



Product Change Notification - KSRA-30TQUS060

Date:

10 Sep 2018

Product Category:

32-bit Microcontrollers

Affected CPNs:**Notification subject:**

CCB 3519 Initial Notice: Qualification of MTAI as an additional assembly site for selected Atmel products available in 32L TQFP (7x7x1mm) package using gold (Au) bond 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 TQFP (7x7x1mm) package using gold (Au) bond wire

Pre Change:

Assembled in ASCL assembly site using palladium coated copper with gold flash (CuPdAu) bond wire, EN-4900 die attach, and C194 lead frame material

Post Change:

Assembled in ASCL assembly site using palladium coated copper with gold flash (CuPdAu) bond wire, EN-4900 die attach, and C194 lead frame material.

Assembled in MTAI assembly site using gold (Au) bond wire, 3280 die attach, and C7025 lead frame material.

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	EN-4900	EN-4900	3280
Molding compound material	G700	G700	G700
Lead frame material	C194	C194	C7025

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 Qualification Completion Date:

October 2018

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:

	September 2018					October 2018				
Workweek	35	36	37	38	39	40	41	42	43	44
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:

September 10, 2018: 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-30TQUS060_Qual_Plan.pdf](#)

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

Terms and Conditions:

If you wish to change your product/process change notification (PCN) profile please log on to our website at <http://www.microchip.com/PCN> sign into myMICROCHIP to open the myMICROCHIP home page, then select a profile option from the left navigation bar.

To opt out of future offer or information emails (other than product change notification emails), click here to go to [microchipDIRECT](#) and login, then click on the "My account" link, click on "Update profile" and un-check the box that states "Future offers or information about Microchip's products or services."



MICROCHIP

QUALIFICATION PLAN

PCN #: KSRA-30TQUS060

**Date:
August 22, 2018**

**Qualification of MTAI as an additional assembly site for
selected Atmel products available in 32L TQFP (7x7x1mm)
package using gold (Au) bond wire**

Purpose: Qualification of MTAI as an additional assembly site for selected Atmel products available in 32L TQFP (7x7x1mm) package using gold (Au) bond wire

CCB No.: 3519

Misc.	Assembly site	MTAI
	BD Number	BDM-001914 rev. A
	MP Code (MPC)	661P2TT5XC02
	Part Number (CPN)	ATSAMC21E18A-AUT
Lead-Frame	Paddle size	197x197 mils
	Material	C7025
	Surface	Ag spot plated
	Treatment	Roughening
	Process	Stamped
	Lead-lock	No
	Lead Plating	Matte Tin
Bond Wire	Material	Au
Die Attach	Part Number	3280
	Conductive	Yes
MC	Part Number	G700HA
PKG	PKG Type	TQFP
	Pin/Ball Count	32
	PKG width/size	7x7
Die	Die Thickness	11 mils
	Die Size	134.3 x 123.5 mils
	MSL	MSL1/260

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	Test Site	Special Instructions
		-40°C to +125°C datasheet operating range (E Temp)	-40°C to +125°C datasheet operating range (E Temp)								
Standard Pb-free Solderability	JESD22B-102E; Perform 8 hours of steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.			22	5	1	27	>95% lead coverage	5	MTAI	Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability- SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
Wire Bond Pull - WBP	CDF-AEC-Q100-001			5	0	1	5		5		Wire pull / ball shear is performed after stress testing and decapsulation.
Wire Bond Shear - WBS	CDF-AEC-Q100-001			5	0	1	5		5		Wire pull / ball shear is performed after stress testing and decapsulation.
External Visual	Mil. Std. 883-2009/2010			All devices prior to submission for qualification testing	0	3	ALL	0	5		
HTSL (High Temp Storage Life)	JESD22A-103. +175°C, Electrical test pre and post stress at +25°C and hot temp.	500hrs	+25°C, +85°C, +125°C	45	5	1	50	0	10	MPHL	Spares should be properly identified.
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type. MSL1 @260°C		+25°C, +85°C, +125°C	231	15	3	738	0	15		Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	+130°C/85% RH for 96hrs. Electrical test pre and post stress at +25°C and hot temp.	96 hrs	+25°C, +85°C, +125°C	77	5	3	246	0	10		Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	+130°C/85% RH for 96hrs	96 hrs	+25°C,	77	5	3	246	0	10		Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	PreCon before TC -65°C to +150°C 3 gram force WBP on 5 devices from 1 lot. Electrical Test Pre and Post Stress at Hot Temp	500 cycles	+25°C, +85°C, +125°C	77	5	3	246	0	15		Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

