



Product Change Notification - KSRA-20BGKY389

Date:

23 Dec 2019

Product Category:

8-bit Microcontrollers

Affected CPNs:**Notification subject:**

CCB 4023.001 and 4023.002 Initial Notice: Qualification of MTAI as an additional assembly site for selected Atmel products available in 32L (7x7x1.0mm) and 48L TQFP (7x7x1.0mm) package using gold (Au) wire.

Notification text:**PCN Status:**

Initial 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 Atmel products available in 32L (7x7x1.0mm) and 48L TQFP (7x7x1.0mm) package using gold (Au) wire.

Pre Change:

Assembled at ASCL assembly site using palladium coated copper with gold flash (CuPdAu) bond wire, EN4900G die attach, and C194-ESH lead frame material with MSL Level 3 classification

Post Change:

Assembled at ASCL assembly site using palladium coated copper with gold flash (CuPdAu) bond wire, EN4900G die attach, and C194-ESH lead frame material with MSL Level 3 classification

Assembled at MTAI assembly site using gold (Au) bond wire, 3280 die attach, and C7025 lead frame material with MSL Level 1 classification

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	ASE Group Chung-Li / ASCL	ASE Group Chung-Li / ASCL	Microchip Technology Thailand (HQ) / MTAI
Wire material	CuPdAu	CuPdAu	Au
Die attach material	EN4900G	EN4900G	3280
Molding compound material	G700	G700	G700
Lead frame material	C194-ESH	C194-ESH	C7025
MSL	MSL 3	MSL 3	MSL 1

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve productivity by qualifying MTAI as an additional assembly site

Change Implementation Status:

In Progress



Estimated Qualification Completion Date:

January 2020

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

Time Table Summary:

	December 2019				January 2020				
Workweek	49	50	51	52	01	02	03	04	05
Initial PCN Issue Date				X					
Qual Report Availability									X
Final PCN Issue Date									X

Method to Identify Change:

Traceability code

Qualification Plan:

Please open the attachments included with this PCN labeled as PCN_#_Qual_Plan.

Revision History:

December 23, 2019: Issued initial notification.

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-20BGKY389_Qual_plan.pdf](#)

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

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QUALIFICATION PLAN SUMMARY

PCN #: KSRA-20BGKY389

**Date:
October 25, 2019**

Qualification of MTAI as an additional assembly site for selected Atmel products available 48L TQFP (7x7x1.0mm) package using gold (Au) wire. The selected products available in 32L TQFP (7x7x1.0mm) package will qualify by similarity (QBS).

Purpose: Qualification of MTAI as an additional assembly site for selected Atmel products available 48L TQFP (7x7x1.0mm) package using gold (Au) wire. The selected products available in 32L TQFP (7x7x1.0mm) package will qualify by similarity (QBS).

<u>Misc.</u>	Assembly site	MTAI
	BD Number	BDE-005935-01
	MP Code (MPC)	59B20YY8XVA1
	Part Number (CPN)	ATMEGA4809-AFR-VAO
	MSL information	1
	Assembly Shipping Media (T/R, Tube/Tray)	T/R
	Base Quantity Multiple (BQM)	2500
	Reliability Site	MPHIL
	CCB No	4023, 4023.001 and 4023.002
<u>Lead-Frame</u>	Paddle size	200 x 200
	Material	C7025
	DAP Surface Prep	Cu
	Treatment	BOT with Bare Cu on Paddle
	Process	Stamping
	Lead-lock	No
	Lead Plating	Matte Tin
	Strip Size	70x x250
	Strip Density	440
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	3280
	Conductive	Yes
<u>MC</u>	Part Number	G700HA
<u>PKG</u>	PKG Type	TQFP
	Pin/Ball Count	48
	PKG width/size	7 x 7 mm

Test Name	Conditions	Reliability Stress Read Point	Pre & Post Reliability Stress Test Temperature	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
Wire Bond Pull - WBP	Mil. Std. 883-2011	Grade 1: -40°C to +125°C (MCHP E Temp)	Grade 1: -40°C to +125°C (MCHP E Temp)	5	0	1	5	0 fails after TC	5	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001			5	0	1	5		5	30 bonds from a min. 5 devices.
External Visual	Mil. Std. 883-2009/2010			All devices prior to submission for qualification testing 45	0	3	ALL	0	5	
HTSL (High Temp Storage Life)	JESD22-A103 +175°C	Grade 1: 500 hrs (+175°C)	Grade 1: +25°C, +85°C, +125°C Grade 1: +25°C	231+ 45 (for devices requiring PTC)	15+ 5 (for devices requiring PTC)	3	738+ 50 (for devices requiring PTC)	0	21 - 83	Spares should be properly identified.
Preconditioning - Required for surface mount devices	J-STD-020JESD22-A113+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X MSL 1 260°C reflow at peak reflow temperature per Jedec-STD-020E for package type.									Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test. 45 parts from one lot to be used for PTC test (for devices requiring PTC)
HAST	JESD22-A101 or A110 +130°C/85% RH for 96 hrs	Grade 1: 96 hrs (+130°C/85% RH)	Grade 1: +25°C, +85°C, +125°C	77	5	3	246	0	10 - 14	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	JESD22-A102, A118, or A101 +130°C/85% RH for 96 hrs	Grade 1: 96 hrs (+130°C/85% RH)	Grade 1: +25°C	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	JESD22-A104 and Appendix 3 -65°C to +150°C	Grade 1: 500 cycles (-65°C to 150°C)	Grade 1: +85°C, +125°C	77	5	3	246	0	15 - 60	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

Affected Catalog Part Numbers(CPN)

ATMEGA168PB-AU
ATMEGA168PB-AN
ATMEGA168PB-ANR
ATMEGA168PB-AUR
ATMEGA88PB-AU
ATMEGA48PB-AU
ATMEGA88PB-AN
ATMEGA48PB-AN
ATMEGA88PB-ANR
ATMEGA48PB-ANR
ATMEGA88PB-AUR
ATMEGA48PB-AUR
ATMEGA808-AF
ATMEGA1608-AF
ATMEGA1608-AU
ATMEGA808-AU
ATMEGA1608-AUR
ATMEGA808-AUR
ATMEGA1608-AFR
ATMEGA808-AFR
ATMEGA328PB-AU
ATMEGA328PB-AN
ATMEGA328PB-ANR
ATMEGA328PB-AUR
ATMEGA4808-AF
ATMEGA3208-AF
ATMEGA4808-AU
ATMEGA3208-AU
ATMEGA4808-AUR
ATMEGA3208-AUR
ATMEGA4808-AFR
ATMEGA3208-AFR
ATMEGA809-AF
ATMEGA1609-AF
ATMEGA1609-AU
ATMEGA809-AU
ATMEGA1609-AUR
ATMEGA809-AUR
ATMEGA1609-AFR
ATMEGA809-AFR
ATMEGA4809-AF
ATMEGA3209-AF

ATMEGA4809-AU
ATMEGA3209-AU
ATMEGA4809-AUR
ATMEGA3209-AUR
ATMEGA4809-AFR
ATMEGA3209-AFR