



## Product Change Notification: JPZA-01SFDV804

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### Date:

08-Sep-2026

### Product Category:

32-Bit Microcontrollers, Touchscreen Controllers

### Notification Subject:

CCB 8512 Final Notice: Qualification of MTAI as an additional assembly site for selected ATMXT1386, AT32UC3B0512, ATUC256L3U, ATUC64L3U, ATUC128L3U, AT32UC3C2512C, AT32UC3C2128C, AT32UC3C264C, AT32UC3C2256C, AT32UC3B064, AT32UC3B0128, ATMXT1386E, ATMXT1716E, AT32UC3B0256, ATMXT3432S, ATSAM4LC4B, ATSAM4LS4B, ATSAM4LS2B, ATSAM4LC2B, ATSAM4LS8B and ATSAM4LC8B device families available in 64L VQFN (9x9x0.9mm) package.

### Affected CPNs:

[JPZA-01SFDV804\\_Affected\\_CPN\\_09082026.pdf](#)  
[JPZA-01SFDV804\\_Affected\\_CPN\\_09082026.csv](#)

**PCN Status:** Final Notification

**PCN Type:** Manufacturing Change

**Microchip Parts Affected:** Please open one of the files found in the Affected CPNs section.  
Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

**Description of Change:** Qualification of MTAI as an additional assembly site for selected ATMXT1386, AT32UC3B0512, ATUC256L3U, ATUC64L3U, ATUC128L3U, AT32UC3C2512C, AT32UC3C2128C, AT32UC3C264C, AT32UC3C2256C, AT32UC3B064, AT32UC3B0128, ATMXT1386E, ATMXT1716E, AT32UC3B0256, ATMXT3432S, ATSAM4LC4B, ATSAM4LS4B, ATSAM4LS2B, ATSAM4LC2B, ATSAM4LS8B and ATSAM4LC8B device families available in 64L VQFN (9x9x0.9mm) package.

### Pre and Post Summary Changes:

|  | Pre Change | Post Change | Change |
|--|------------|-------------|--------|
|  |            |             |        |

|                           |                      |         |         |                                  |                      |         |         |                                  |                                           |     |
|---------------------------|----------------------|---------|---------|----------------------------------|----------------------|---------|---------|----------------------------------|-------------------------------------------|-----|
|                           |                      |         |         |                                  |                      |         |         |                                  | (Yes/No)                                  |     |
| Assembly Site             | ASE Inc. (ASEK)      |         |         | UTAC Thai Limited (UTL-1) (NSEB) | ASE Inc.(ASEK)       |         |         | UTAC Thai Limited (UTL-1) (NSEB) | Microchip Technology Thailand (HQ) (MTAI) | Yes |
| Wire Material             | Au                   | PdCu    | CuPd Au | AuPd                             | Au                   | PdCu    | CuPd Au | AuPd                             | CuPdAu                                    | Yes |
| Die Attach Material       | EN-4900F (PFAS-Free) |         |         | 8600 (PFAS)                      | EN-4900F (PFAS-Free) |         |         | 8600 (PFAS)                      | QMI519 (PFAS-Free)                        | Yes |
| Molding Compound Material | G631H                |         |         | G770H CD                         | G631H                |         |         | G770H CD                         | G700LTD                                   | Yes |
| Lead-Frame Material       | *C194                | C7025   |         | EFTEC-64T                        | *C194                | C7025   |         | EFTEC-64T                        | *A194                                     | Yes |
| Lead-Frame Paddle Size    | 287x287              | 244x244 |         | 264x264                          | 287x287              | 244x244 |         | 264x264                          | 244x244                                   | Yes |
| DAP Surface Prep          | Ag Plating           | Bare Cu |         | Bare Cu                          | Ag Plating           | Bare Cu |         | Bare Cu                          | Ag Plating                                | Yes |
| Lead-Lock                 | No                   |         |         | U-grove                          | No                   |         |         | U-grove                          | No                                        | Yes |

Note \*: C194 and A194 lead-frame materials are the same — it is only a Microchip internal labelling difference.

