



Product Change Notification / LIAL-09UEWG307

Date:

19-Mar-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_03192021.pdf](#)
[LIAL-09UEWG307_Affected_CPN_03192021.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 product available in 16L VQFN (3x3x1.00mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	Unisem (M) Berhad	Unisem (M) Berhad	Microchip Technology

	Perak, Malaysia (UNIS)	Perak, Malaysia (UNIS)	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:

March 26, 2021 (date code: 2113)

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

Due to unforeseen circumstances, that are out of Microchip's control, full qualification will be made available as soon as it is approved which may be after the estimated first ship date so that Microchip can maintain continuity of supply and not disrupt customer orders.

Time Table Summary:

Workweek	December 2020					->	March 2021				
	49	50	51	52	53		10	11	12	13	14
Initial PCN Issue Date				X							
Final PCN Issue Date								X			
Qual Report Availability										X	
Estimated First Ship Date									X		

Method to Identify Change:

Traceability code

Qualification Report:

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

Note 1: The attached qualification report is incomplete but based on the available data and historical data, Microchip is confident that the pending qualification requirement will pass. The estimated qualification completion date will be on March 31, 2021. This final PCN will be updated to include the completed qualification report.

Note 2: 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.

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.

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_Qual_Report.pdf](#)

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

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

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If you wish to [receive Microchip PCNs via email](#) please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

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.

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



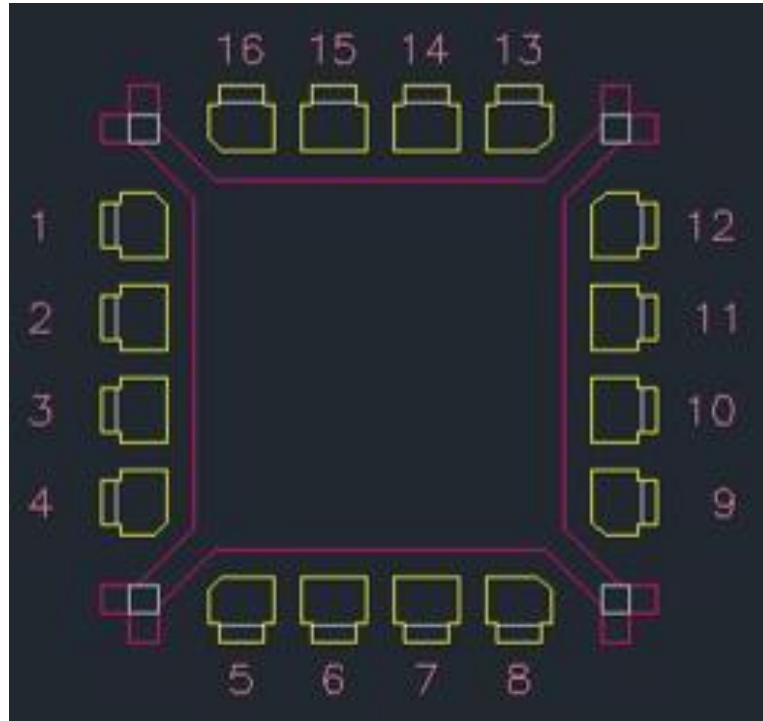
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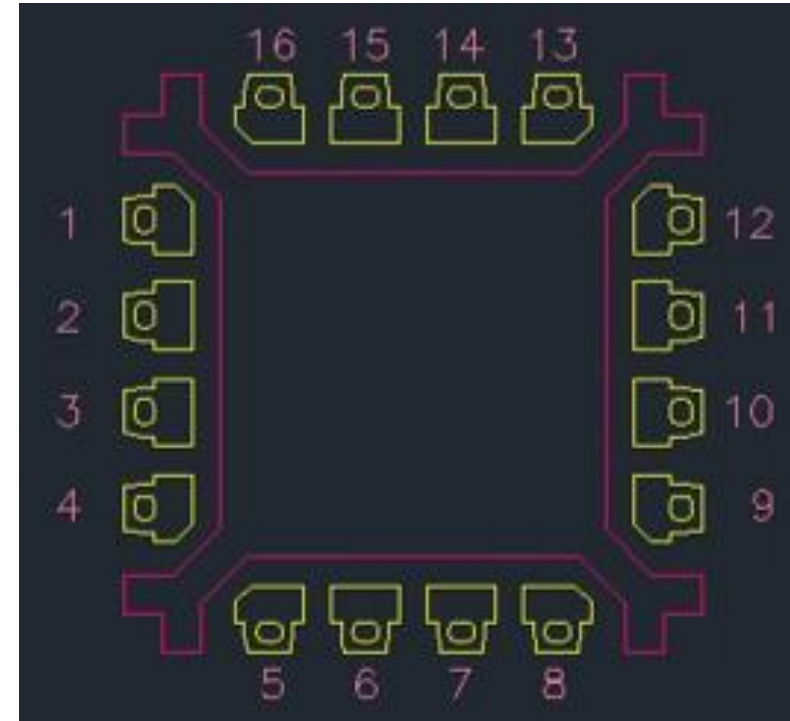
Lead frame Comparison

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



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
<u>Package</u>	
Type	16L VQFN
Package size	3x3x1.0 mm
<u>Lead Frame</u>	
Paddle size	75 x 75 mils
Material	C194
Surface	NiPdAu
Process	Etched
Lead Lock	Yes
Part Number	10101615
<u>Material</u>	
Epoxy	8600
Wire	Au wire
Mold Compound	G700LTD
Plating Composition	NiPdAu



MICROCHIP PACKAGE QUALIFICATION REPORT

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
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	Electrical Test: +25°C and 110°C System: V93K_TCG Bake 150°C, 24 hrs System: CHINEE 85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 Electrical Test: +25°C and 110°C System: V93K_TCG	JESD22- A113 JIP/ IPC/JEDEC J-STD-020E	693(0)	693 693 693 693 0/693	Pass	Good Devices

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
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 77 units / lot
	Electrical Test: + 110°C System: V93K_TCG		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 4.00 grams) Bond Shear (> 18.00 grams)		15 (0)	0/15	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 77 units / lot
	Electrical Test: +25°C System: V93K_TCG		231(0)	0/231	Pass	
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: - Volts System: HAST 6000X	JESD22- A110		231		Parts had been pre-conditioned at 260°C On going
	Electrical Test: System:		-	-	-	

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	Pass	

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
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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
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SY89851UMG
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SY89851UMG-TR
SY89852UMG-TR
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SY88303BLMG
SY88343BLMG
SY88353BLMG
SY88403BLMG
SY88773VMG
SY84113BUMG-TR
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