



## Product Change Notification / LIAL-15QPNY176

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### Date:

21-Dec-2020

### Product Category:

Instrumentation Amplifier, Linear Op Amps, Memory, Temperature Sensors

### PCN Type:

Manufacturing Change

### Notification Subject:

CCB 4506 Initial Notice: Qualification of MMT as an additional assembly site for selected products available in 8L TDFN (2x3x0.8mm) package.

### Affected CPNs:

[LIAL-15QPNY176\\_Affected\\_CPN\\_12212020.pdf](#)  
[LIAL-15QPNY176\\_Affected\\_CPN\\_12212020.csv](#)

### Notification Text:

**PCN Status:**Initial 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 an additional assembly site for selected products available in 8L TDFN (2x3x0.8mm) package.

#### Pre Change:

Assembled at NSEB using gold (Au) bond wire or palladium coated copper with gold flash (CuPdAu) bond wire, 8200T die attach or 8600 die attach material and with lead-lock lead frame.

#### Post Change:

Assembled at NSEB using gold (Au) bond wire or palladium coated copper with gold flash (CuPdAu) bond wire, 8200T die attach or 8600 die attach material with lead-lock lead frame or assembled at MMT using palladium coated copper with gold

flash (CuPdAu) bond wire, 3280 die attach material and without lead-lock lead frame.

**Pre and Post Change Summary:**

|                                  | Pre Change                                |        | Post Change                               |        |                                                          |
|----------------------------------|-------------------------------------------|--------|-------------------------------------------|--------|----------------------------------------------------------|
| <b>Assembly Site</b>             | UTAC Thai Limited<br>(UTL-1) LTD.<br>NSEB |        | UTAC Thai Limited<br>(UTL-1) LTD.<br>NSEB |        | Microchip Technology<br>Thailand<br><br>(Branch)/<br>MMT |
| <b>Wire material</b>             | Au                                        | CuPdAu | Au                                        | CuPdAu | CuPdAu                                                   |
| <b>Die attach material</b>       | 8200T                                     | 8600   | 8200T                                     | 8600   | 3280                                                     |
| <b>Molding compound material</b> | G700LTD                                   |        | G700LTD                                   |        | G700LTD                                                  |
| <b>Lead frame material</b>       | A194                                      |        | A194                                      |        | A194                                                     |
| <b>Lead Frame Lead Lock</b>      | Yes                                       |        | Yes                                       |        | No                                                       |

**Impacts to Data Sheet:**None

**Change Impact:**None

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

**Change Implementation Status:**In Progress

**Estimated Qualification Completion Date:**February 2021

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

**Time Table Summary:**

|                          | December 2020 |    |    |    |    | --> | February 2021 |    |    |    |    |
|--------------------------|---------------|----|----|----|----|-----|---------------|----|----|----|----|
|                          | 49            | 50 | 51 | 52 | 53 |     | 05            | 06 | 07 | 08 | 09 |
| Initial PCN Issue Date   |               |    |    | X  |    |     |               |    |    |    |    |
| Qual Report Availability |               |    |    |    |    |     |               |    | X  |    |    |
| Final PCN Issue Date     |               |    |    |    |    |     |               |    | X  |    |    |

**Method to Identify Change:**Traceability code

**Qualification Plan:**Please open the attachments included with this PCN labeled as PCN\_#\_Qual\_Plan.

**Revision History:**December 21, 2020: Issued initial notification.

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

## **Attachments:**

[PCN LIAL-15QPNY176\\_Qual Plan.pdf](#)

[PCN\\_LIAL-15QPNY176\\_Pre and Post Change Lead frame comparison.pdf](#)

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

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**CCB 4506**  
**Pre and Post Change Lead Frame Comparison**  
**PCN # LIAL-15QPNY176**



