# Product Change Notification / NTDO-11AIEB760

## Date:

16-Jun-2022

## Product Category:

Ethernet PHYs

## PCN Type:

Manufacturing Change

## Notification Subject:

CCB 5010.001 Final Notice: Qualification of MTAI as an additional assembly site for LAN8710A-EZC-ABC, LAN8710AI-EZK-ABC, LAN8710A-EZC-TR-ABC and LAN8710AI-EZK-TR-ABC catalog part numbers (CPN) available in 32L QFN (5x5x0.9mm) package.

## Affected CPNs:

NTDO-11AIEB760_Affected_CPN_06162022.pdf
NTDO-11AIEB760_Affected_CPN_06162022.csv

## Notification Text:

**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 LAN8710A-EZC-ABC, LAN8710AI-EZK-ABC, LAN8710A-EZC-TR-ABC and LAN8710AI-EZK-TR-ABC catalog part numbers (CPN) available in 32L QFN (5x5x0.9mm) package.

**Pre and Post Change Summary:**

| | | Pre Change | Post Change | |
|---|---|---|---|---|
| Assembly Site | | ASE Inc. (ASE) | ASE Inc. (ASE) | Microchip Technology Thailand (HQ) - (MTAI) |
| Wire Material | | PdCu | PdCu | CuPdAu |
| Die Attach Material | | EN-4900F | EN-4900F | 3280 |
| Molding Compound Material | | G631H | G631H | G700LTD |
| Lead-Frame | Material* | C194 | C194 | A194 |
| | Paddle Size | 138 x 138mils | 138 x 138mils | 138 x 138mils |
| | | See attached pre and post change comparison | | |

**Note:***C194, A194 or CDA194 Lead frame material are the same, it is just a MCHP internal labelling difference.

**Impacts to Data Sheet:**
None

**Change Impact**None

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

**Change Implementation Status:**In Progress

**Estimated First Ship Date:**May 31, 2022 (date code: 2223)

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

**Time Table Summary:**

| | May 2022 | | | | |
|---|---|---|---|---|---|
| Workweek | 19 | 20 | 21 | 22 | 23 |
| 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:May 16, 2022:** Issued final notification.
**June 16, 2022:** Re-issued to correct leadframe material from A194 to C194 for ASE and paddle size for MTAI to 138 x 138mils.

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

## Attachments:

PCN_NTDO-11AIEB760_Pre and Post Change_Summary.pdf
PCN_NTDO-11AIEB760_Qual_Report.pdf

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

**Terms and Conditions:**

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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)

LAN8710A-EZC-ABC
LAN8710AI-EZK-ABC
LAN8710A-EZC-TR-ABC
LAN8710AI-EZK-TR-ABC

# CCB 5010.001
# Pre and Post Change Summary
# PCN#: NTDO-11AIEB760

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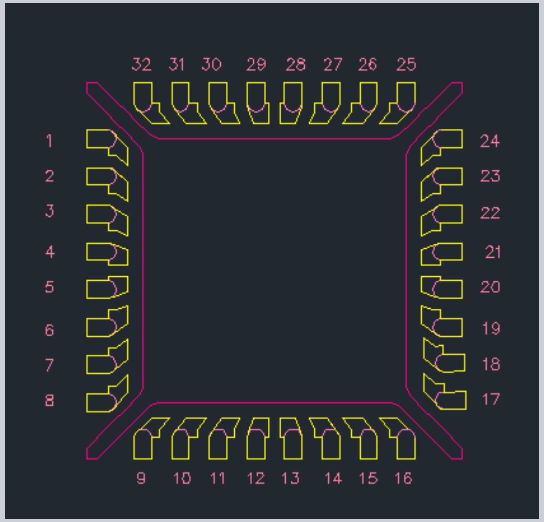
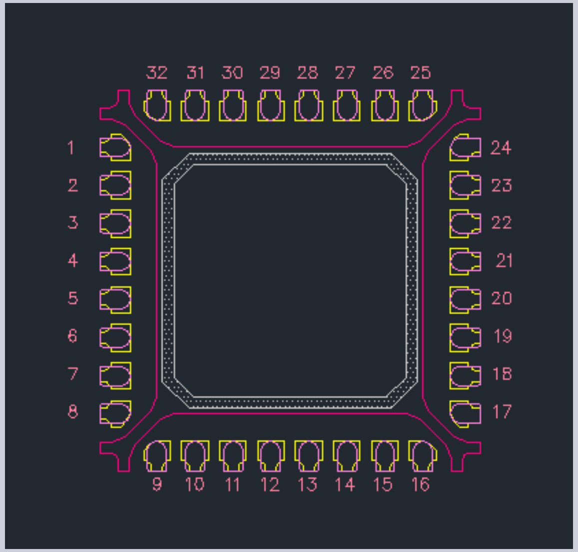
# Lead frame comparison

## ASE



| | |
|---|---|
| Lead Frame material | A194 |
| Lead Frame Paddle size | 138 x 138mils |

## MTAI



| | |
|---|---|
| Lead Frame material | A194 |
| Lead Frame Paddle size | 169 x 169mils |

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# QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

## PCN #: NTDO-11AIEB760

**Date:**
**March 28, 2022**

## Qualification of MTAI as an additional assembly site for selected USB251xx and USX206xx device families available in 36L SQFN (6x6x1.0mm) package. The qualification of MTAI as an additional assembly site for LAN8710A-EZC-ABC, LAN8710AI-EZK-ABC, LAN8710A-EZC-TR-ABC and LAN8710AI-EZK-TR-ABC catalog part numbers (CPN) available in 32L QFN (5x5x0.9mm) package will qualify by similarity (QBS).

