Product Change Notification / KSRA-17VISF459

Date:

21-May-2021

Product Category:

Ethernet PHYs

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4651 Final Notice: Qualification of STA as an additional assembly site for LAN8720A device family available in 24L VQFN (4x4x0.9mm) package

Affected CPNs:

KSRA-17VISF459_Affected_CPN_05212021.pdf
KSRA-17VISF459_Affected_CPN_05212021.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 STA as an additional assembly site for LAN8720A device family available in 24L VQFN (4x4x0.9mm) package

Pre and Post Change Summary:

	Pre Change	**Post Change**	
Assembly Site	ASE Inc. (ASE)	ASE Inc. (ASE)	STATS Chippac Ltd. (STA)

Wire material	CuPd	CuPd	CuPdAu
Die attach material	EN-4900F	EN-4900F	8290
Molding compound material	G631B	G631B	G700E
Lead frame material	C194	C194	C194
Lead frame paddle size	106 X 106 mils	106 X 106 mils	106 X 106 mils
	See attached pre and post change comparison		
DAP Surface Prep	Double Ring Plating	Double Ring Plating	Double Ring Plating

Impacts to Data Sheet: None

Change Impact: None

Reason for Change: To improve manufacturability by qualifying STA as an additional assembly site

Change Implementation Status: In Progress

Estimated First Ship Date:
July 8, 2021 (date code: 2128)

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

Time Table Summary:

	May 2021					>	**July 2021**				
Workweek	18	19	20	21	22		27	28	29	30	31
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 21, 2021:** Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on July 08, 2021.

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

Attachments:

PCN_KSRA-17VISF459_Pre and Post Change Comparison.pdf
PCN_KSRA-17VISF459_Qual_Report.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)

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

CCB 4651

Pre and Post Change Summary

PCN # KSRA-17VISF459

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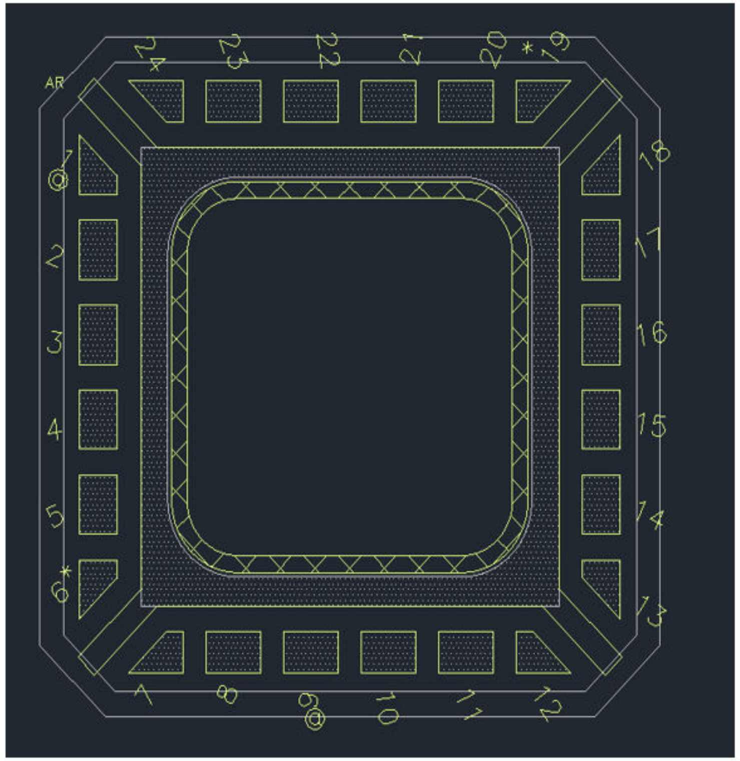
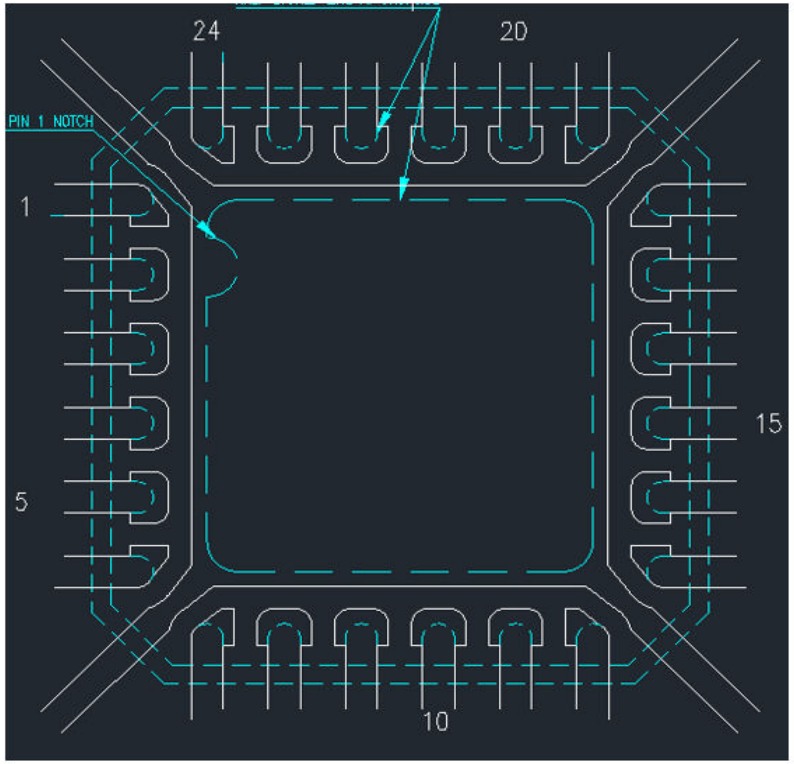
SMART | CONNECTED | SECURE

