Product Change Notification / LIAL-02EMAI368

Date:

16-Nov-2020

Product Category:

Access Networks, Broadband Gateway, Line Drivers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 3886.005, and 3886.006 Final Notice: Qualification of MMT as an additional assembly site for selected Microsemi products available in 28L VQFN (4x5x1mm) and 16L VQFN (4x4x1mm) packages

Affected CPNs:

LIAL-02EMAI368_Affected_CPN_11162020.pdf
LIAL-02EMAI368_Affected_CPN_11162020.csv

Notification Text:

PCN Status: Final 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 Microsemi products available in 28L VQFN (4x5x1mm) and 16L VQFN (4x4x1mm) packages.

Pre Change:
Assembled at ASEM using palladium coated copper wire (PdCu) bond wire or palladium coated copper wire with gold flash (CuPdAu) bond wire, CRM1076DS die attach, and CEL-9240HF10AK-G1 mold compound material or assembled at UNIC using palladium coated copper wire (PdCu) bond wire, 8290 die attach, and G770HP mold compound material.

Post Change:
Assembled at ASEM using palladium coated copper wire (PdCu) bond wire or palladium coated copper wire with gold flash

(CuPdAu) bond wire, CRM1076DS die attach, and CEL-9240HF10AK-G1 mold compound material or assembled at UNIC using palladium coated copper wire (PdCu) bond wire, 8290 die attach, and G770HP mold compound material or assembled at MMT using or palladium coated copper wire with gold flash (CuPdAu) bond wire wire material, 3280 die attach, and G700LTD mold compound material.

Pre and Post Change Summary:

	Pre Change			Post Change			
Assembly Site	ASE Group -Malaysia (ASEM)		Unisem Chengdu Co.,Ltd. (UNIC)	ASE Group -Malaysia (ASEM)		Unisem Chengdu Co.,Ltd. (UNIC)	Microchip Technology Thailand (Branch) (MMT)
Wire material	PdCu	CuPdAu	PdCu	PdCu	CuPdAu	PdCu	CuPdAu
Die attach material	CRM1076DS		8290	CRM1076DS		8290	3280
Molding compound material	CEL-9240HF10AK-G1		G770HP	CEL-9240HF10AK-G1		G770HP	G700LTD
Lead frame material	A194		A194	A194		A194	A194
LF drawing comparison	See Pre and Post Change attachment.						

Impacts to Data Sheet: None

Change Impact: None

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

Change Implementation Status: In Progress

Estimated First Ship Date) December 7, 2020 (date code: 2050)

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

Time Table Summary:

	November 2020				December 2020				
Workweek	45	46	47	48	49	50	51	52	53
Final PCN Issue Date			X						
Qual Report Availability			X						
Estimated						X			

Implementation Date									

Method to Identify Change: Traceability code

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

Revision History:November 16, 2020: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on December 7, 2020.

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-02EMAI368 Qual Report.pdf
PCN_LIAL-02EMAI368 _Pre and Post Change Summary.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

Terms and Conditions:

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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.

QUALIFICATION REPORT SUMMARY

PCN #: LIAL-02EMAI368

Date:
May 14, 2020

Qualification of MMT as an additional assembly site for selected Microsemi products available in 64L VQFN (9x9x1.0mm) package. The selected Microsemi products available in 28L VQFN (4x5x1mm) and 16L VQFN (4x4x1mm) packages will qualify by similarity (QBS).

Purpose	Qualification of MMT as an additional assembly site for selected Microsemi products available in 64L VQFN (9x9x1.0mm) package. The selected Microsemi products available in 28L VQFN (4x5x1mm) and 16L VQFN (4x4x1mm) packages will qualify by similarity (QBS).
CCB #	3886, 3886.005 and 3886.006
CN	ES323444
QUAL ID	Q19177
MP CODE	3411P7MFCA01
Part No.	LE88266TQC
Bonding No.	BDM-002157 Rev. B
Package	
Type	64L VQFN
Package size	9 x 9 x 1.0 mm
Lead Frame	
Paddle size	311 x 311 mils
Material	A194
Surface	Ag Ring Plated
Process	Etched
Lead Lock	Yes
Part Number	10106414
Treatment	BOT
Material	
Epoxy	3280
Wire	CuPdAu
Mold Compound	G700LTD
Plating Composition	Matte Tin

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-202501470.000	GF02920211892.100	1938UWJ
MMT-202501880.000	GF02920211892.100	19382RC
MMT-202501881.000	GF02920211892.200	1938VMW

Result [X] Pass [ ] Fail [ ] ____________________

64L VQFN (9x9x1.0 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
Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test:** +25°C System: CATALYST	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 System: CATALYST			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: + 25°C System: CATALYST		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: + 25°C System: CATALYST		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 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: CATALYST		231(0)	0/231	Pass	77 units / lot
	Stress Condition: +130°C/85%RH, 192 hrs. System: HAST 6000X			231		
	Electrical Test: +25°C System: CATALYST		231(0)	0/231	Pass	

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, 504 hrs System: SHEL LAB **Electrical Test:** +25°C System: CATALYST	JESD22-A103	45(0)	45 0/45	Pass	45 units
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	
Physical Dimensions	Physical Dimension, 10 units / lot from 3 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	

