



## Product Change Notification - KSRA-30TQUS060

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**Date:**

26 Nov 2018

**Product Category:**

32-bit Microcontrollers; Others

**Affected CPNs:****Notification subject:**

CCB 3519 Final 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:**

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 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 First Ship Date:**

December 26, 2018 (date code: 1852)

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

**Time Table Summary:**

	September 2018					->	November 2018					December 2018			
Workweek	35	36	37	38	39		44	45	46	47	48	49	50	51	52
Initial PCN Issue Date			X												
Qual Report											X				
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:**

**September 10, 2018:** Issued initial notification.

**November 26, 2018:** Issued final notification. Attached the qualification report. Revised the affected parts list. Provided estimated first ship date on December 26, 2018.

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\\_Report.pdf](#)

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

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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.

Affected Catalog Part Numbers (CPN)

ATSAMD20E15B-AU  
ATSAMD20E15B-AUT  
ATSAMD20E16A-AN  
ATSAMD20E16A-ANT  
ATSAMD20E16A-AU  
ATSAMD20E16A-AUA1  
ATSAMD20E16A-AUA2  
ATSAMD20E16A-AUT  
ATSAMD20E16A-AUTA1  
ATSAMD20E16A-AUTA2  
ATSAMD20E16A-AUTA4  
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ATSAMDA1E15B-ABTVAO  
ATSAMDA1E16A-ABT  
ATSAMDA1E16B-ABTVAO



**MICROCHIP**

**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN #: KSRA-30TQUS060**

**Date:**

October 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**



# MICROCHIP

## Package Qualification Report

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 Number: 3519

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



# MICROCHIP

## Package Qualification Report

### Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI192202117.000	U08D91992207.100	18358GV
MTAI192203328.000	U08D91992207.100	1835B79
MTAI192202118.000	U08D91992207.100	18358GW

### Result

Pass

Fail

SAMC21 661P2 in TQFP32 Singulated Package using 0.8 Au wire from MTAI assembly pass reliability test per QCI-39000 which was conducted at MPHL rel lab. This package is qualified 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
<b>Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)</b>	85°C/85%RH Moisture Soak 168 hrs. System: Climats Excal 5423-HE 3x Convection-Reflow 265°C max System: Mancorp CR.5000F  ( IPC/JEDEC J-STD-020E)	IPC/JEDEC	45 units per lot	Lot 1 0/45	Pass	
				Lot 2 0/45	Pass	
				Lot 3 0/45	Pass	
<b>Precondition Prior Perform Reliability Tests (At MSL Level 1)</b>	<b>Electrical Test :+25°C</b> System: Magnum  Bake 150°C, 24 hrs System: HERAEUS  85°C/85%RH Moisture Soak 168 hrs. System: Climats Excal 5423-HE  3x Convection-Reflow 265°C max System: Mancorp CR.5000F  <b>Electrical Test :+25°C</b> System: Magnum	JESD22-A113	300 units per lot	Lot 1 0/300	Pass	Good Devices
				Lot 2 0/297	Pass	
				Lot 3 0/296	Pass	
<b>Temp Cycle</b>	<b>Stress Condition:</b> (Standard) -65°C to +150°C, 500 Cycles System : Votsch VTS <sup>2</sup> 7012	JESD22-A104	88 units per lot	Lot 1 0/88	Pass	Parts had been pre-conditioned at 260°C
				Lot 2 0/88	Pass	
	<b>Electrical Test:</b> +25°C, 125°C System: Magnum					
<b>HAST</b>	<b>Stress Condition:</b> (Standard) + 130°C, 85%RH, 96 hrs.  Bias Voltage: 5.5 Volts System: HIRAYAMA HATEST PC-422R8	JESD22-A110	84 per lot	Lot 1 0/84	Pass	Parts had been pre-conditioned at 260°C
				Lot 2 0/84	Pass	
				Lot 3 0/84	Pass	

## PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>UNBIASED HAST</b>	<b>Stress Condition:</b> (Standard) + 110°C, 85%RH, 264 hrs. System: HIRAYAMA HASTEST PC-422R8	JESD22- A110	80 units per lot	Lot 1 0/80	Pass	Parts had been pre- conditioned at 260°C
				Lot 2 0/80	Pass	
				Lot 3 0/80	Pass	
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 504 hrs System: HERAEUS	JESD22- A103	90 units per lot	Lot 1 0/90	Pass	80 units per lot
				Lot 2 0/90	Pass	
				Lot 3 0/90	Pass	
<b>Solderability Temp 245°C</b>	<b>Bake:</b> Temp 155°C,4Hrs System: Oven Solder Bath: Temp.245°C Solder material: SAC305 Visual Inspection: External Visual Inspection	JESD22B -102E	15 from 1 lot	0/15	Pass	