**Impacts to Datasheet:** None

**Change Impact:** None

**Reason for Change:** To improve on-time delivery performance by qualifying MTAI as an additional assembly site.

**Change Implementation Status:** In Progress

**Estimated First Ship Date:** 26 October 2026 (date code: 2644)

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

**Timetable Summary:**

|                               | September 2026 |    |    |    |    | October 2026 |    |    |    |
|-------------------------------|----------------|----|----|----|----|--------------|----|----|----|
| Work Week                     | 36             | 37 | 38 | 39 | 40 | 41           | 42 | 43 | 44 |
| 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.

Note: This is a qualification by similarity (QBS) to CCB# 6917 and 7028.

**Revision History:** September 08, 2026: Issued final notification.

**Note:** The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable product.

**Attachments:**

**PCN\_JPZA-01SFDV804 Pre and Post Change Summary.pdf**

**PCN\_JPZA-01SFDV804 Qual Report 7028.pdf**

**PCN\_JPZA-01SFDV804 Qual Report 6917.pdf**

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

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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):

AT32UC3C264C-Z2UR

AT32UC3C2256C-Z2UR

AT32UC3C264C-Z2UT

AT32UC3C2128C-Z2UT

AT32UC3C2256C-Z2UT

AT32UC3B064-Z2UR

AT32UC3B0128-Z2UR

AT32UC3B064-Z2UT

AT32UC3B0128-Z2UT

ATMXT1386E-Z2UI040

ATMXT1716E-Z2UR031

ATMXT1716E-Z2UR032

ATMXT1386E-Z2UIR029

AT32UC3B0256-Z2UT

ATMXT3432S-M-Z2UR023

ATMXT1386E-Z2UIR030

ATMXT1716E-Z2UR028

ATMXT1386E-Z2UIR040

ATMXT1386E-Z2UIR033

ATMXT1386E-Z2UI035

ATMXT1386-Z2UI037

ATMXT1386-Z2U024

ATMXT1386E-Z2U039

ATMXT1386E-Z2U033

ATMXT3432S-M-Z2U034

ATMXT3432S-M-Z2U023

ATMXT1386E-Z2UIR035

ATMXT1386-Z2UIR037

ATMXT1386-Z2UIR038

ATMXT1386-Z2UR023

AT32UC3B0256-Z2UR

ATMXT1386-Z2U023

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JPZA-01SFDV804 - CCB 8512 Final Notice: Qualification of MTAI as an additional assembly site for selected ATMXT1386, AT32UC3B0512, ATUC256L3U, ATUC64L3U, ATUC128L3U, AT32UC3C2512C, AT32UC3C2128C, AT32UC3C264C, AT32UC3C2256C, AT32UC3B064, AT32UC3B0128, ATMXT1386E, ATMXT1716E, AT32UC3B0256, ATMXT3432S, ATSAM4LC4B, ATSAM4LS4B, ATSAM4LS2B, ATSAM4LC2B, ATMXT3432S-M-Z2U025

ATMXT1386E-Z2UI033

ATMXT1716E-Z2U031

ATMXT1716E-Z2U032

ATMXT3432S-M-Z2U026

ATMXT1386-Z2UR022

ATMXT1386-Z2UIR024

ATMXT1386-Z2UR020

ATMXT1716E-Z2U028

ATMXT1386-Z2UI038

ATMXT1386-Z2UR024

ATMXT1386E-Z2U022

ATSAM4LC4BA-MUR

ATSAM4LS4BA-MUR

ATSAM4LS2BA-MUR

ATSAM4LC2BA-MUR

ATSAM4LS2BA-MU

ATSAM4LC2BA-MU

ATSAM4LS4BA-MU

ATSAM4LC4BA-MU

ATSAM4LS8BA-MUR

ATSAM4LC8BA-MUR

ATSAM4LC8BA-MU

ATSAM4LS8BA-MU

ATMXT1386-Z2UI024

ATMXT1386-Z2UIR025

ATMXT1386-Z2U020

ATMXT1386-Z2U022

ATMXT1386-Z2UI025

AT32UC3B0512-Z2UR

AT32UC3B0512-Z2UT

ATUC256L3U-Z3UR

ATUC64L3U-Z3UR

ATUC128L3U-Z3UR

ATUC128L3U-Z3UT

ATUC64L3U-Z3UT

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JPZA-01SFDV804 - CCB 8512 Final Notice: Qualification of MTAI as an additional assembly site for selected ATMXT1386, AT32UC3B0512, ATUC256L3U, ATUC64L3U, ATUC128L3U, AT32UC3C2512C, AT32UC3C2128C, AT32UC3C264C, AT32UC3C2256C, AT32UC3B064, AT32UC3B0128, ATMXT1386E, ATMXT1716E, AT32UC3B0256, ATMXT3432S, ATSAM4LC4B, ATSAM4LS4B, ATSAM4LS2B, ATSAM4LC2B.