CCB 3886.005 and 3886.006
Pre and Post Change Summary
PCN # LIAL-02EMAI368

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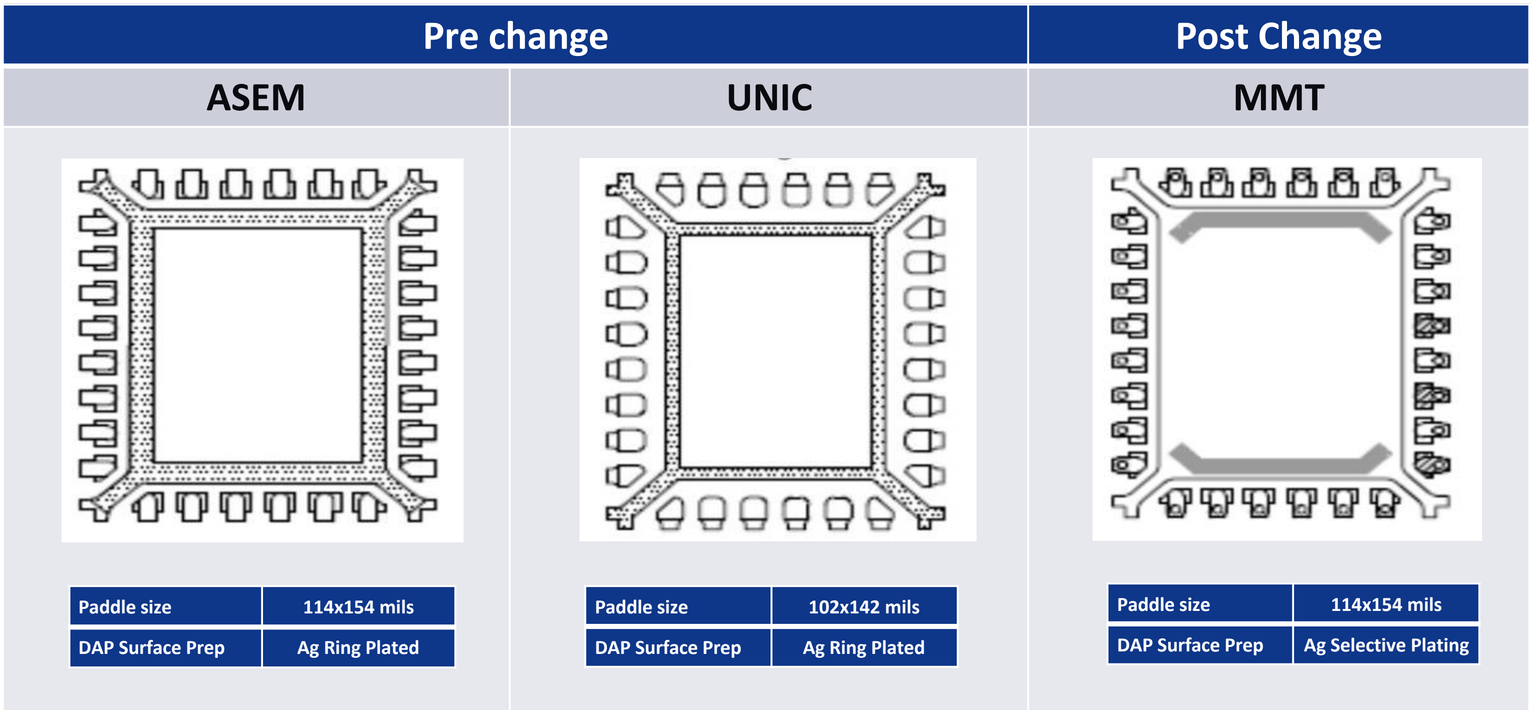
Qualification of MMT as an additional assembly site for selected Microsemi products available in 28L VQFN (4x5x1mm) and 16L VQFN (4x4x1mm) packages.

Lead frame comparison

28L VQFN (4x5x1mm) package



Lead frame comparison

16L VQFN (4x4x1mm) package

Pre change		Post Change
ASEM	UNIC	MMT

ASEM	
Paddle size	97x97 mils
DAP Surface Prep	Ag Ring Plated

UNIC	
Paddle size	110x110 mils
DAP Surface Prep	Ag Ring Plated

MMT	
Paddle size	97x97 mils
DAP Surface Prep	Ag Ring Plated

LIAL-02EMAI368 - CCB 3886.005 and 3886.006 Final Notice: Qualification of MMT as an additional ass

Affected Catalog Part Numbers(CPN)

LE87402MQC
LE87402MQCT
LE87270NQC
LE87270NQCT
LE87285NQC
LE87285NQCT
LE87557NQC
LE87557NQCT
LE87100NQC
LE87100NQCT
LE87502MQC
LE87502MQCT
LE87282MQC
LE87282MQCT
LE87612MQC
LE87612MQCT
LE79271AMQC
LE79271MQC
LE79271AMQCT
LE79271MQCT
LE9551CMQC
LE9551DMQC
LE9551CMQCT
LE9551DMQCT
LE87511NQC
LE87511NQCT
LE87286NQC
LE87286NQCT