Lead frame Comparison

Pre Change	Post Change
ASE	STA
	

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: KSRA-17VISF459

Date:
May 21, 2021

Qualification of STA as an additional assembly site for selected products available in 32L VQFN (5x5x0.85 mm) package. The qualification of STA as additional assembly site for LAN8720A device family available in 24L VQFN (4x4x0.9mm) package will qualify by similarity (QBS).

Purpose: Qualification of STA as an additional assembly site for selected products available in 32L VQFN (5x5x0.85 mm) package. The qualification of STA as additional assembly site for LAN8720A device family available in 24L VQFN (4x4x0.9mm) package will qualify by similarity (QBS).

Misc.	Assembly site	STA
	CCB No.	4651
	Qual ID	QAR2010-076
Lead-Frame	Material	C194
	Lead Plating	Ag (Ring plating) / Etched
	Leadframe Size	3.5 x 3.5 mm
BondWire	Material	CuPd
DieAttach	Part Number	8290
MC	Part Number	G700E
PKG	PKG Type	VQFN
	Pin/Ball Count	32
	PKG width/size	5x5x0.85

Assembly Process Data

Process	Test Item	Criteria	Sample Size	Failure/ Tested Qty.	Remarks Pass/Fail
Wafer Saw	Topside Chipping	50% max of damage the guard ring	45 units/lot	0/45	Pass
	Backside Chipping	125µm max	45 units/lot	0/45	Pass
Die attach	Epoxy Void	10% max of die area	10 units/lot	0/10	Pass
	Bond Line	10-40µm	10 units/lot	0/10	Pass
Wirebond	Wirepull	3 gr. Min	20 wires/units 4 units	0/80	Pass
	Stitchpull	2.5 gr. Min	10 wires/units 5 units	0/50	Pass
	Ball Shear	8 gr min.	08 ball/units 5 units	0/40	Pass
	Loop Height	250 µm Max.	10 wires/units 2 units	0/20	Pass
	Cratering	0 defects	03 unit/lot All pads	0/3	Pass
	Au Intermetallic	60% min. Coverage	1 unit/lot 5 units	0/5	Pass
Mold	Wiresweep	10% max of longest wire	10 units/lot	0/10	Pass
Singulation	Package Dim	9+/-0.05mm 9+/-0.05mm	10 readings 10 readings	0/10 0/10	Pass Pass
Plating Thickness	Thickness	10-18µm	20 readings	0/20	Pass

SUMMARY RESULT OF RELIABILITY TEST

<table>
<tr><th rowspan="2">ITEM</th><th rowspan="2">CONDITION</th><th colspan="2">BEFORE PRECONDITIONING</th><th colspan="2">AFTER PRECONDITIONING</th></tr>
<tr><th>O/S TEST</th><th>SAT</th><th>O/S TEST</th><th>SAT</th></tr>
<tr><td>PRECONDITIONING</td><td>30^{0}C / 60% RH 192 HRS, Level 3 per Jedec</td><td>0/240</td><td>0/240</td><td>0/240</td><td>0/240</td></tr>
<tr><td>TEST ITEM
(With Pre-Condition)</td><td>TEST CONDITION</td><td colspan="2">TEST INTERVAL</td><td>VISUAL Inspection</td><td>O/S TEST</td></tr>
<tr><td>TEMPRATURE CYCLE TEST</td><td>JEDEC 22-A104
-65’C~150’C</td><td colspan="2">1000/1500 CYC</td><td>0/60</td><td>0/60</td></tr>
<tr><td>HIGH TEMPERATURE STORAGE TEST</td><td>JEDEC 22-A103
150’C</td><td colspan="2">1000/1500 HRS</td><td>0/60</td><td>0/60</td></tr>
<tr><td>HAST TEST (NO BIAS)</td><td>JEDEC 22-A118
130’C/85%RH
33.5PSIG</td><td colspan="2">100/150 HRS</td><td>0/60</td><td>0/60</td></tr>
<tr><td>TEMPERATURE HUMIDITY TEST (NO BIAS)</td><td>JEDEC 22-A101
85’C/85%RH</td><td colspan="2">1000/1500 HRS</td><td>0/60</td><td>0/60</td></tr>
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