



Product Change Notification / LIAL-15PALA813

Date:

30-Sep-2022

Product Category:

Computing Embedded Controllers, Ethernet Switches, USB Bridge

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4979 Final Notice: Qualification of new stamped lead frame with inner lead tape and non-brown oxide treatment (BOT) for selected products available in 128L TQFP (14x14x1mm) package at MMT assembly site.

Affected CPNs:

[LIAL-15PALA813_Affected_CPN_09302022.pdf](#)

[LIAL-15PALA813_Affected_CPN_09302022.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 new stamped lead frame with inner lead tape and non-brown oxide treatment (BOT) for selected products available in 128L TQFP (14x14x1mm) package at MMT assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Microchip Technology Thailand (Branch) /MMT	Microchip Technology Thailand (Branch) / MMT
Wire Material	CuPdAu	CuPdAu
Die Attach Material	3280	3280
Molding Compound Material	G700HA	G700HA
Lead-Frame Material	C7025	C7025
Lead Frame process	Etched Stamped	Stamped
Lead Frame treatment	Without inner lead tape	With inner lead tape
	Brown oxide treatment (BOT)	Non-Brown oxide treatment (BOT)
	See attached pre and post change comparison	

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve productivity by qualifying new stamped lead frame with inner lead tape and non-brown oxide treatment (BOT).

Change Implementation Status:In Progress

Estimated First Ship Date:November 30, 2022 (date code: 2249)

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

Time Table Summary:

	December 2021					>	September 2022					>	November 2022				
Workweek	4 9	5 0	5 1	5 2	5 3		3 6	3 7	3 8	3 9	4 0		4 5	4 6	4 7	4 8	4 9
Initial PCN Issue Date				x													
Qual Report											x						

Availability																		
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, 2021: Issued initial notification.
September 30, 2022: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on November 30, 2022.

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-15PALA813 Qual Report.pdf](#)
- [PCN_LIAL-15PALA813_ Pre and Post Change_Summary.pdf](#)

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

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MICROCHIP

QUALIFICATION REPORT SUMMARY

PCN #: LIAL-15PALA813

**Date:
September 26, 2022**

Qualification of new stamped lead frame with inner lead tape and non-brown oxide treatment (BOT) for selected products available in 128L TQFP (14x14x1mm) package at MMT assembly site.



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of new stamped lead frame with inner lead tape and non-brown oxide treatment (BOT) for selected products available in 128L TQFP (14x14x1mm) package at MMT assembly site.
CCB	4979
CN	E000086724
QUAL ID	R2200031 Rev. A
MP CODE	TG3041Z2XA00
Part No.	LAN9311-NU
Bonding No.	BD-000367 Rev. 01
<u>Package</u>	
Type	128LD TQFP
Package size	14 x 14 x 1 mm
<u>Lead Frame</u>	
Paddle size	190 x 190 mils
Material	C7025
Surface	Double Ag Ring Plated
Process	Stamped
Lead Lock	No
Part Number	10112804
Treatment	None
<u>Material</u>	
Epoxy	3280
Wire	CuPdAu wire
Mold Compound	G700HA
Plating Composition	Matte Sn



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-223801682.000	GF35922323671.110	2150U3T
MMT-223801777.000	GF35922323671.110	215045Q
MMT-223801778.000	GF35922323671.100	215045R,215045S

Result

Pass Fail _____

128L TQFP (14x14x1 mm) assembled by MMT 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
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 3)	Electrical Test: +100°C System: EX_ANALOG	JESD22-A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE	JIP/ IPC/JEDEC J-STD-020E		693		
	30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			693		
	Electrical Test: +25°C and 100°C System: EX_ANALOG			0/693	Pass	

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	
	Electrical Test: +100°C System: EX_ANALOG		231(0)	0/231	Pass		77 units / lot
	Stress Condition: -65°C to +150°C, 1000 Cycles System: TABAI ESPEC TSA-70H			231			
	Electrical Test: +100°C System: EX_ANALOG		231(0)	0/231	Pass	77 units / lot	
Bond Strength: Wire Pull (> 2.50 grams) Bond Shear (>15.00 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	
	Electrical Test: +25°C System: EX_ANALOG		231(0)	0/231	Pass	77 units / lot	

QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB Electrical Test: +25°C and 100°C System: EX_ANALOG	JESD22-A103	135(0)	135 0/135	Pass	45 units / lot
Solderability Temp 215°C	Steam Aging: Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63, Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	Pass	
Solderability Temp 245°C	Steam Aging: Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	Pass	
Wire sweep	Wire sweep Inspection 15 Wires / lot	-	45(0) Wires	0/45	Pass	
Physical Dimensions	Physical Dimension, 10 units / 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (>2.50 grams)	Mil. Std. 883-2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	CDF-AEC-Q100-001	30 (0) bonds	0/30	Pass	

