



Product Change Notification / LIAL-09UEWG307

Date:

26-Apr-2021

Product Category:

Clock and Timing - Clock and Data Distribution, Clock and Timing - High Speed Communication

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4395 Final Notice: Qualification of MMT as an additional assembly site for selected Micrel products available in 16L VQFN (3x3x1.00mm) package.

Affected CPNs:

[LIAL-09UEWG307_Affected_CPN_04262021.pdf](#)

[LIAL-09UEWG307_Affected_CPN_04262021.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 MMT as an additional assembly site for selected Micrel products available in 16L VQFN (3x3x1.00mm) package.

Pre and Post Change Summary:

| | Pre Change | Post Change | |
|---------------|--|--|---|
| Assembly Site | Unisem (M) Berhad Perak, Malaysia (UNIS) | Unisem (M) Berhad Perak, Malaysia (UNIS) | Microchip Technology Thailand (MMT) |

| | | | |
|-----------------------------------|--------------|--------------|--------------|
| Wire material | Au | Au | Au |
| Die attach material | 8290 | 8290 | 8600 |
| Molding compound material | G770HCD | G770HCD | G700LTD |
| Lead frame material | C194 | C194 | C194 |
| Lead Frame Lead Lock | No | No | Yes |
| Lead frame paddle size | 69 x 69 mils | 69 x 69 mils | 75 x 75 mils |
| Moisture Sensitivity Level | MSL-2 | MSL-2 | MSL-1 |

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 First Ship Date:

May 26, 2021 (date code: 2122)

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

Time Table Summary:

| Workweek | December 2020 | | | | | --> | April 2021 | | | | | May 2021 | | | | |
|-------------------------------|---------------|----|----|----|----|-----|------------|----|----|----|----|----------|----|----|----|----|
| | 49 | 50 | 51 | 52 | 53 | | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 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:December 21, 2020: Issued initial notification.

March 19, 2021: Issued final notification. Attached the Pre and Post Change Summary. Provided estimated first ship date to be on March 26, 2021. **April 26, 2021:** Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on May 26, 2021.

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-09UEWG307_Pre and Post Change Summary.pdf](#)

[PCN_LIAL-09UEWG307_Qual_Report.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.



MICROCHIP

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: LIAL-09UEWG307

Date:
March 15, 2021

**Qualification of MMT as an additional assembly site for
selected Micrel products available in 16L VQFN
(3x3x1.00mm) package.**



MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose Qualification of MMT as an additional assembly site for selected Micrel products available in 16L VQFN (3x3x1.00mm) package.

CCB No. 4395
CN ES348349
QUAL ID R2100057 Rev. A
MP CODE 2D8017NCAA76
Part No. SY88349NDLMG
Bonding No. BDM-002729 Rev. A

Package

Type 16L VQFN
Package size 3x3x1.0 mm

Lead Frame

Paddle size 75 x 75 mils
Material C194
Surface NiPdAu
Process Etched
Lead Lock Yes
Part Number 10101615

Material

Epoxy 8600
Wire Au wire
Mold Compound G700LTD
Plating Composition NiPdAu

Manufacturing Information

| Assembly Lot No. | Wafer Lot No. | Date Code |
|-------------------|-------------------|-----------|
| MMT-213402506.000 | TMPE220204453.110 | 20477HT |
| MMT-213402507.000 | TMPE220204453.110 | 20479YB |
| MMT-213402504.000 | TMPE220204453.110 | 2047HY2 |

