Product Change Notification / JAON-09QXBX743

Date:

13-May-2022

Product Category:

Ethernet PHYs

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5010.002 Final Notice: Qualification MTAI as an additional assembly site for selected LAN8720A-CP-ABC, LAN8720AI-CP-ABC, LAN8720A-CP-TR-ABC, and LAN8720AI-CP-TR-ABC catalog part numbers (CPN) available in 24L QFN (4x4x0.9mm) package.

Affected CPNs:

JAON-09QXBX743_Affected_CPN_05132022.pdf
JAON-09QXBX743_Affected_CPN_05132022.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 MTAI as an additional assembly site for selected LAN8720A-CP-ABC, LAN8720AI-CP-ABC, LAN8720A-CP-TR-ABC, and LAN8720AI-CP-TR-ABC catalog part numbers (CPN) available in 24L QFN (4x4x0.9mm) package.

Pre and Post Change Summary:

		Pre Change	Post Change	
Assembly Site		ASE Inc. (ASE)	ASE Inc. (ASE)	Microchip Technology Thailand (HQ) - (MTAI)
Wire Material		PdCu	PdCu	CuPdAu
Die Attach Material		EN-4900F	EN-4900F	3280
Molding Compound Material		G631H	G631H	G700LTD
Lead-Frame	Material	A194	A194	A194
	Paddle Size	106x106mils	106x106mils	110x110mils
		See attached pre and post change comparison		

Impacts to Data Sheet: None

Change Impact None

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

Change Implementation Status: In Progress

Estimated First Ship Date: May 31, 2022 (date code: 2223)

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

Time Table Summary:

	May 2022				
Workweek	19	20	21	22	23
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: May 13, 2022: Issued final 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_JAON-09QXBX743_Qual_Report.pdf
PCN_JAON-09QXBX743_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.

CCB 5010.002
Pre and Post Change Summary
PCN#: JAON-09QXBX743

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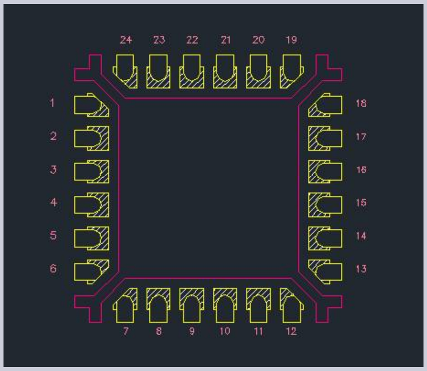
SMART | CONNECTED | SECURE

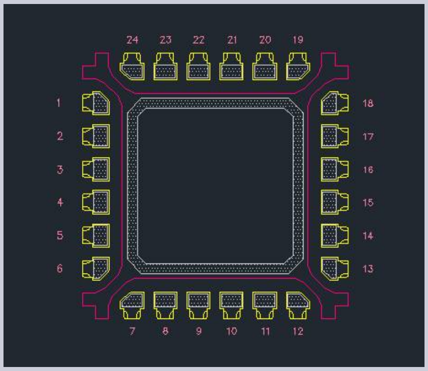
Lead frame comparison

ASE



Lead Frame material	A194
Lead Frame Paddle size	106x106 mils

MTAI



Lead Frame material	A194
Lead Frame Paddle size	110x110 mils

Note: Not to scale

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: JAON-09QXBX743

Date:
March 28, 2022

Qualification of MTAI as an additional assembly site for selected USB251xx and USX206xx device families available in 36L SQFN (6x6x1.0mm) package. The qualification MTAI as an additional assembly site for selected LAN8720A-CP-ABC, LAN8720AI-CP-ABC, LAN8720A-CP-TR-ABC, and LAN8720AI-CP-TR-ABC catalog part numbers (CPN) available in 24L QFN (4x4x0.9mm) package will qualify by similarity (QBS).

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MTAI as an additional assembly site for selected USB251xx and USX206xx device families available in 36L SQFN (6x6x1.0mm) package. The qualification MTAI as an additional assembly site for selected LAN8720A-CP-ABC, LAN8720AI-CP-ABC, LAN8720A-CP-TR-ABC, and LAN8720AI-CP-TR-ABC catalog part numbers (CPN) available in 24L QFN (4x4x0.9mm) package will qualify by similarity (QBS).
CN	E000083413
QUAL ID	R2200096 rev A
MP CODE	XG3717UDXD0C
Part No.	USB2514B-I/M2
Bonding No.	BD-000257 Rev. 01
CCB No.	5010 and 5010.002
<u>Package</u>	
Type	36L SQFN
Package size	6 x 6 x 1.0 mm
<u>Lead Frame</u>	
Paddle size	169 x 169 mils
Material	A194
Surface	Ag Ring plating
Process	Etched
Lead Lock	Yes
Part Number	10103603
<u>Material</u>	
Epoxy	3280
Wire	CuPdAu wire
Mold Compound	G700LTD
Plating Composition	Matte Sn

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI223802928.000	GF07922239121.100	215001V
MTAI223802959.000	GF07922239121.100	215028H
MTAI223802960.000	GF07922239121.100	215028J

Result ☒ Pass ☐ Fail ☐ ____________________

36L SQFN (6x6x1.0 mm) assembled by MTAI 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 and 85°C System: LTX_D10	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 85°C System: LTX_D10			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: +85°C System: LTX_D10		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (>3.00 grams)		15 (0)	0/15	Pass	
	Bond Shear (>10.00 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: LTX_D10		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 3.6 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 85°C System: LTX_D10		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		135		45 units / lot
	Electrical Test: +25°C and 85°C System: LTX_D10		135(0)	0/135	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 from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (>3.00 grams)	Mil. Std. 883-2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>10.00 grams)	CDF-AEC-Q100-001	30 (0) bonds	0/30	Pass	

JAON-09QXBX743 - CCB 5010.00 LAN8720A LAN8720A and LAN8720AI-CP-TR-ABC catalog part numbers (CPN) a

Affected Catalog Part Numbers(CPN)

LAN8720A-CP-ABC
LAN8720AI-CP-ABC
LAN8720A-CP-TR-ABC
LAN8720AI-CP-TR-ABC