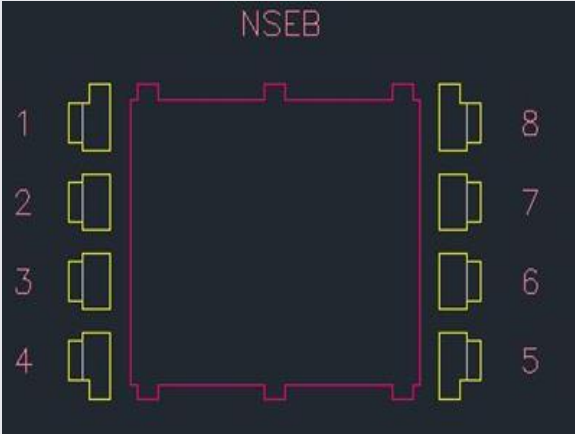
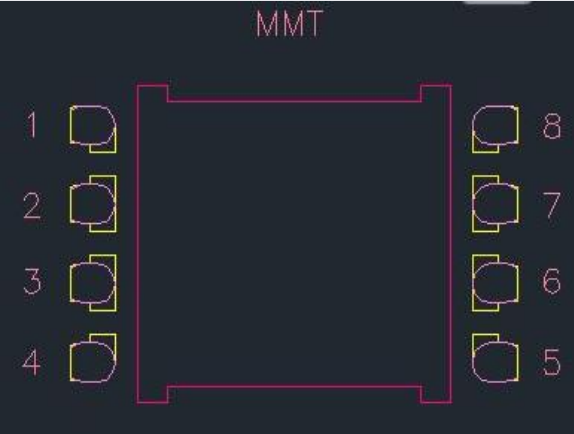
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# Lead frame comparison

| Pre change                                                                                                                                                                                                                                                                                                                                                                      | Post Change                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NSEB</b>                                                                                                                                                                                                                                                                                                                                                                     | <b>MMT</b>                                                                                                                                                                                                                                                                                                                                                                       |
|  <p>The diagram shows a rectangular lead frame with a pink outline. It has eight leads, numbered 1 through 4 on the left and 8 through 5 on the right. The leads are rectangular and have a small notch on their inner side. The word "NSEB" is written in pink at the top of the diagram.</p> |  <p>The diagram shows a rectangular lead frame with a pink outline. It has eight leads, numbered 1 through 4 on the left and 8 through 5 on the right. The leads are rectangular and have a small notch on their inner side. The word "MMT" is written in pink at the top of the diagram.</p> |



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# **QUALIFICATION PLAN SUMMARY**

**PCN#: LIAL-15QPNY176**

**December 10, 2020**

**Qualification of MMT as an additional assembly site for selected products available in 8L TDFN (2x3x0.8mm) package.**

**Purpose: Qualification of MMT as an additional assembly site for selected products available in 8L TDFN (2x3x0.8mm) package.**

|                             |                                          |                  |
|-----------------------------|------------------------------------------|------------------|
| <b><u>Misc.</u></b>         | Assembly site                            | MMT              |
|                             | BD Number                                | BDM-002777       |
|                             | CCB#                                     | 4506             |
|                             | MP Code (MPC)                            | D5AP1Y5QXB00     |
|                             | Part Number (CPN)                        | 25AA640AT-E/MNY  |
|                             | MSL information                          | MSL-1@260C       |
|                             | Assembly Shipping Media (T/R, Tube/Tray) | Tube             |
|                             | Base Quantity Multiple (BQM)             | 3300             |
|                             | Reliability Site                         | MTAI             |
| <b><u>Lead-Frame</u></b>    | Paddle size                              | 83x71            |
|                             | Material                                 | A194             |
|                             | DAP Surface Prep                         | NiPdAu (PPF)     |
|                             | Treatment                                | Rough PPF (ME2)  |
|                             | Process                                  | Etched           |
|                             | Lead-lock                                | No               |
|                             | Part Number                              | 10100853         |
|                             | Lead Plating                             | NiPdAu (PPF)     |
|                             | Strip Size                               | 250x70mm         |
|                             | Strip Density                            | 1690 units/Strip |
| <b><u>Bond Wire</u></b>     | Material                                 | CuPdAu           |
| <b><u>Die Attach</u></b>    | Part Number                              | 3280             |
|                             | Conductive                               | Yes              |
| <b><u>Mold Compound</u></b> | Part Number                              | G700LTD          |
| <b><u>PKG</u></b>           | PKG Type                                 | TDFN             |
|                             | Pin/Ball Count                           | 8                |
|                             | PKG width/size                           | 2x3x0.8mm        |