ATUC256L3U-Z3UT

AT32UC3C2512C-Z2UR

AT32UC3C2128C-Z2UR

AT32UC3C2512C-Z2UT

**CCB 8512**  
**Pre and Post Change Summary**  
**PCN #: JPZA-01SFDV804**

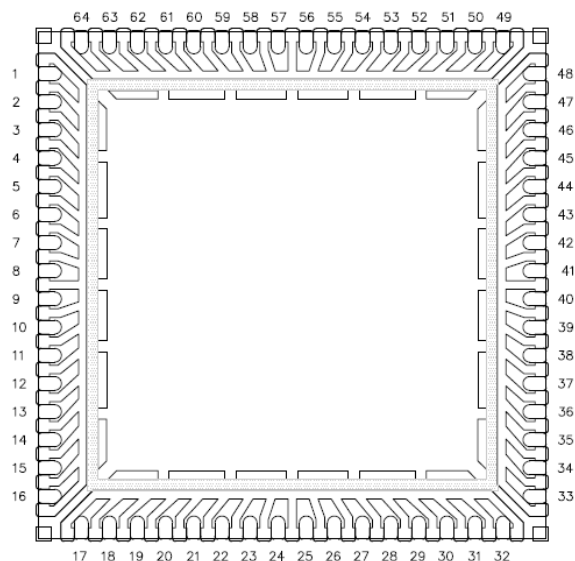


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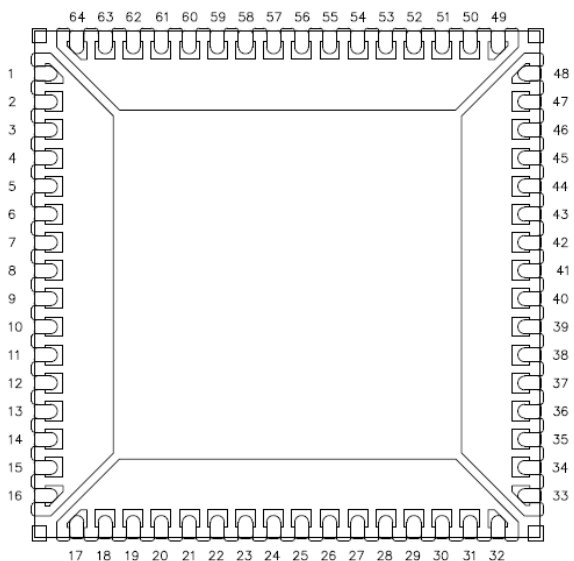
# Lead Frame Comparison – Pre Change

## ASE

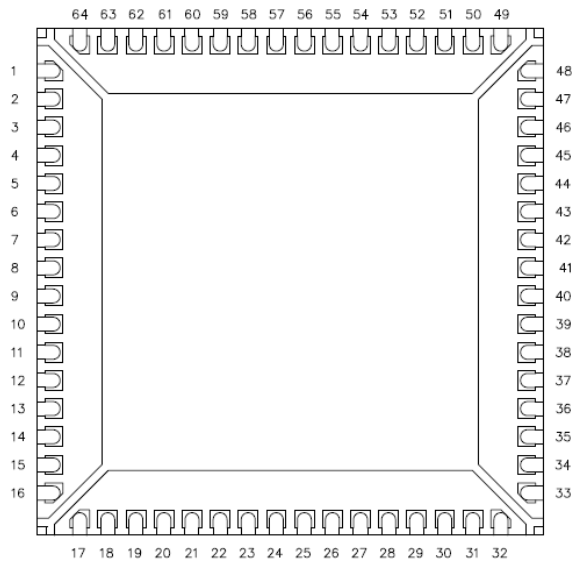


|                        |            |
|------------------------|------------|
| Lead Frame Paddle Size | 287x287    |
| Lead Frame Material    | C194       |
| Lead Frame DAP Surface | Ag Plating |
| Lead Frame Treatment   | Non-rough  |
| Lead Frame Lead-lock   | No         |