Result Pass Fail _____

16L VQFN (3x3x1.0 mm) assembled by MMT 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 |
|--|---|---------------------------|------------------|--------------|--------------|---|
| Precondition Prior Perform Reliability Tests (At MSL Level 1) | Electrical Test: +25°C and 110°C System: V93K_TCG | JESD22-A113 | 693(0) | 693 | | Good Devices |
| | Bake 150°C, 24 hrs System: CHINEE | JIP/ IPC/JEDEC J-STD-020E | | 693 | | |
| | 85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH | | | 693 | | |
| | 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 | | | 693 | | |
| | Electrical Test: +25°C and 110°C System: V93K_TCG | | | 0/693 | Pass | |
| Temp Cycle | Stress Condition: -65°C to +150°C, 500 Cycles System: TABAI ESPEC TSA-70H | JESD22-A104 | | 231 | | Parts had been pre-conditioned at 260°C |
| | Electrical Test: + 110°C System: V93K_TCG | | 231(0) | 0/231 | Pass | 77 units / lot |
| | Bond Strength: Wire Pull (> 4.00 grams) Bond Shear (> 18.00 grams) | | 15 (0) 15 (0) | 0/15 0/15 | Pass Pass | |
| UNBIASED-HAST | Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X | JESD22-A118 | | 231 | | Parts had been pre-conditioned at 260°C |
| | Electrical Test: +25°C System: V93K_TCG | | 231(0) | 0/231 | Pass | 77 units / lot |
| HAST | Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 2.0 Volts System: HAST 6000X | JESD22-A110 | | 231 | | Parts had been pre-conditioned at 260°C |
| | Electrical Test: +25°C and 110°C System: V93K_TCG | | 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: Bake 175°C, 500 hrs System: SHEL LAB | JESD22- A103 | | 45 | | 45 units |
| | Electrical Test: +25°C and 110°C System: V93K_TCG | | 45(0) | 0/45 | Pass | |
| Bond Strength Data Assembly | Wire Pull (> 4.00 grams) | Mil. Std. 883-2011 | 30 (0) Wires | 0/30 | Pass | |
| | Bond Shear (> 18.00 grams) | CDF-AEC- Q100-001 | 30 (0) bonds | 0/30 74 | Pass | |

CCB 4395
Pre and Post Change Summary
PCN #: LIAL-09UEWG307



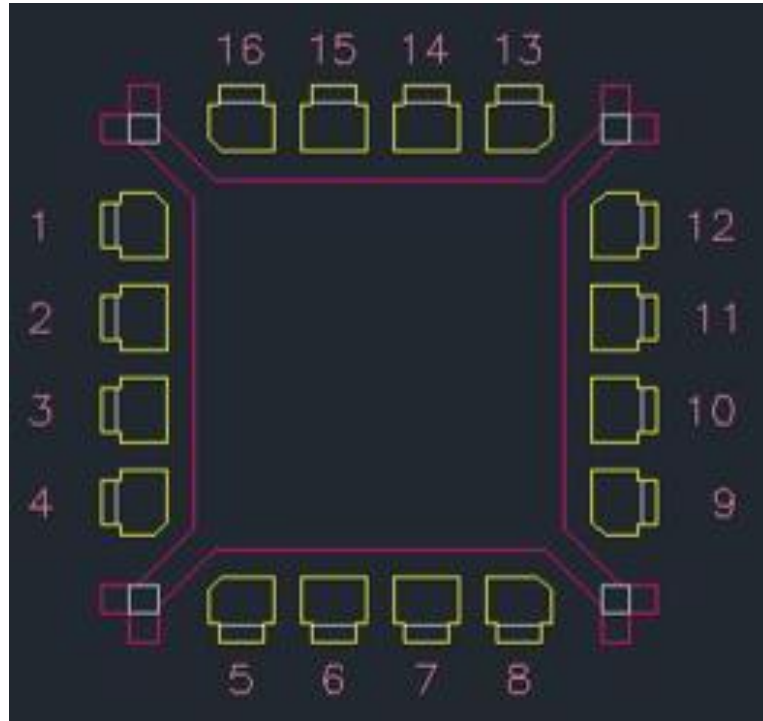
A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



