Product Change Notification / GBNG-17ZWEX736

Date:

09-Aug-2023

Product Category:

Ethernet Controllers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4959 Final Notice: Qualification of MMT as a new assembly site for selected SMSC LAN91C11xx device family available in 128L TQFP (14x14x1mm) package.

Affected CPNs:

GBNG-17ZWEX736_Affected_CPN_08092023.pdf
GBNG-17ZWEX736_Affected_CPN_08092023.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 a new assembly site for selected SMSC LAN91C11xx device family available in 128L TQFP (14x14x1mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change

Assembly Site	ASE Inc. (ASE)		Microchip Technology Thailand (MMT)
Wire Material	Au	PdCu	CuPdAu
Die Attach Material	1076WA		3280
Molding Compound Material	G631H		G700HA
Lead-Frame Material	C7025		C7025
Lead-Frame Paddle Size	240 x 240 mils		252 x 252 mils
DAP Surface Prep	Double Ring		Bare Cu
Lead-Frame Design	See attached Pre and Post Change comparison		

Impacts to Data Sheet:

None

Change Impact: None

Reason for Change: To improve on-time delivery performance by qualifying MMT as a new assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: June 25, 2023 (date code: 2326)

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

Time Table Summary:

	December 2021					**>**	**June 2023**					**>**	**August 2023**				
Workweek	49	50	51	52	53		22	23	24	25	26		31	32	33	34	35
Initial PCN Issue Date				x													
Qual Report Availability													x				
Final PCN Issue Date							x										
Estimated Implementation											x						

Date																	

Method to Identify Change: Traceability code

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

Revision History: December 22, 2021: Issued initial notification.
June 02, 2023: Issued final notification. Updated the timetable summary. Provided estimated first ship date to be on June 25, 2023.
August 9, 2023: Re-issued final notification. Attached the Qualification Report.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachments:

PCN_GBNG-17ZWEX736 Qual_Report.pdf
PCN_GBNG-17ZWEX736_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.

Affected Catalog Part Numbers (CPN)

LAN91C113-NU
LAN91C111-NU
LAN91C111I-NU

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #:
GBNG-17ZWEX736

Date
August 2, 2023

Qualification of MMT as a new assembly site for selected SMSC LAN91C11xx device family available in 128L TQFP (14x14x1mm) package.

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MMT as a new assembly site for selected SMSC LAN91C11xx device family available in 128L TQFP (14x14x1mm) package.
CN	E000101129
QUAL ID	R2200583 Rev. A
MP CODE	UA0027Z2XA00
Part No.	LAN91C111I-NU
Bonding No.	BD-000268 Rev. 02
CCB No.	**4959**
Package	
Type	128L TQFP
Package size	14 x 14 x 1.0 mm
Lead Frame	
Paddle size	252 x 252 mils
Material	C7025
Surface	Bare Cu
Process	Etched
Lead Lock	Yes
Part Number	10112802
Treatment	BOT
Material	
Epoxy	3280
Wire	CuPdAu wire
Mold Compound	G700HA
Plating Composition	Matte Sn

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-230101625.000	TC10922428048.100	2214AS5
MMT-230101626.000	TC10922428048.120	2214AS7
MMT-230101627.000	TC10922428048.110	2214AS8

Result [X] Pass [ ] Fail [ ] _____

128L TQFP (14x14x1.0 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:** +100°C System: EX_DIGITAL	JESD22-A113	693(0)	0/693		Good Devices
	Bake 150°C, 24 hrs. System: CHINEE	JIP/ IPC/JEDEC J-STD-020E		0/693		
	30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH			0/693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			0/693		
	Electrical Test: +25°C and 100°C System: EX_DIGITAL		693(0)	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		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +100°C System: EX_DIGITAL		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (>2.50 grams)		15(0)	0/15	Pass Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: EX_DIGITAL		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 3.3 Volts System: HAST 6000X	JESD22-A110		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 100°C System: EX_DIGITAL		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, 504 hrs. System: SHEL LAB	JESD22-A103		0/45		45 units
	Electrical Test: +25°C and 100°C System: EX_DIGITAL		45(0)	0/45	Pass	
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)	0/22 0/22 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)	0/22 0/22 0/22	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 4959
Pre and Post Change Summary
PCN #: GBNG-17ZWEX736

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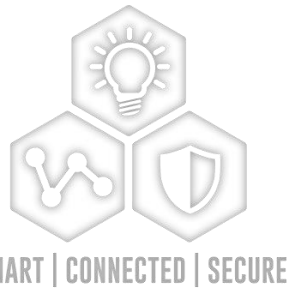
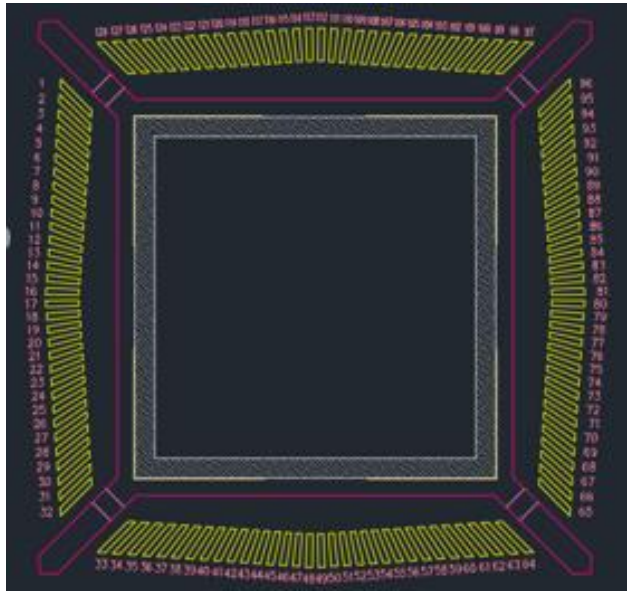


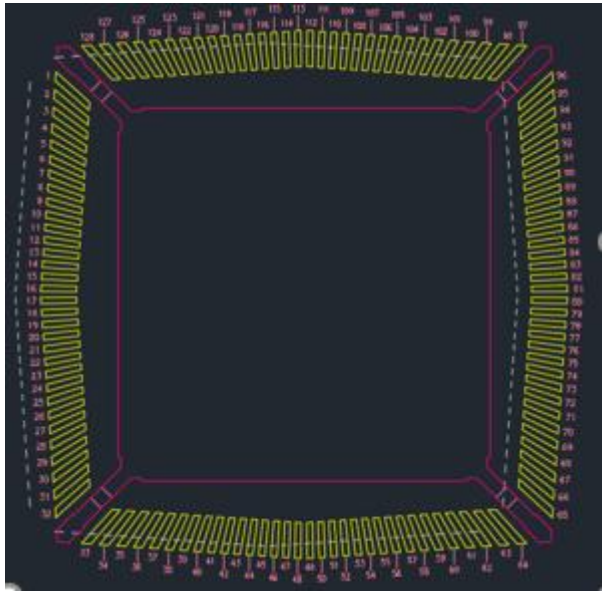
LEAD FRAME COMPARISON

ASE



Lead frame paddle size	240 x 240 mils
Lead frame DAP surface prep	Double Ring

MMT



Lead frame paddle size	252 x 252 mils
Lead frame DAP surface prep	Bare Cu