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# PACKAGE QUALIFICATION REPORT

| | |
|---|---|
| **Purpose** | Qualification of MTAI as an additional assembly site for selected USB251xx and USX206xx device families available in 36L SQFN (6x6x1.0mm) package. The qualification of MTAI as an additional assembly site for LAN8710A-EZC-ABC, LAN8710AI-EZK-ABC, LAN8710A-EZC-TR-ABC and LAN8710AI-EZK-TR-ABC catalog part numbers (CPN) available in 32L QFN (5x5x0.9mm) package will qualify by similarity (QBS). |
| **CN** | E000083413 |
| **QUAL ID** | R2200096 rev A |
| **MP CODE** | XG3717UDXD0C |
| **Part No.** | USB2514B-I/M2 |
| **Bonding No.** | BD-000257 Rev. 01 |
| **CCB No.** | 5010 and 5010.001 |
| **Package** | |
| **Type** | 36L SQFN |
| **Package size** | 6 x 6 x 1.0 mm |
| **Lead Frame** | |
| **Paddle size** | 169 x 169 mils |
| **Material** | A194 |
| **Surface** | Ag Ring plating |
| **Process** | Etched |
| **Lead Lock** | Yes |
| **Part Number** | 10103603 |
| **Material** | |
| **Epoxy** | 3280 |
| **Wire** | CuPdAu wire |
| **Mold Compound** | G700LTD |
| **Plating Composition** | Matte Sn |

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# PACKAGE QUALIFICATION REPORT

## Manufacturing Information

| Assembly Lot No. | Wafer Lot No. | Date Code |
|---|---|---|
| MTAI223802928.000 | GF07922239121.100 | 215001V |
| MTAI223802959.000 | GF07922239121.100 | 215028H |
| MTAI223802960.000 | GF07922239121.100 | 215028J |

**Result** ☒ Pass ☐ Fail ☐ ____________________

36L SQFN (6x6x1.0 mm) assembled by MTAI pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 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 |
|---|---|---|---|---|---|---|
| **Precondition Prior Perform Reliability Tests (At MSL Level 3)** | **Electrical Test:** +25°C and 85°C<br>System: LTX_D10 | JESD22-A113 | 693(0) | 693 | | Good Devices |
| | Bake 150°C, 24 hrs<br>System: CHINEE | JIP/ IPC/JEDEC J-STD-020E | | 693 | | |
| | 30°C/60%RH Moisture Soak 192 hrs.<br>System: TABAI ESPEC Model PR-3SPH | | | 693 | | |
| | 3x Convection-Reflow 265°C max<br>System: Vitronics Soltec MR1243 | | | 693 | | |
| | **Electrical Test:** +25°C and 85°C<br>System: LTX_D10 | | | 0/693 | Pass | |

# 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:** +85°C<br>System: LTX_D10 | | 231(0) | 0/231 | Pass | 77 units / lot |
| | **Bond Strength:**<br>Wire Pull (>3.00 grams) | | 15 (0) | 0/15 | Pass | |
| | Bond Shear (>10.00 grams) | | 15 (0) | 0/15 | Pass | |
| **UNBIASED-HAST** | **Stress Condition:**<br>+130°C/85%RH, 96 hrs.<br>System: HAST 6000X | JESD22-A118 | | 231 | | Parts had been pre-conditioned at 260°C |
| | **Electrical Test:** +25°C<br>System: LTX_D10 | | 231(0) | 0/231 | Pass | 77 units / lot |
| **HAST** | **Stress Condition:**<br>+130°C/85%RH, 96 hrs. **Bias Volt:** 3.6 Volts<br>System: HAST 6000X | JESD22-A110 | | 231 | | Parts had been pre-conditioned at 260°C |
| | **Electrical Test:** +25°C and 85°C<br>System: LTX_D10 | | 231(0) | 0/231 | Pass | 77 units / lot |

# PACKAGE QUALIFICATION REPORT

| Test Number (Reference) | Test Condition | Standard/ Method | Qty. (Acc.) | Def/SS. | Result | Remarks |
|---|---|---|---|---|---|---|
| **High Temperature Storage Life** | **Stress Condition:**<br>Bake 175°C, 504 hrs<br>System: SHEL LAB | JESD22-A103 | | 135 | | 45 units / lot |
| | **Electrical Test:** +25°C and 85°C<br>System: LTX_D10 | | 135(0) | 0/135 | Pass | |
| **Solderability 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 | |
| **Wire sweep** | Wire sweep Inspection<br>15 Wires / lot | - | 45(0) Wires | 0/45 | Pass | |
| **Physical Dimensions** | Physical Dimension,<br>10 units from 1 lot | JESD22-B100/B108 | 30(0) Units | 0/30 | Pass | |
| **Bond Strength Data Assembly** | Wire Pull (>3.00 grams) | Mil. Std. 883-2011 | 30 (0) Wires | 0/30 | Pass | |
| | Bond Shear (>10.00 grams) | CDF-AEC-Q100-001 | 30 (0) bonds | 0/30 | Pass | |