



Product Change Notification - KSRA-04UHXG411

Date:

06 Aug 2019

Product Category:

Ethernet PHYs

Affected CPNs:**Notification subject:**

CCB 3459.001 Final Notice: Qualification of MTAI as an additional assembly site for selected Micrel products available in 24L VQFN (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 an additional assembly site for selected Micrel products available in 24L VQFN (4x4x0.9mm) package.

Pre Change:

Assembled at TICIP using Ag bond wire, EN-4900 die attach and G631 mold compound material.
Assembled at ASE using Au bond wire, EN-4900 die attach and G631 mold compound material.

Post Change:

Assembled at TICIP using Ag bond wire, EN-4900 die attach and G631 mold compound material.
Assembled at ASE using Au bond wire, EN-4900 die attach and G631 mold compound material.
Assembled at MTAI using Au bond wire, 3280 die attach material and G700LTD mold compound material.

Pre and Post Change Summary:

	Pre Change		Post Change		
Assembly Site	Taiwan IC Packing Corp. - (TICP)	ASE Inc.. - (ASE)	Taiwan IC Packing Corp. - (TICP)	ASE Inc.. - (ASE)	Microchip Technology Thailand (HQ) - MTAI
Wire material	Ag	Au	Ag	Au	Au
Die attach material	EN-4900	EN-4900	EN-4900	EN-4900	3280
Molding compound material	G631	G631	G631	G631	G700LTD
Lead frame material	C194	C194	C194	C194	C194

Impacts to Data Sheet:

None

Change Impact:

None



Reason for Change:

To improve on-time delivery performance by qualifying MTAI as an additional assembly site.

Change Implementation Status:

In Progress

Estimated First Ship Date:

August 30, 2019 (date code: 1935)

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

Time Table Summary:

Workweek	August 2019				
	31	32	33	34	35
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:

August 06, 2019: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on August 30, 2019.

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_KSRA-04UHXG411_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)

KSZ8081RNACA
SPNZ801143
KSZ8081RNDCA-G3XX
KSZ8081RNACA-TR
KSZ8081RNDCA-TR
KSZ8091RNACA-TR
KSZ8091RNDCA-TR
SPNZ801128-TR
SPNZ801142-TR
SPNZ801143-TR
KSZ8081RNDCA-G3XX-TR
KSZ8081RNAIA-TR
KSZ8081RNDIA-TR
KSZ8091RNAIA-TR
KSZ8091RNDIA-TR
SPNY801142-TR
SPNY801143-TR
SPNY801147-TR
SPNY801148-TR
KSZ8081RNAIA-G3XX-TR
KSZ8091RNAIA-G3XX-TR



MICROCHIP

**QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY**

PCN #: KSRA-04UHXG411

**Date
October 08, 2018**

**Qualification of MTAI as a new assembly site for selected
Micrel products available in 32L VQFN (5x5x0.9mm)
package. The selected products available 24L VQFN
(4x4x0.9mm) packages will qualify by similarity (QBS).**



MICROCHIP **PACKAGE QUALIFICATION REPORT**

Purpose	Qualification of MTAI as a new assembly site for selected Micrel products available in 32L VQFN (5x5x0.9mm) package. The selected products available 24L VQFN (4x4x0.9mm) packages will qualify by similarity (QBS).
CCB No.	3459 and 3459.001
CN	ES226534
QUAL ID	Q18150
MP CODE	XKAA1TPFAA04
Part No.	KSZ8081RNBIA-TR
Bonding No.	BDM-001909 REV.A
<u>Package</u>	
Type	32L VQFN
Package size	5 x 5 x 1.0 mm
Die thickness	8 mils
Die size	57.8 x 37.4 mils
<u>Lead Frame</u>	
Paddle size	150 x 150 mils
Material	C194
Surface	Ag spot
Process	Etched
Lead Lock	No
Part Number	10103204
Treatment	Roughened
<u>Material</u>	
Epoxy	3280
Wire	Au wire
Mold Compound	G700LTD
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI192002027.000	DU0291033565.000	1833GGQ
MTAI192002287.000	DU0291033565.000	1833HDB
MTAI19200288.000	DU0291033565.000	1833HDC

Result

Pass Fail _____

32L VQFN (5x5x1.0 mm) assembled by MTAI pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 2 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
Moisture/Reflow Sensitivity Classification Test (At MSL Level 2)	85°C/ 60%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020E)	IPC/JEDEC J-STD-020E	135	0/135	Pass	
Precondition Prior Perform Reliability Tests (At MSL Level 2)	Electrical Test :+25°C and 85°C System: LTX_D1X Bake 150°C, 24 hrs System: CHINEE 85°C/60%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 Electrical Test :+25°C and 85°C System: LTX_D1X	JESD22-A113	693(0)	693 693 693 0/693	 Pass	Good Devices
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Electrical Test: + 85°C System: LTX_D1X Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	JESD22-A104	 231(0) 15 (0) 15 (0)	231 0/231 0/15 0/15	 Pass Pass Pass	Parts had been pre-conditioned at 260°C 77 units / lot
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. Electrical Test: +25°C System: LTX_D1X	JESD22-A118		231 0/231		Parts had been pre-conditioned at 260°C 77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 3.3 Volts System: HAST 6000X Electrical Test: +25°C and 85°C System: LTX_D1X	JESD22-A110	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 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		45		45 units
	Electrical Test :+25°C and 85°C System: LTX_D1X		45(0)	0/45	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	