| Test Name                                            | Conditions                                                                                                                                                                                                                                      | Sample Size                                               | Min. Qty of Spares per Lot (should be properly marked) | Qty of Lots | Total Units | Fail Accept Qty     | Special Instructions                                                                                                                                                                                                         |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------|-------------|-------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard Pb-free Solderability                       | J-STD-002D ; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing.<br><br>Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages. | 22                                                        | 5                                                      | 1           | 27          | > 95% lead coverage | Standard Pb-free solderability is the requirement.<br><br>SnPb solderability (backward solderability-SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes. |
| Backward Solderability                               | J-STD-002D ;Perform 8 hours steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing.<br><br>Backward: Matte tin/ NiPdAu finish, SnPb solder, wetting temp 215°C for SMD.                                     | 22                                                        | 5                                                      | 1           | 27          | > 95% lead coverage |                                                                                                                                                                                                                              |
| Wire Bond Pull - WBP                                 | Mil. Std. 883-2011                                                                                                                                                                                                                              | 5                                                         | 0                                                      | 1           | 5           | 0 fails after TC    | 30 bonds from a min. 5 devices.                                                                                                                                                                                              |
| Wire Bond Shear - WBS                                | CDF-AEC-Q100-001                                                                                                                                                                                                                                | 5                                                         | 0                                                      | 1           | 5           | 0                   | 30 bonds from a min. 5 devices.                                                                                                                                                                                              |
| Wire Sweep                                           |                                                                                                                                                                                                                                                 |                                                           |                                                        |             |             |                     | Required for any reduction in wire bond thickness.                                                                                                                                                                           |
| Physical Dimensions                                  | Measure per JESD22 B100 and B108                                                                                                                                                                                                                | 10                                                        | 0                                                      | 3           | 30          | 0                   |                                                                                                                                                                                                                              |
| External Visual                                      | Mil. Std. 883-2009/2010                                                                                                                                                                                                                         | All devices prior to submission for qualification testing | 0                                                      | 3           | ALL         | 0                   |                                                                                                                                                                                                                              |
| Preconditioning - Required for surface mount devices | +150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at +25°C. and hot MSL-1 @260                              | 231                                                       | 15                                                     | 3           | 738         | 0                   | Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test.                                                                                                                    |
| HAST                                                 | +130°C/85% RH for 96 hours or 110°C/85%RH for 264 hours.<br>Electrical test pre and post stress at +25°C and hot temp.<br><br>2X Extended stress<br>Max temp testing at 125C.                                                                   | 77                                                        | 5                                                      | 3           | 246         | 0                   | Spares should be properly identified. Use the parts which have gone through Pre-conditioning.                                                                                                                                |
| UHAST                                                | +130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs.<br>Electrical test pre and post stress at +25°C<br><br>2X Extended stress<br>Max temp testing at 125C.                                                                                   | 77                                                        | 5                                                      | 3           | 246         | 0                   | Spares should be properly identified. Use the parts which have gone through Pre-conditioning.                                                                                                                                |



| Test Name  | Conditions                                                                                                                                                                                                                                             | Sample Size | Min. Qty of Spares per Lot (should be properly marked) | Qty of Lots | Total Units | Fail Accept Qty | Special Instructions                                                                                                |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------|-------------|-------------|-----------------|---------------------------------------------------------------------------------------------------------------------|
| Temp Cycle | <p>-65°C to +150°C for 500 cycles.<br/>           Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.</p> <p>2X Extended stress<br/>           Max temp testing at 125C.</p> | 77          | 5                                                      | 3           | 246         | 0               | <p>Spares should be properly identified.<br/>           Use the parts which have gone through Pre-conditioning.</p> |

