



## Product Change Notification / NTDO-29TVUD658

### Date:

12-May-2021

### Product Category:

Ethernet Bridges, Ethernet Controllers, USB Hubs

### PCN Type:

Manufacturing Change

### Notification Subject:

CCB 4623 Final Notice: Qualification of STA as an additional assembly site for LAN9220, LAN9221, LAN9500 and USB2524 SMSC device families available in 56L VQFN (8x8x0.9mm) package

### Affected CPNs:

[NTDO-29TVUD658\\_Affected\\_CPN\\_05122021.pdf](#)

[NTDO-29TVUD658\\_Affected\\_CPN\\_05122021.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 LAN9220, LAN9221, LAN9500 and USB2524 SMSC device families available in 56L VQFN (8x8x0.9mm) package.

### Pre and Post Change Summary:

	Pre Change		Post Change		
<b>Assembly Site</b>	ASE Inc. (ASE)		ASE Inc. (ASE)		STATS Chippac Ltd. (STA)
<b>Wire material</b>	PdCu	Au	PdCu	Au	CuPdAu

<b>Die attach material</b>	EN-4900F	EN-4900F	8290
<b>Molding compound material</b>	G631B	G631B	G700E
<b>Lead frame material</b>	C194	C194	C194
<b>Lead frame paddle size</b>	240X240 mils	240X240 mils	236X236 mils
	See attached pre and post change comparison		
<b>DAP Surface Prep</b>	Double Ring	Double Ring	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				
	1 9	2 0	2 1	2 2	2 3		2 7	2 8	2 9	3 0	3 1
Workweek											
Final PCN Issue Date		X									
Qual Report Availability		X									
Estimated First Ship 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 12, 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 NTDO-29TVUD658\\_Pre and Post Change Comparison.pdf](#)  
[PCN\\_NTDO-29TVUD658\\_Qual\\_Report.pdf](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

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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)

LAN9220-ABZJ

LAN9221-ABZJ

LAN9221I-ABZJ

USB2524-ABZJ

LAN9500-ABZJ-A00

LAN9500I-ABZJ

LAN9500-ABZJ

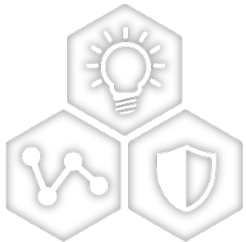
LAN9500I-ABZJ-TR

**CCB 4623**  
**Pre and Post Change Summary**  
**PCN #NTDO-29TVUD658**



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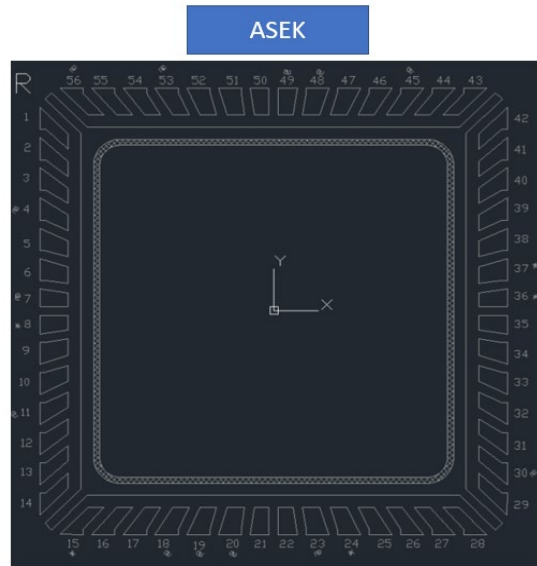
A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