## NSEB



|                        |               |
|------------------------|---------------|
| Lead Frame Paddle Size | 244x244       |
| Lead Frame Material    | C7025         |
| Lead Frame DAP Surface | Bare Cu       |
| Lead Frame Treatment   | Roughening LF |
| Lead Frame Lead-lock   | No            |



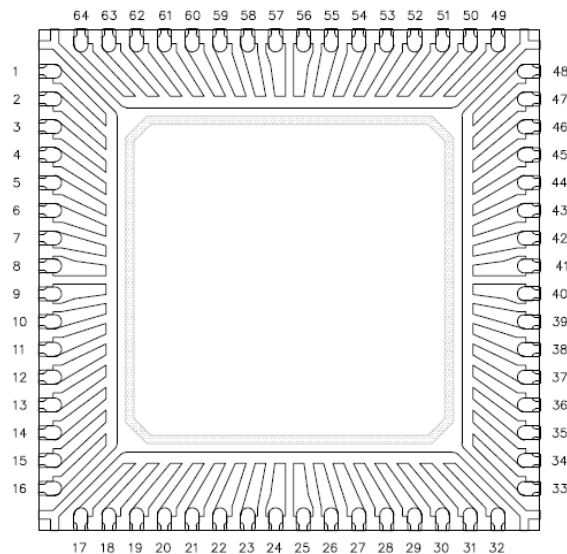
|                        |               |
|------------------------|---------------|
| Lead Frame Paddle Size | 264x264       |
| Lead Frame Material    | EFTEC-64T     |
| Lead Frame DAP Surface | Bare Cu       |
| Lead Frame Treatment   | Roughening LF |
| Lead Frame Lead-lock   | U-grove       |

Note: Not to scale

Note: C194 and A194 lead-frame materials are the same — it is only a Microchip internal labelling difference.

# Lead Frame Comparison – Post Change

## MTAI



|                        |               |
|------------------------|---------------|
| Lead Frame Paddle Size | 244x244       |
| Lead Frame Material    | A194          |
| Lead Frame DAP Surface | Ag Plating    |
| Lead Frame Treatment   | Roughening LF |
| Lead Frame Lead-lock   | No            |

*Note: Not to scale*

*Note: C194 and A194 lead-frame materials are the same — it is only a Microchip internal labelling difference.*



## **Qualification Report Summary**

**RELIABILITY LABORATORY**

**PCN #: JPZA-01SFDV804**

**Date**

**May 15, 2026**

**Qualification of MTAI as an additional assembly site for selected ATMXT1386, AT32UC3B0512, ATUC256L3U, ATUC64L3U, ATUC128L3U, AT32UC3C2512C, AT32UC3C2128C, AT32UC3C264C, AT32UC3C2256C, AT32UC3B064, AT32UC3B0128, ATMXT1386E, ATMXT1716E, AT32UC3B0256, ATMXT3432S, ATSAM4LC4B, ATSAM4LS4B, ATSAM4LS2B, ATSAM4LC2B, ATSAM4LS8B and ATSAM4LC8B device families available in 64L VQFN (9x9x0.9mm) package.**

## PACKAGE QUALIFICATION REPORT

### Purpose:

Qualification of MTAI as an additional assembly site for selected ATMXT1386, AT32UC3B0512, ATUC256L3U, ATUC64L3U, ATUC128L3U, AT32UC3C2512C, AT32UC3C2128C, AT32UC3C264C, AT32UC3C2256C, AT32UC3B064, AT32UC3B0128, ATMXT1386E, ATMXT1716E, AT32UC3B0256, ATMXT3432S, ATSAM4LC4B, ATSAM4LS4B, ATSAM4LS2B, ATSAM4LC2B, ATSAM4LS8B and ATSAM4LC8B device families available in 64L VQFN (9x9x0.9mm) package.

