



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.

Affected Catalog Part Numbers (CPN)

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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
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Affected Catalog Part Numbers(CPN)

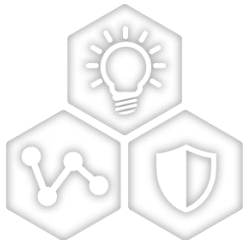
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CCB 4395
Pre and Post Change Summary
PCN #: LIAL-09UEWG307



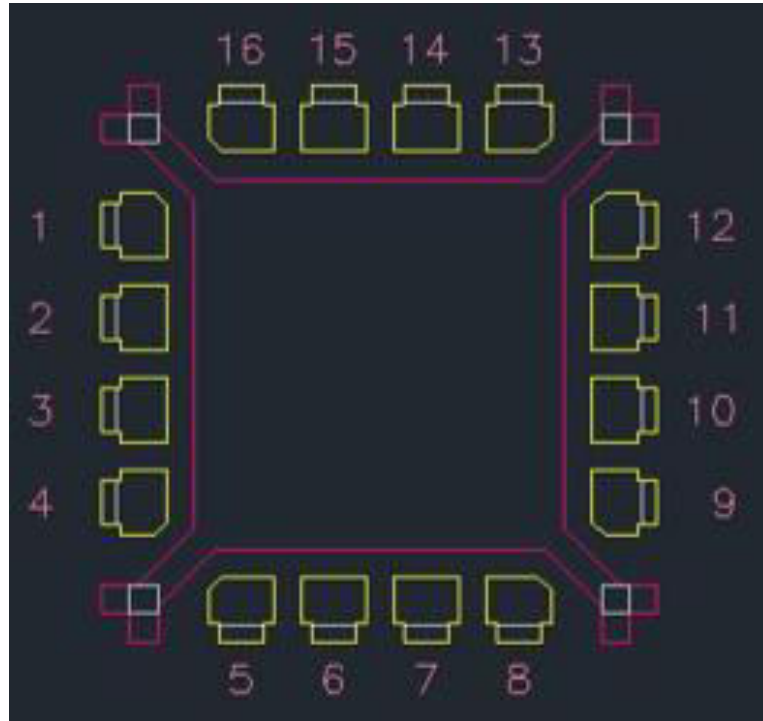
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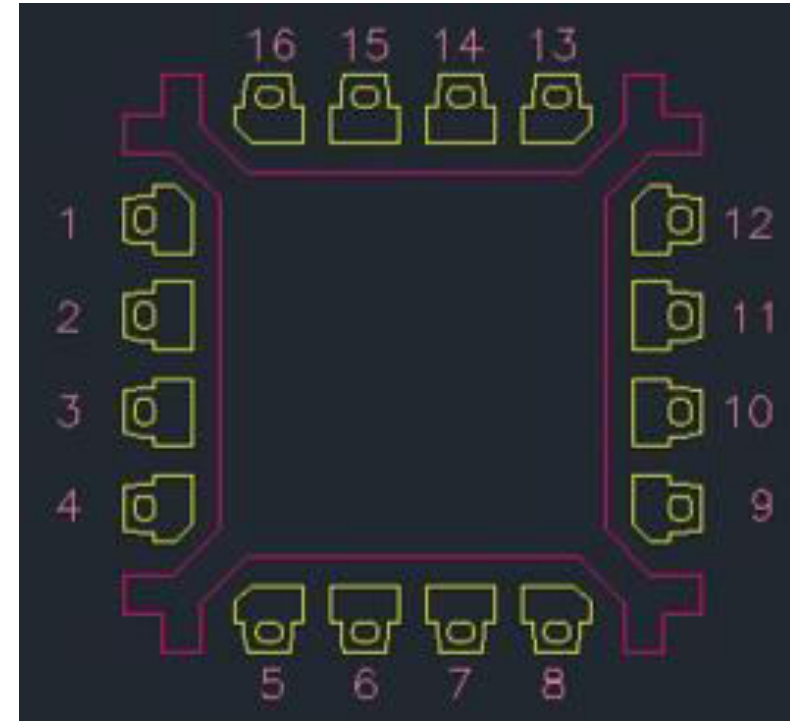
Lead frame Comparison

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



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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.**



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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 Electrical Test: +25°C and 110°C System: V93K_TCG	JESD22- A103		45		45 units
			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	