SMART | CONNECTED | SECURE

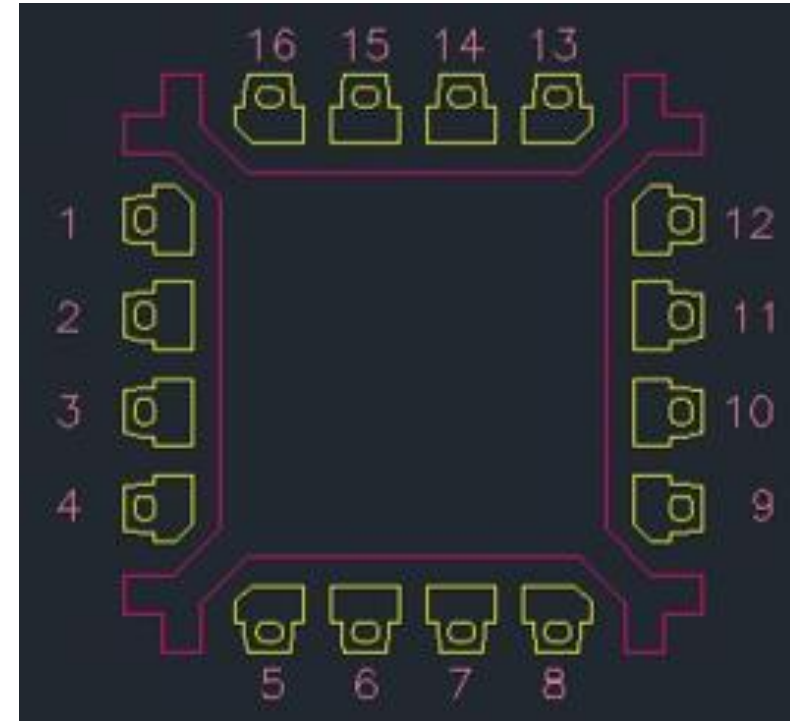
Lead frame Comparison

UNIS



| | |
|------------------------|--------------|
| Lead Frame Lead Lock | No |
| Lead frame paddle size | 69 x 69 mils |

MMT



| | |
|------------------------|--------------|
| Lead Frame Lead Lock | Yes |
| Lead frame paddle size | 75 x 75 mils |

Affected Catalog Part Numbers (CPN)

SY75572LMG
SY75572LMG-TR
SY88149HALMG
SY89228UMG
SY89230UMG
SY89231UMG
SY88349NDLMG
SY84782UMG
SY89831UMG
SY89832UMG
SY89833LMG
SY89833ALMG
SY89834UMG
SY89840UMG
SY89841UMG
SY89842UMG
SY89871UMG
SY89872UMG
SY89873LMG
SY89874UMG
SY89874AUMG
SY89875UMG
SY89876LMG
SY88932LMG
SY88982LMG
SY88992LMG
SY88149NDLMG
SY88149HALMG-TR
SY89228UMG-TR
SY89230UMG-TR
SY89231UMG-TR
SY88349NDLMG-TR
SY84782UMG-TR
SY89831UMG-TR
SY89832UMG-TR
SY89833LMG-TR
SY89833ALMG-TR
SY89834UMG-TR
SY89840UMG-TR
SY89841UMG-TR
SY89842UMG-TR
SY89871UMG-TR
SY89872UMG-TR
SY89873LMG-TR
SY89874UMG-TR
SY89874AUMG-TR

SY89875UMG-TR
SY89876LMG-TR
SY88932LMG-TR
SY88982LMG-TR
SY88992LMG-TR
SY88149NDLMG-TR
SYCUSTDIP1-TR
SYCUSTDIP2-TR
SY89833LMG-TX
SY56011RMG
SY54017RMG
SY54017ARMG
SY56017RMG
SY54020RMG
SY54020ARMG
SY56020RMG
SY56020XRMG
SY58020UMG
SY58021UMG
SY58022UMG
SY54023RMG
SY54023ARMG
SY56023RMG
SY58023UMG
SY56216RMG
SY88422LMG
SY58609UMG
SY58610UMG
SY58611UMG
SY56011RMG-TR
SY54017RMG-TR
SY54017ARMG-TR
SY56017RMG-TR
SY54020RMG-TR
SY54020ARMG-TR
SY56020RMG-TR
SY58020UMG-TR
SY58021UMG-TR
SY58022UMG-TR
SY54023ARMG-TR
SY58023UMG-TR
SY56216RMG-TR
SY88422LMG-TR
SY58609UMG-TR
SY58610UMG-TR
SY58611UMG-TR
SY54023RMG-TR
SY56020XRMG-TR
SY56023RMG-TR

SY54011RMG
SY58011UMG
SY58012UMG
SY58013UMG
SY58017UMG
SY58018UMG
SY58019UMG
SY58016LMG
SY58606UMG
SY58607UMG
SY58608UMG
SY54011RMG-TR
SY58011UMG-TR
SY58012UMG-TR
SY58013UMG-TR
SY58017UMG-TR
SY58018UMG-TR
SY58019UMG-TR
SY58606UMG-TR
SY58607UMG-TR
SY58608UMG-TR
SY89854UMG
SY89854UMG-TR
SY89851UMG
SY89852UMG
SY89851UMG-TR
SY89852UMG-TR
SY84113BUMG
SY88303BLMG
SY88343BLMG
SY88353BLMG
SY88403BLMG
SY88773VMG
SY84113BUMG-TR
SY88303BLMG-TR
SY88353BLMG-TR
SY88403BLMG-TR
SY88773VMG-TR