**MP CODE:** 58U837THBC01  
**Part No.:** ATSAM3S8BA-MU  
**Bonding No.:** BD-002270 rev.01  
**MSL information:** MSL3/260  
**Assembly Shipping**  
**Media (T/R, Tube/Tray):** Tray  
**Base Quantity Multiple**  
**(BQM):** 260  
**Reliability Site:** MPHIL  
**CCB No.:** 6917

### Lead Frame

**Paddle Size:** 287 x 287  
**Material:** A194  
**DAP Surface Prep:** Ag ring plated  
**Treatment:** Roughening  
**Process:** Etched  
**Lead Lock:** No  
**Part Number:** 10106419  
**Lead Plating:** Matte Tin  
**Strip Size:** 70 x 250 mm  
**Strip Density:** 240 units/strip

### Bond Wire

**Wire:** CuPdAu

### Die Attach Material

**Epoxy:** QMI519  
**Conductive:** Yes

### Mold Compound

**Mold Compound:** G700LTD

### Package

**PKG Type:** VQFN  
**Pin/Ball Count:** 64  
**PKG Width/Size:** 9x9x1.0 mm

## Manufacturing Information

| Assembly Lot No.  |
|-------------------|
| MTAI250900937.000 |
| MTAI250900938.000 |
| MTAI250900939.000 |
| MTAI264900360.000 |
| MTAI264900361.000 |
| MTAI264900362.000 |

Result: **Pass**

### Conclusion:

58U83 in VQFN 64 9x9 (THB) package, assembled in MTAI pass reliability tests which was conducted at MPHL rel lab. This package is qualified Moisture/Reflow Sensitivity Classification Level 3 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard.

## PACKAGE QUALIFICATION REPORT

| Test Number<br>(Reference)                                                       | Test Condition                                                                                                                                                                       | Standard/<br>Method                              | Qty.<br>(Acc.)      | Def/SS.                                              | Result                 | Remarks                                        |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------|------------------------------------------------------|------------------------|------------------------------------------------|
| <b>Precondition<br/>Prior Perform<br/>Reliability Tests<br/>(At MSL Level 3)</b> | <b>Electrical Test :</b><br>25°C D10I_UC<br>85°C D10I_UC                                                                                                                             | JESD22-A113<br>, JIP/IPC/JED<br>EC<br>J-STD-020E | 231 per<br>lot      | Lot 1<br>0/231,<br>Lot 2<br>0/231,<br>Lot 3<br>0/231 | Pass,<br>Pass,<br>Pass | Good Devices                                   |
|                                                                                  | Bake 150°C, 24 hrs<br><b>System:</b> HERAEUS                                                                                                                                         |                                                  | 231 per<br>lot      |                                                      |                        |                                                |
|                                                                                  | Moisture Soak<br>192h(30°C/60%RH)<br><b>System:</b> VOTSCH VC4034                                                                                                                    |                                                  | 231 per<br>lot      |                                                      |                        |                                                |
|                                                                                  | Reflow<br>3x Convection-Reflow 265°C<br>max<br><b>System:</b> Mancorp CR.5000F                                                                                                       |                                                  | 231 per<br>lot      | Lot 1<br>0/231,<br>Lot 2<br>0/231,<br>Lot 3<br>0/231 | Pass,<br>Pass,<br>Pass |                                                |
|                                                                                  | <b>Electrical Test :</b><br>25°C D10I_UC<br>85°C D10I_UC                                                                                                                             |                                                  | 231 per<br>lot      | Lot 1<br>0/231,<br>Lot 2<br>0/231,<br>Lot 3<br>0/231 | Pass,<br>Pass,<br>Pass |                                                |
| <b>High Temperature<br/>Storage Life</b>                                         | <b>Stress Condition:</b><br>Bake 175°C, 500 hrs<br><b>System:</b> HERAEUS<br><b>Electrical Test:</b><br>25°C D10I_UC<br>85°C D10I_UC                                                 | JESD22-A103                                      | 45 units 1<br>lot   | Lot 1<br>0/45,<br>Lot 2<br>0/45,<br>Lot 3<br>0/45    | Pass,<br>Pass,<br>Pass |                                                |
| <b>HAST</b>                                                                      | <b>Stress Condition:</b> (Standard)<br>130°C, 85%RH, 96 hrs.<br>VOLTS=5.5V<br><b>System:</b> HIRAYAMA HASTEST<br>PC-422R8<br><b>Electrical Test:</b><br>25°C D10I_UC<br>85°C D10I_UC | JESD22-A110                                      | 77 units<br>per lot | Lot 1<br>0/77,<br>Lot 2<br>0/77,<br>Lot 3<br>0/77    | Pass,<br>Pass,<br>Pass | Parts had been<br>pre-conditioned at<br>260°C. |
| <b>UNBIASED HAST</b>                                                             | <b>Stress Condition:</b> (Standard)<br>130°C, 85%RH, 96 hrs..<br><b>System:</b> HIRAYAMA HASTEST<br>PC-422R8<br><b>Electrical Test:</b><br>25°C D10I_UC                              | JESD22-A118                                      | 77 units<br>per lot | Lot 1<br>0/77,<br>Lot 2<br>0/77,<br>Lot 3<br>0/77    | Pass,<br>Pass,<br>Pass | Parts had been<br>pre-conditioned at<br>260°C  |

