Product Change Notification / GBNG-17ZWEX736

Date:

22-Dec-2021

Product Category:

Ethernet Controllers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4959 Initial 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_12222021.pdf
GBNG-17ZWEX736_Affected_CPN_12222021.csv

Notification Text:

PCN Status: Initial 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 Qualification Completion Date: March 2022

Note: 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.

Time Table Summary:

	December 2021					>	March 2022				
Workweek	49	50	51	52	53		10	11	12	13	14
Initial PCN Issue Date				x							
Qual Report Availability										x	
Final PCN Issue Date										x	

Method to Identify Change: Traceability code

Qualification Plan: Please open the attachments included with this PCN labeled as PCN_#_Qual_Plan.

Revision History: December 22, 2021: Issued initial notification.

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_Plan.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:

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.

Affected Catalog Part Numbers (CPN)

LAN91C113-NU
LAN91C111-NU
LAN91C111I-NU

CCB 4959
Pre and Post Change Summary
PCN #: GBNG-17ZWEX736

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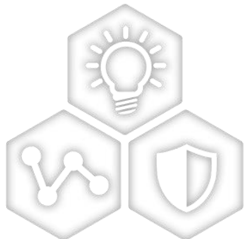
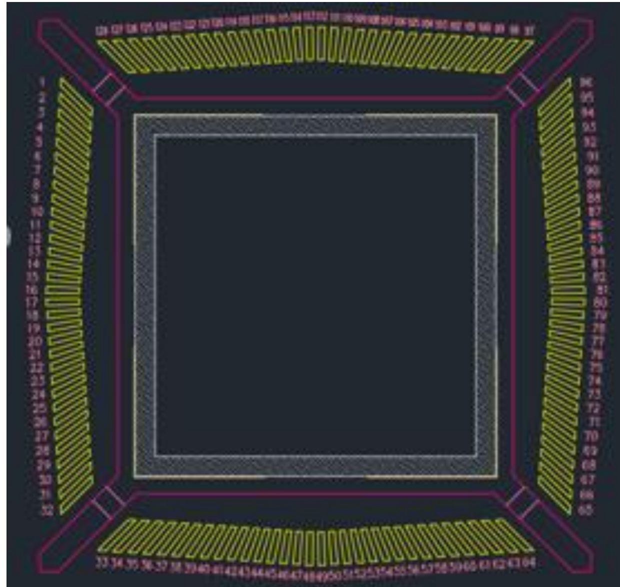


LEAD FRAME COMPARISON

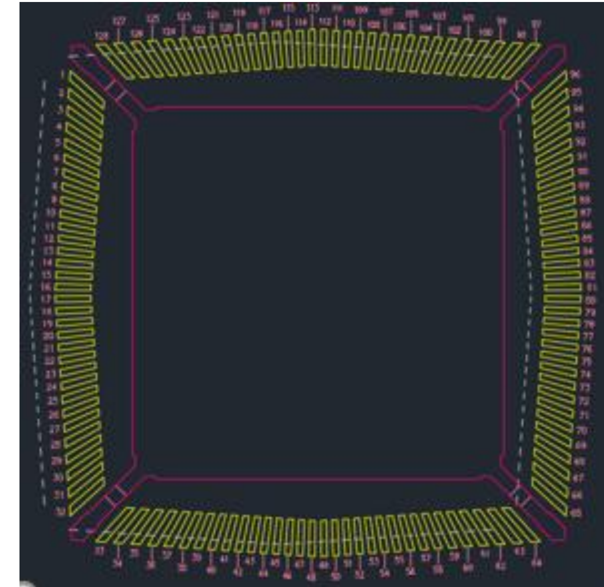
ASE	MMT

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

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QUALIFICATION PLAN SUMMARY

PCN #: GBNG-17ZWEX736

Date:
December 9, 2021

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

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

CCB No. 4959

Assembly site	MMT
BD Number	BD-000268/02
MP Code (MPC)	UA0027Z2XA00
Part Number (CPN)	LAN91C111I-NU
MSL information	3
Assembly Shipping Media (T/R, Tube/Tray)	Tray
Base Quantity Multiple (BQM)	90
Reliability Site	MTAI
Paddle size	252x252 mils
Lead frame Material	C7025
DAP Surface Prep	Bare Cu
Treatment	BOT
Process	Etched
Lead-lock	Yes
Part Number	10112802
Lead Plating	Matte tin
Wire Material	CuPdAu
Die Attach Material	3280
Conductive	Yes
Molding Compound Material	G700HA
PKG Type	TQFP
Pin/Ball Count	128
PKG width/size	14x14 mm

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
Standard Pb-free Solderability	J-STD-002D; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.	22	5	1	27	> 95% lead coverage	5	Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability- SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
Backward Solderability	J-STD-002D; Perform 8 hours steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Backward: Matte tin/ NiPdAu finish, SnPb solder, wetting temp 215°C for SMD.	22	5	1	27	> 95% lead coverage	5	
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5		5	30 bonds from a min. 5 devices.
Wire Sweep								Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30		5	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at +25°C. MSL3/260C	231	15	3	738	0	15	Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test.
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and hot temp. Extend to 192 hrs post test at 25C	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. Perform 2X extended reliability testing for Cu bond wire related package qual. For Automotive Cu wire qual, refer to Q006 Auto Cu Qual plan (Form 1.1).
UHAST	+130°C/85% RH for 96 hrs. Electrical test pre and post stress at +25°C Extend to 192 hrs post test at 25C	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. Perform 2X extended reliability testing for Cu bond wire related package qual. For Automotive Cu wire qual, refer to Q006 Auto Cu Qual plan (Form 1.1).
Temp Cycle	-65°C to +150°C for 500 cycles. Electrical test pre and post stress at hot temp; 3 grams force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. Extend to 1000 cycle Post test at 25°C	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. Perform 2X extended reliability testing for Cu bond wire related package qual. For Automotive Cu wire qual, refer to Q006 Auto Cu Qual plan (Form 1.1).