15(0) |
| Final Test (125C) Result/Sample (Fail) | Pass/15(0)) |
| Final Test (-55C) Result/Sample (Fail) | Pass/15(0) |

Group D5 Salt Atmosphere

| Test Method | Salt Atmosphere MIL-STD-883, 1009 |
|----------------------|----------------------------------------------|
| Test Condition | Condition A |
| Required Sample Size | 15 |
| Test Method | Seal Test Fine Leakage MIL-STD-883, 1014 |
| Test Condition | Condition B |
| Result/Sample (Fail) | Pass/15 (0) |
| Test Method | Seal Test Gross Leakage MIL-STD-883, 1014 |
| Test Condition | Condition C1 |
| Result/Sample (Fail) | Pass/15 (0) |
| Test Method | External Visual Inspection MIL-STD-883, 1009 |
| Result/Sample (Fail) | Pass/15 (0) |

Group D6 Internal Water Vapor

| Test Method | MIL-STD-883, 1018 |
|----------------------|-------------------------------------|
| Test Condition | 5000 PPM Water Content at 100C |
| Sample Size | (3) |
| Result/Sample (Fail) | Pass/3 (0) 1780PPM Maximum Recorded |

Group D9 Resistance to Solder Heat

| Test Method | Soldering Heat MIL-STD-883 2036 |
|----------------------------------------|----------------------------------------------|
| Test Condition | 260 Max Temperature |
| Required Sample Size | 3 |
| Final Test (25C) Result/Sample (Fail) | Pass/3 (0) |
| Final Test (125C) Result/Sample (Fail) | Pass/3 (0) |
| Final Test (-55C) Result/Sample (Fail) | Pass/3 (0) |
| Test Method | Seal Test Fine Leakage MIL-STD-883, 1014 |
| Test Condition | Condition B |
| Result/Sample (Fail) | Pass/3 (0) |
| Test Method | Seal Test Gross Leakage MIL-STD-883, 1014 |
| Test Condition | Condition C |
| Result/Sample (Fail) | Pass/3 (0) |
| Result/Sample (Fail) | Pass/3 (0) |
| Test Method | External Visual Inspection MIL-STD-883, 1009 |
| Result/Sample (Fail) | Pass/3 (0) |