## PACKAGE QUALIFICATION REPORT

| Test Number<br>(Reference)        | Test Condition                                                                                                                                            | Standard/<br>Method   | Qty.<br>(Acc.)                 | Def/SS.                                           | Result                 | Remarks                                       |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------|---------------------------------------------------|------------------------|-----------------------------------------------|
| Temp Cycle                        | <b>Stress Condition:</b> (Standard)<br>-65°C/150°C, 500 Cycles<br><b>System :</b> Votsch VTS <sup>2</sup> 7012<br><b>Electrical Test:</b><br>85°C D10I_UC | JESD22-A104           | 77 units<br>per lot            | Lot 1<br>0/77,<br>Lot 2<br>0/77,<br>Lot 3<br>0/77 | Pass,<br>Pass,<br>Pass | Parts had been<br>pre-conditioned at<br>260°C |
|                                   | Wire Bond Pull WBP                                                                                                                                        | Mil. Std.<br>883-2011 | 5 units,<br>30 bonds,<br>1 lot | Lot 1 0/30                                        | Pass                   |                                               |
| Wire Bond Pull<br>WBP, 0 Hour     |                                                                                                                                                           | Mil. Std.<br>883-2011 | 5 units,<br>30 bonds,<br>1 lot | Lot 1 0/30                                        | Pass                   |                                               |
| Wire Bond Shear<br>WBS, 0Hour     |                                                                                                                                                           | CDF-AEC-Q1<br>00-001  | 5 units,<br>30 bonds,<br>1 lot | Lot 1 0/30                                        | Pass                   |                                               |
| Standard Pb-free<br>Solderability | >95% lead coverage                                                                                                                                        | J-STD-002E            | 22 units<br>1 lot              | 0/22                                              | Pass                   |                                               |



## **Qualification Report Summary**

**RELIABILITY LABORATORY**

**PCN #: JPZA-01SFDV804**

**Date**

**December 3, 2024**

**Qualification of MTAI as an additional assembly site for selected ATMXT1386, AT32UC3B0512, ATUC256L3U, ATUC64L3U, ATUC128L3U, AT32UC3C2512C, AT32UC3C2128C, AT32UC3C264C, AT32UC3C2256C, AT32UC3B064, AT32UC3B0128, ATMXT1386E, ATMXT1716E, AT32UC3B0256, ATMXT3432S, ATSAM4LC4B, ATSAM4LS4B, ATSAM4LS2B, ATSAM4LC2B, ATSAM4LS8B and ATSAM4LC8B device families available in 64L VQFN (9x9x0.9mm) package. This is Q006 Grade 2 Qualification.**

## PACKAGE QUALIFICATION REPORT

### Purpose:

Qualification of MTAI as an additional assembly site for selected ATMXT1386, AT32UC3B0512, ATUC256L3U, ATUC64L3U, ATUC128L3U, AT32UC3C2512C, AT32UC3C2128C, AT32UC3C264C, AT32UC3C2256C, AT32UC3B064, AT32UC3B0128, ATMXT1386E, ATMXT1716E, AT32UC3B0256, ATMXT3432S, ATSAM4LC4B, ATSAM4LS4B, ATSAM4LS2B, ATSAM4LC2B, ATSAM4LS8B and ATSAM4LC8B device families available in 64L VQFN (9x9x0.9mm) package. This is Q006 Grade 2 Qualification.

|                      |                   |
|----------------------|-------------------|
| <b>CN:</b>           | E000235827        |
| <b>QUAL ID:</b>      | R2400901          |
| <b>QUAL ID Rev.:</b> | B                 |
| <b>MP CODE:</b>      | XA8011R4XA0C      |
| <b>Part No.:</b>     | LAN9252/ML        |
| <b>Bonding No.:</b>  | BD-002483 Rev. 01 |
| <b>CCB No.:</b>      | 7028              |