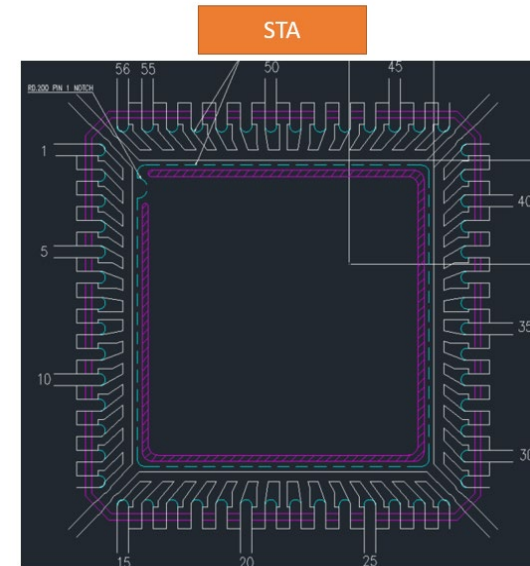
SMART | CONNECTED | SECURE

# Lead frame Comparison

## Pre Change



## Post Change





**MICROCHIP**

**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN #: NTDO-29TVUD658**

**Date:**  
**December 27, 2011**

**Qualification of STA as an additional assembly site for selected products available in 64L VQFN (9x9x0.85 mm) package. The qualification of STA as additional assembly site for selected LAN922X, LAN9500 and USB2524 devices family available in 56L VQFN (8x8x0.9mm) package will qualify by similarity (QBS).**

**Purpose:** Qualification of STA as an additional assembly site for selected products available in 64L VQFN (9x9x0.85 mm) package. The qualification of STA as additional assembly site for selected LAN922X, LAN9500 and USB2524 devices family available in 56L VQFN (8x8x0.9mm) package will qualify by similarity (QBS).

<u>Misc.</u>	Assembly site	STA
	CCB No.	4623
	Qual ID	QAR2010-076
<u>Lead- Frame</u>	Material	C194
	Lead Plating	Ag (Ring plating) / Etched
	Leadframe Size	4.9 x 4.9 mm
<u>Bond Wire</u>	Material	PdCu
<u>Die Att ach</u>	Part Number	8290
<u>MC</u>	Part Number	G700E
<u>PKG</u>	PKG Type	VQFN
	Pin/Ball Count	64
	PKG width/size	9x9x0.85



## 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 125µm max	45 units/lot	0/45	Pass
	Backside Chipping		45 units/lot	0/45	Pass
Die attach	Epoxy Void Bond Line	10% max of die area 10-40µm	10 units/lot	0/10	Pass
			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	10 readings	0/10	Pass
		9+/-0.05mm	10 readings	0/10	Pass
Plating Thickness	Thickness	10-18µm	20 readings	0/20	Pass

## **SUMMARY RESULT OF RELIABILITY TEST**

ITEM	CONDITION	BEFORE PRECONDITIONING		AFTER PRECONDITIONING	
		O/S TEST	SAT	O/S TEST	SAT
PRECONDITIONING	30°C / 60% RH 192 HRS, Level 3 per Jeduc	0/240	0/240	0/240	0/240
TEST ITEM (With Pre-Condition)	TEST CONDITION	TEST INTERVAL		VISUAL Inspection	O/S TEST
TEMPERATURE CYCLE TEST	JEDEC 22-A104 -65°C~150°C	1000/1500 CYC		0/60	0/60
HIGH TEMPERATURE STORGE TEST	JEDEC 22-A103 150°C	1000/1500 HRS		0/60	0/60
HAST TEST (NO BIAS )	JEDEC 22-A118 130°C/85%RH 33.5PSIG	100/150 HRS		0/60	0/60
TEMPERATURE HUMIDITY TEST (NO BIAS )	JEDEC 22-A101 85°C/85%RH	1000/1500 HRS		0/60	0/60

<b>Test</b>	<b>Sample Size</b>	<b>Spec</b>	<b>Pass/Fail</b>
Physical dimensions	15	Plastic Pkg outlines - internal specs.	15/0
Solderability	15	PI-23 Matte-Sn Plating	15/0
Marking Inspection	1	AP-51	PASS
Packing Inspection	One Inner Box	AP-71	PASS