Affected Catalog Part Numbers (CPN)

93LC66BT-I/MNY  
93AA66BT-I/MNY  
93LC66CT-E/MNY  
93LC66AT-E/MNY  
93LC66BT-E/MNY  
93C46CT-I/MNY  
93C46CT-E/MNY  
93C56CT-I/MNY  
93C56AT-I/MNY  
93C56BT-I/MNY  
93C56CT-E/MNY  
93C56AT-E/MNY  
93C56BT-E/MNY  
93C66CT-I/MNY  
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93C66BT-I/MNY  
93C66CT-E/MNY  
93C66AT-E/MNY  
93C66BT-E/MNY  
93LC76CT-I/MNY  
93AA76CT-I/MNY  
93LC76CT-E/MNY  
93LC86CT-I/MNY  
93AA86CT-I/MNY  
93LC86CT-E/MNY  
93C76CT-I/MNY  
93C76CT-E/MNY  
93C86CT-I/MNY  
93C86CT-E/MNY  
25AA320AT-I/MNY100  
25AA320AT-I/MNY101  
25LC320AT-I/MNY  
25AA320AT-I/MNY  
25AA320AT-I/MNYB23  
25LC320AT-E/MNY  
25LC160D-E/MNY  
25LC160D-I/MNY  
25AA160D-I/MNY  
25LC160DT-I/MNY  
25AA160DT-I/MNY  
25AA160DT-I/MNY-PR  
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24LC08BT-E/MNY  
24LC08BHT-I/MNY  
24AA08HT-I/MNY  
24LC08BHT-E/MNY  
24LC16BT-I/MNY  
24AA16T-I/MNY  
24LC16BT-E/MNY  
24AA16T-E/MNY  
24LC16BHT-I/MNY  
24AA16HT-I/MNY

24LC16BHT-E/MNY  
24LC32AT-I/MNYA29  
24LC32AT-E/MNY  
24LC32AFT-I/MNY  
24AA32AFT-I/MNY  
24LC32AFT-E/MNY  
24AA64T-I/MNY102  
24AA64T-I/MNY104  
24AA64T-I/MNY105  
24AA64T-I/MNY106  
24LC64T-I/MNY  
24AA64T-I/MNY  
24FC64T-I/MNY  
24LC64T-E/MNY  
24AA64T-E/MNY  
24LC64FT-I/MNY106  
24LC64FT-I/MNY  
24AA64FT-I/MNY  
24FC64FT-I/MNY  
24LC64FT-E/MNY  
24LC128T-I/MNY  
24AA128T-I/MNY  
24FC128T-I/MNY  
24LC128T-E/MNY  
24LC04BT-I/MNY  
24AA04T-I/MNY  
24LC04BT-E/MNY  
24LC04BHT-I/MNY  
24AA04HT-I/MNY  
24LC04BHT-E/MNY  
MCP6N11T-001E/MNY  
MCP6N11T-002E/MNY  
MCP6N11T-005E/MNY  
MCP6N11T-010E/MNY  
MCP6N11T-100E/MNY  
MCP98243T-BE/MNY  
MCP98243T-BE/MNYAA  
MCP98243T-BE/MNYAB  
MCP98208T-E/MNY-GLW08  
MCP9843T-BE/MNY  
MCP6482T-E/MNY  
MCP6492T-E/MNY  
MCP6472T-E/MNY  
34AA04T-I/MNY  
34AA04T-E/MNY  
MCP6V12T-E/MNY  
MCP6V17T-E/MNY  
MCP6V32T-E/MNY  
MCP6V37T-E/MNY

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93C46BT-E/MNY  
93C46AT-I/MNY  
93C46AT-E/MNY  
93LC46CT-I/MNY  
93AA46CT-I/MNY  
93LC46CT-E/MNY  
93LC56CT-I/MNY  
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93AA66AT-I/MNY