### Lead Frame

|                          |                |
|--------------------------|----------------|
| <b>Paddle Size:</b>      | 244 x 244 mils |
| <b>Material:</b>         | A194           |
| <b>DAP Surface Prep:</b> | Ag ring plated |
| <b>Treatment:</b>        | Roughening     |
| <b>Process:</b>          | Etched         |
| <b>Lead Lock:</b>        | No             |
| <b>Part Number:</b>      | 10106416       |
| <b>Lead Plating:</b>     | Matte Sn       |

### Bond Wire

|              |             |
|--------------|-------------|
| <b>Wire:</b> | CuPdAu wire |
|--------------|-------------|

### Die Attach Material

|               |        |
|---------------|--------|
| <b>Epoxy:</b> | QMI519 |
|---------------|--------|

### Mold Compound

|                       |         |
|-----------------------|---------|
| <b>Mold Compound:</b> | G700LTD |
|-----------------------|---------|

### Package

|                        |          |
|------------------------|----------|
| <b>PKG Type:</b>       | 64L QFN  |
| <b>PKG Width/Size:</b> | 9 x 9 mm |

## Manufacturing Information

| Assembly Lot No.  | Wafer Lot No.     | Date Code |
|-------------------|-------------------|-----------|
| MTAI251301704.000 | TC14923292824.500 | 2426QU0   |
| MTAI251301823.000 | TC14923292824.500 | 2426RR4   |
| MTAI251301829.000 | TC14923292824.500 | 2426RSB   |

Result: **Pass**

### Conclusion:

64L QFN (9x9 mm) assembled by MTAI 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<br>(Reference)                                                          | Test Condition                                                                                                                                                                                   | Standard/<br>Method     | Qty.<br>(Acc.) | Def/SS. | Result | Remarks      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------|---------|--------|--------------|
| <b>Moisture/Reflow<br/>Sensitivity<br/>Classification Test<br/>(At MSL Level 1)</b> | 85°C/ 85%RH Moisture Soak<br>168 hrs.<br><b>System:</b> TABAI ESPEC Model<br>PR-3SPH<br>3x Convection-Reflow 265°C<br>max<br><b>System:</b> Vitronics Soltec<br>MR1243<br>(IPC/JEDEC J-STD-020E) | IPC/JEDEC<br>J-STD-020E | 135(0)         | 0/135   | Pass   |              |
|                                                                                     | <b>Electrical Test:</b> +25°C, 85°C<br>and 105°C<br><b>System:</b> EX_DIGITAL                                                                                                                    | JESD22-A113             | 693(0)         | 0/693   | Pass   | Good Devices |
|                                                                                     | Bake 150°C, 24 hrs<br><b>System:</b> CHINEE                                                                                                                                                      |                         |                | 693     |        |              |
|                                                                                     | 85°C/85%RH Moisture Soak 168<br>hrs.<br><b>System:</b> TABAI ESPEC Model<br>PR-3SPH                                                                                                              |                         |                | 693     |        |              |
|                                                                                     | 3x Convection-Reflow 265°C<br>max<br><b>System:</b> Vitronics Soltec<br>MR1243                                                                                                                   |                         |                | 693     |        |              |
| <b>Precondition Prior<br/>Perform Reliability<br/>Tests (At MSL<br/>Level 1)</b>    | <b>Electrical Test:</b> +25°C, 85°C,<br>and 105°C<br><b>System:</b> EX_DIGITAL                                                                                                                   |                         |                | 0/693   | Pass   |              |