Affected Catalog Part Numbers (CPN)

ATSAMC20E15A-ANT
ATSAMC20E15A-AUT
ATSAMC20E16A-ANT
ATSAMC20E16A-AUT
ATSAMC20E17A-ANT
ATSAMC20E17A-AUT
ATSAMC20E18A-ANT
ATSAMC20E18A-AUT
ATSAMC21E15A-ANT
ATSAMC21E15A-AUT
ATSAMC21E16A-ANT
ATSAMC21E16A-AUT
ATSAMC21E17A-ANT
ATSAMC21E17A-AUT
ATSAMC21E18A-ANT
ATSAMC21E18A-AUT
ATSAMD20E14A-AN
ATSAMD20E14A-ANT
ATSAMD20E14A-AU
ATSAMD20E14A-AUA1
ATSAMD20E14A-AUA2
ATSAMD20E14A-AUT
ATSAMD20E14A-AUTA1
ATSAMD20E14A-AUTA2
ATSAMD20E14A-AUTA4
ATSAMD20E14B-AN
ATSAMD20E14B-ANT
ATSAMD20E14B-AU
ATSAMD20E14B-AUT
ATSAMD20E15A-AN
ATSAMD20E15A-ANT
ATSAMD20E15A-AU
ATSAMD20E15A-AUA1
ATSAMD20E15A-AUA2
ATSAMD20E15A-AUA4
ATSAMD20E15A-AUT
ATSAMD20E15A-AUTA1
ATSAMD20E15A-AUTA2
ATSAMD20E15B-AN
ATSAMD20E15B-ANT
ATSAMD20E15B-AU
ATSAMD20E15B-AUT
ATSAMD20E16A-AN
ATSAMD20E16A-ANT
ATSAMD20E16A-AU
ATSAMD20E16A-AUA1

ATSAMD20E16A-AUA2
ATSAMD20E16A-AUT
ATSAMD20E16A-AUTA1
ATSAMD20E16A-AUTA2
ATSAMD20E16A-AUTA4
ATSAMD20E16B-AN
ATSAMD20E16B-ANT
ATSAMD20E16B-AU
ATSAMD20E16B-AUT
ATSAMD20E17A-AN
ATSAMD20E17A-ANT
ATSAMD20E17A-AU
ATSAMD20E17A-AUA1
ATSAMD20E17A-AUA2
ATSAMD20E17A-AUT
ATSAMD20E17A-AUTA1
ATSAMD20E17A-AUTA2
ATSAMD20E18A-AN
ATSAMD20E18A-ANT
ATSAMD20E18A-AU
ATSAMD20E18A-AUA1
ATSAMD20E18A-AUA2
ATSAMD20E18A-AUA4
ATSAMD20E18A-AUT
ATSAMD20E18A-AUTA1
ATSAMD20E18A-AUTA2
ATSAMD21E15B-AF
ATSAMD21E15B-AFT
ATSAMD21E15B-AU
ATSAMD21E15B-AUT
ATSAMD21E15L-AF
ATSAMD21E15L-AFT
ATSAMD21E16B-AF
ATSAMD21E16B-AFT
ATSAMD21E16B-AU
ATSAMD21E16B-AUT
ATSAMD21E16L-AF
ATSAMD21E16L-AFT
ATSAMD21E17A-AF
ATSAMD21E17A-AFT
ATSAMD21E17A-AU
ATSAMD21E17A-AUA1
ATSAMD21E17A-AUT
ATSAMD21E17A-AUTA1
ATSAMD21E18A-AF
ATSAMD21E18A-AFT
ATSAMD21E18A-AU
ATSAMD21E18A-AUA1
ATSAMD21E18A-AUT

ATSAMD21E18A-AUTA1
ATSAMDA1E14B-ABT
ATSAMDA1E15A-ABT
ATSAMDA1E15B-ABT
ATSAMDA1E16A-ABT
ATSAMDA1E16B-ABT
ATSAML10E14A-AU
ATSAML10E14A-AUT
ATSAML10E15A-AU
ATSAML10E15A-AUT
ATSAML10E16A-AU
ATSAML10E16A-AUT
ATSAML11E14A-AU
ATSAML11E14A-AUT
ATSAML11E15A-AU
ATSAML11E15A-AUT
ATSAML11E16A-AU
ATSAML11E16A-AUT
ATSAML21E15B-ANT
ATSAML21E15B-AUT
ATSAML21E16B-ANT
ATSAML21E16B-AUT
ATSAML21E17B-ANT
ATSAML21E17B-AUT
ATSAML21E18B-ANT
ATSAML21E18B-AUT