

Product Change Notification - ASER-23MPQS728

Date:

17 Jun 2020

Product Category:

USB Port Power Controller; Others

Affected CPNs:

Notification subject:

CCB 3472.001 Final Notice: Qualification of MTAI as a new assembly site for UCS100xxx products available in 20L QFN (4x4x0.9mm) package.

Notification text:
PCN Status:

Final notification

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open one of the icons found in the Affected CPNs section above.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).

Description of Change:

Qualification of MTAI as a new assembly site for UCS100xxx products available in 20L QFN (4x4x0.9mm) package.

Pre Change:

Assembled at ASE using EN-4900 die attach material, G631H molding compound and at MSL3.

Post Change:

Assembled at MTAI using 8008MD die attach material, G700LTD molding compound and at MSL1.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Advanced Semiconductor Engineering Inc. (ASE)	Microchip Technology Thailand (HQ) (MTAI)
Wire material	CuPdAu	CuPdAu
Die attach material	EN-4900	8008MD
Molding compound material	G631H	G700LTD
Lead frame material	A194	A194
Moisture Sensitivity Level (MSL)	MSL3/260	MSL1/260

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve manufacturability by qualifying MTAI as new assembly site.



Change Implementation Status:

In Progress

Estimated First Ship Date:

July 17,2020 (date code: 2029)

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

Time Table Summary:

	March 2020					->	June 2020					July 2020			
Workweek	10	11	12	13	14		23	24	25	26	27	28	29	30	31
Initial PCN Issue Date				X											
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:

March 27, 2020: Issued initial notification.

June 17, 2020: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on July 17, 2020.

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

Attachment(s):

[PCN_ASER-23MPQS728_Qual_Report.pdf](#)

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

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Affected Catalog Part Numbers (CPN)

UCS1001-1-BP
UCS1001-2-BP
UCS1001-3-BP
UCS1001-4-BP
UCS1002-1-BP
UCS1002-2-BP
UCS1003-1-BP
UCS1003-2-BP
UCS1003-3-BP
UCS1001-1-BP-TR
UCS1001-2-BP-TR
UCS1001-3-BP-TR
UCS1001-4-BP-TR
UCS1002-1-BP-TR
UCS1002-A-BP-TR
UCS1002-2-BP-TR
UCS1003-1-BP-TR
UCS1003-2-BP-TR
UCS1003-3-BP-TR



QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: ASER-23MPQS728

Date
June 02, 2020

**Qualification of MTAI as a new assembly site for UCS100xxx
products available in 20L QFN (4x4x0.9mm) package.**



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PACKAGE QUALIFICATION REPORT

Purpose Qualification of MTAI as a new assembly site for UCS100xxx products available in 20L QFN (4x4x0.9mm) package.

CCB No. 3472.001
CN ES338019
QUAL ID Q20004 Rev. A
MP CODE TA7017G4XA1C
Part No. UCS1001-1-BP
Bonding No. BDM-002274 Rev. A

Package

Type 20L QFN
Package size 4 x 4 x 0.9mm

Lead Frame

Paddle size 110 x 110 mils
Material A194
Surface Bare Copper
Process Etched
Lead Lock No
Part Number 10102021

Material

Epoxy 8008MD
Wire CuPdAu wire
Mold Compound G700LTD
Plating Composition Matte Tin



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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No. No.	Wafer No.	Date Code
MTAI203802275.000	TC05920369236.100	1951R6H
MTAI203803110.000	TC05920369236.100	1951UD2
MTAI203803113.000	TC05920369236.100	1951UEP

Result

Pass Fail _____

20L QFN (4x4x0.9 mm) assembled by MTAI pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 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
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	Electrical Test :+25°C System: ES_HC0VI	JESD22- A113	693 (0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE	JIP/ IPC/JEDE		693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH	C J-STD- 020E		693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			693	Pass	
	Electrical Test :+25°C System: ES_HC0VI			0/693		

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 Electrical Test: + 25°C System: EX_HCOVI	JESD22-A104		231		Parts had been pre-conditioned at 260°C 77 units / lot
			231(0)	0/231	Pass	
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: + 25°C System: EX_HCOVI	JESD22-A118		231		Parts had been pre-conditioned at 260°C 77 units / lot
			231(0)	0/231	Pass	
	Stress Condition: +130°C/85%RH, 192 hrs. System: HAST 6000X Electrical Test: + 25°C System: EX_HCOVI			231		
			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, 504 hrs System: SHEL LAB Electrical Test :+25°C System: EX_HCOVI	JESD22-A103	45(0)	45	Pass	45 units
	Stress Condition: Bake 150°C, 1008 hrs System: SHEL LAB Electrical Test :+25°C System: EX_HCOVI			0/45		
Solderability Temp 215°C	Steam Aging: Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63,Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	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	
Bond Strength Data Assembly	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	