## PACKAGE QUALIFICATION REPORT

| Test Number<br>(Reference) | Test Condition                                                                                                                                                                                                         | Standard/<br>Method | Qty.<br>(Acc.) | Def/SS.      | Result | Remarks                                                          |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|--------------|--------|------------------------------------------------------------------|
| Temp Cycle                 | <b>Stress Condition:</b><br>-55°C to +125°C, 1000 Cycles<br><b>System:</b> VOTSCH<br><b>Electrical Test:</b> +25°C, 85°C,<br>and 105°C<br><b>System:</b> EX_DIGITAL                                                    | JESD22-A104         | 231(0)         | 231<br>0/231 | Pass   | Parts had been<br>pre-conditioned at<br>260°C                    |
|                            | <b>Bond Strength:</b><br>Wire Pull (>3.00 grams)                                                                                                                                                                       |                     | 45(0)          | 0/45         | Pass   |                                                                  |
|                            | Bond Shear (>8.00 grams)                                                                                                                                                                                               |                     |                |              |        |                                                                  |
|                            | <b>Stress Condition:</b><br>-55°C to +125°C, 2000 Cycles<br><b>System:</b> VOTSCH<br><b>Electrical Test:</b> +25°C, 85°C,<br>and 105°C<br><b>System:</b> EX_DIGITAL                                                    |                     | 231(0)         | 231<br>0/231 | Pass   |                                                                  |
|                            | <b>Bond Strength:</b><br>Wire Pull (>3.00 grams)                                                                                                                                                                       |                     | 45(0)          | 0/45         | Pass   |                                                                  |
|                            | Bond Shear (>8.00 grams)                                                                                                                                                                                               |                     |                |              |        |                                                                  |
| HAST                       | <b>Stress Condition:</b><br>+130°C/85%RH, 96 hrs.<br><b>Bias Volt:</b> PS1=1.2 Volts;<br>PS3=3.3 Volts<br><b>System:</b> HAST 6000X<br><b>Electrical Test:</b> +25°C, 85°C,<br>and 105°C<br><b>System:</b> EX_DIGITAL  | JESD22-A110         | 231(0)         | 231<br>0/231 | Pass   | Parts had been<br>pre-conditioned at<br>260°C; 77 units /<br>lot |
|                            | <b>Bond Strength:</b><br>Wire Pull (>3.00 grams)                                                                                                                                                                       |                     | 45(0)          | 0/45         | Pass   |                                                                  |
|                            | Bond Shear (>8.00 grams)                                                                                                                                                                                               |                     |                |              |        |                                                                  |
|                            | <b>Stress Condition:</b><br>+130°C/85%RH, 192 hrs.<br><b>Bias Volt:</b> PS1=1.2 Volts;<br>PS3=3.3 Volts<br><b>System:</b> HAST 6000X<br><b>Electrical Test:</b> +25°C, 85°C,<br>and 105°C<br><b>System:</b> EX_DIGITAL |                     | 231(0)         | 231<br>0/231 | Pass   |                                                                  |
|                            | <b>Bond Strength:</b><br>Wire Pull (>3.00 grams)                                                                                                                                                                       |                     | 45(0)          | 0/45         | Pass   |                                                                  |
|                            | Bond Shear (>8.00 grams)                                                                                                                                                                                               |                     |                |              |        |                                                                  |

## PACKAGE QUALIFICATION REPORT

| Test Number<br>(Reference)    | Test Condition                                                                                                                                           | Standard/<br>Method | Qty.<br>(Acc.) | Def/SS.          | Result | Remarks                                                 |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|------------------|--------|---------------------------------------------------------|
| UNBIASED-HAST                 | <b>Stress Condition:</b><br>+130°C/85%RH, 96 hrs.<br><b>System:</b> HAST 6000X<br><b>Electrical Test:</b> +25°C<br><b>System:</b> EX_DIGITAL             | JESD22-A118         | 231(0)         | 231<br><br>0/231 | Pass   | Parts had been pre-conditioned at 260°C; 77 units / lot |
| High Temperature Storage Life | <b>Stress Condition:</b><br>Bake 150°C, 500 hrs<br><b>System:</b> CHINEE<br><b>Electrical Test:</b> +25°C, 85°C, and 105°C<br><b>System:</b> EX_DIGITAL  | JESD22-A103         | 135(0)         | 135<br><br>0/135 | Pass   | 45 units / lot                                          |
|                               | <b>Stress Condition:</b><br>Bake 150°C, 1000 hrs<br><b>System:</b> CHINEE<br><b>Electrical Test:</b> +25°C, 85°C, and 105°C<br><b>System:</b> EX_DIGITAL |                     | 135(0)         | 135<br><br>0/135 | Pass   |                                                         |
| Bond Strength Data Assembly   | Wire Pull (> 3.00 grams)                                                                                                                                 | Mil. Std. 883-2011  | 30(0) Wires    | 0/30             | Pass   |                                                         |
|                               | Bond Shear (>8.00 grams)                                                                                                                                 | CDF-AEC-Q1 00-001   | 30(0) bonds    | 0/30             | Pass   |                                                         |