CCB 4979
Pre and Post Change Summary
PCN#: LIAL-15PALA813



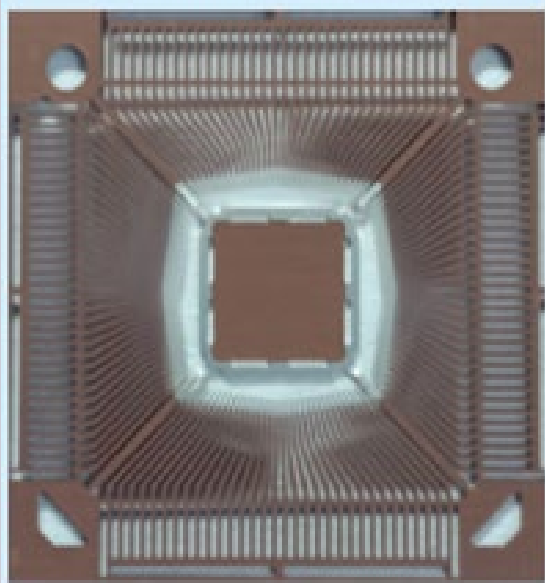
A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



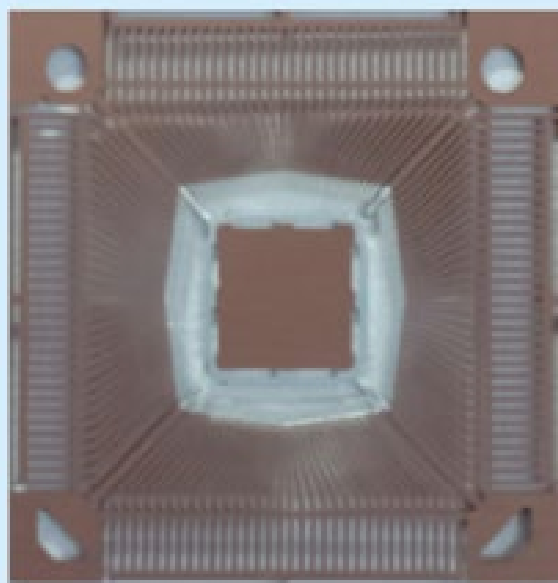
SMART | CONNECTED | SECURE

Lead frame comparison

Pre Change

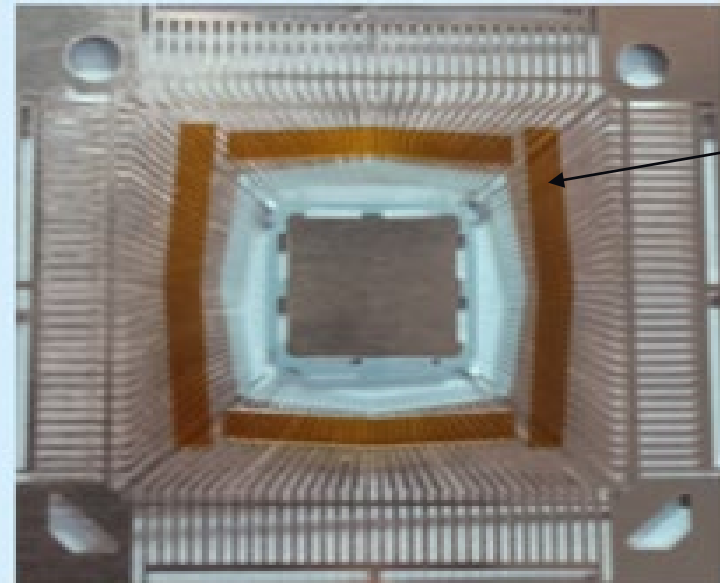


Stamp LF: BOT



Etched LF: BOT

Post Change



With inner lead tape

Stamp LF: Normal Cu+Inner tape

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Affected Catalog Part Numbers(CPN)

- MEC1322-NU
- MEC1324-NU
- MEC1322-NU-C0
- MEC1322I-NU-C0
- MEC1404-NU
- MEC1418-NU
- MEC1406-NU
- MEC1408-NU
- MEC1404-NU-D0
- MEC1406-NU-D0
- MEC1416-NU-D0
- MEC1414-NU
- MEC1416-NU
- MEC1418-NU-D0
- MEC1418-I/NU
- MEC1414-I/NU
- MEC1416-I/NU
- MEC1428-NU-C1
- MEC1428-I/NU-C1
- DEC1515H-D0-I/Z2
- KBC1126-NU
- SCH5555-NU
- SCH5553-NU
- SCH5555V-NU
- SCH5555-NU-TR
- SCH5553-NU-TR
- MEC1310-NU
- MEC1310-NU-TR
- LAN9311-NU
- LAN9313-NU
- LAN9313-NU-TR
- USB2227-NU-11
- USB2228-NU-11
- USB2250-NU-06
- USB2251-NU-06
- USB2250I-NU-06
- USB2251I-NU-06
- USB2251I-NU-06-CAG