Product Change Notification / JAON-22SQIR681

Date:

26-Aug-2021

Product Category:

USB Hubs

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4318.001 Final Notice: Qualification of ASCL as an additional assembly site for selected USB7002, USB7050, USB7051, USB7052, USB7056, USB7006, and USB7016 device families available in 100L VQFN (12x12x0.9mm) package.

Affected CPNs:

JAON-22SQIR681_Affected_CPN_08262021.pdf
JAON-22SQIR681_Affected_CPN_08262021.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 ASCL as an additional assembly site for selected USB7002, USB7050, USB7051, USB7052, USB7056, USB7006, and USB7016 device families available in 100L VQFN (12x12x0.9mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change

Assembly Site	ASE Inc. - Kaoshiung (ASE)	ASE Inc. - Kaoshiung (ASE)	ASE Group Chung-Li (ASCL)
Wire material	CuPdAu	CuPdAu	CuPdAu
Die attach material	EN-4900	EN-4900	EN-4900
Molding compound material	G631H	G631H	G700LA
Lead frame material	C194	C194	C7025

Impacts to Data Sheet: None

Change Impact: None

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

Change Implementation Status:In Progress

Estimated First Ship Date: September 23, 2021 (date code: 2139)

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

Time Table Summary:

	August 2021					**September 2021**			
Workweek	32	33	34	35	36	37	38	39	40
Qual Report Availability				X					
Final PCN Issue Date				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:August 26, 2021: 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-22SQIR681_Qual_Report.pdf
PCN_JAON-22SQIR681_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.

JAON-22SQIR681 - CCB 4318.001 Final Notice: Qualification of ASCL as an additional assembly site for selected USB7002, USB7050, USB7051, USB7052, USB7056, USB7006, and USB7016 device families available in 100L VQFN (12x12x0.9mm) package.

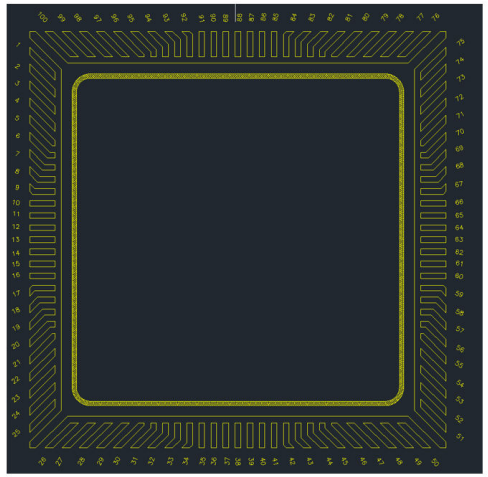
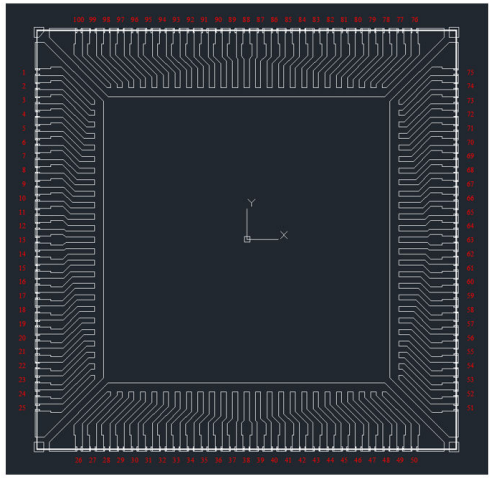
Affected Catalog Part Numbers (CPN)

USB7002/KDX
USB7050/KDX
USB7051/KDX
USB7052/KDX
USB7056/KDX
USB7006/KDX
USB7016/KDX
USB7002-I/KDX
USB7050-I/KDX
USB7051-I/KDX
USB7052-I/KDX
USB7056-I/KDX
USB7006-I/KDX
USB7016-I/KDX
USB7002-I/KDXVAO
USB7050-I/KDXVAO
USB7006-I/KDXVAO
USB7016-I/KDXVAO
USB7002T/KDX
USB7050T/KDX
USB7051T/KDX
USB7052T/KDX
USB7056T/KDX
USB7006T/KDX
USB7016T/KDX
USB7002T-I/KDX
USB7050T-I/KDX
USB7051T-I/KDX
USB7052T-I/KDX
USB7056T-I/KDX
USB7006T-I/KDX
USB7016T-I/KDX
USB7002T-I/KDXVAO
USB7050T-I/KDXVAO
USB7006T-I/KDXVAO
USB7016T-I/KDXVAO

CCB 4318.001
Pre and Post Change Summary
PCN # JAON-22SQIR681

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

Lead frame Comparison

Pre Change	Post Change
ASE	ASCL
	

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: JAON-22SQIR681

Date
December 01, 2020

Qualification of ASCL as an additional assembly site for selected USB7002, USB7050, USB7051, USB7052, USB7056, USB7006, and USB7016 device families available in 100L VQFN (12x12x0.9mm) package.

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of ASCL as an additional assembly site for selected USB7002, USB7050, USB7051, USB7052, USB7056, USB7006, and USB7016 device families available in 100L VQFN (12x12x0.9mm) package.
CN	ES346385
QUAL ID	R2000670 rev A
MP CODE	STB07SKDXCH3
Part No.	USB5807CT/KDH01
Bonding No.	BDM-002651 Rev. A
CCB No.	4318 and 4318.001

Package

Type	100L VQFN
Package size	12 x 12 x 0.9 mm

Lead Frame

Paddle size	323 x 323 mils
Material	C7025
Surface	DOUBLE RING
Process	Etched
Lead Lock	No
Part Number	A0100QN008F01

Material

Epoxy	EN-4900
Wire	CuPdAu wire
Mold Compound	G700LA
Plating Composition	Matte Sn

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
ASCL211800001.000	TC14921152766.100	20311SD
ASCL211800002.000	TC14921152766.100	20311T3
ASCL211800003.000	TC14921152766.100	20311TS

Result [X] Pass [ ] Fail [ ] _____

100L VQFN (12x12x0.9 mm) assembled by ASCL 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 105°C System: LTX_D1X	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 105°C System: LTX_D1X			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: +105°C System: LTX_D1X		231(0)	0/231	Pass	77 units / lot
	Stress Condition: -65°C to +150°C, 1000 Cycles System: TABAI ESPEC TSA-70H			231		
	Electrical Test: +105°C System: LTX_D1X		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 2.5 grams)		15 (0)	0/15	Pass	
	Bond Shear (> 13.00 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 and 105°C System: LTX_D1X		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 1.20 Volts, PS3# 3.3 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 25°C and 105°C System: LTX_D1X		231(0)	0/231	Pass	77 units / lot
	Stress Condition: +130°C/85%RH,192 hrs. **Bias Volt:** 1.20 Volts, PS3# 3.3 Volts System: HAST 6000X			231		
	Electrical Test: + 25°C and 105°C System: LTX_D1X		231(0)	0/231	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	**Stress Condition:** Bake 150°C, 500 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test: +25°C and 105°C System: LTX_D1X		45(0)	0/45	Pass	
	Stress Condition: Bake 150°C, 1000 hrs System: SHEL LAB			45		
	Electrical Test: +25°C and 105°C System: LTX_D1X		45(0)	0/45	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	
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 (> 8.00 grams)	CDF-AEC-Q100-001	30 (0) bonds	0/30	Pass	