

Product Change Notification - RMES-13GYEY379

Date:

27 May 2019

Product Category:

Others; 32-bit Microcontrollers

Affected CPNs:

Notification subject:

CCB 3059.001 Final Notice: Qualification of MTAI as an additional assembly site for selected Atmel products available in 48L TQFP (7x7x1.0mm) package using gold (Au) 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 48L TQFP (7x7x1.0mm) package using gold (Au) wire.

Pre Change:

Assembled at ASCL Assembly site

Post Change:

Assembled at ASCL and MTAI Assembly site

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-4900GC	EN-4900GC	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 productivity by qualifying MTAI as an additional assembly site

Change Implementation Status:

In Progress

**Estimated First Ship Date**

June 27, 2019 (date code: 1926)

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

Time Table Summary:

	May 2019					June 2019				
Workweek	18	19	20	21	22	23	24	25	26	27
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:

May 27, 2019: Issued final notification. Attached the qualification report. Provided estimated first ship date on June 27, 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_RMES-13GYEY379_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)

ATSAMC20G15A-ANT
ATSAMC20G15A-AUT
ATSAMC20G15A-AZ
ATSAMC20G15A-AZT
ATSAMC20G16A-ANT
ATSAMC20G16A-AUT
ATSAMC20G16A-AZ
ATSAMC20G16A-AZT
ATSAMC20G17A-ANT
ATSAMC20G17A-AUT
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ATSAMC20G17A-AZT
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ATSAML22G17A-AUT
ATSAML22G18A-AUT



MICROCHIP

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: RMES-13GYEY379

Date:
July 25, 2018

Qualification of MTAI as an additional assembly site for selected Atmel products available in 64L TQFP (10x10x1.0mm) package using gold (Au) wire. The selected products available in 48L TQFP (7x7x1.0mm) package will qualify by similarity (QBS).



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose: Qualification of MTAI as an additional assembly site for selected Atmel products available in 64L TQFP (10x10x1.0mm) package using gold (Au) wire. The selected products available in 48L TQFP (7x7x1.0mm) package will qualify by similarity (QBS).

CCB No.: 3059 and 3059.001

<u>Misc.</u>	Assembly site	MTAI
	BD Number	BDM-001430
	MP Code (MPC)	661P2QV2XC08
	Part Number (CPN)	ATSAMC21J18A-ANT
<u>Lead-Frame</u>	Paddle size	200x200 mils
	Material	C7025
	Surface	Bare Cu paddle, Ag on leads
	Treatment	Brown oxide treatment (BOT)
	Process	Stamped
	Lead-lock	No
	Part Number	10106403
	Lead Plating	Matte Tin
<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	64
	PKG width/size	10x10x1.0mm
<u>Die</u>	Die Thickness	11 mils
	Die Size	134.3 x 123.5 mils
	MSL	MSL1/260



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI181803702.000	U08D918167042.100	1730J2H
MTAI181803708.000	U08D918167042.200	1730MGR
MTAI181803707.000	U08D918167042.100	1730MGQ

Result



Pass



Fail



SAMCA1 661P2 in 64L TQFP 10x10 package assembled at MTAI 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-020D standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow w Sensitivity Classification Test (At MSL Level 1)	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-020D)	IPC/JEDEC	45 units per lot	Lot 1 0/45	Pass	
				Lot 2 0/45	Pass	
				Lot 3 0/45	Pass	
Precondition Prior Perform Reliability Tests (At MSL Level 1)	Electrical Test :+25°C System: Magnum Bake 125°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 Electrical Test :+25°C System: Magnum	JESD22- A113	460 units per lot	Lot 1 0/458	Pass	Good Devices
				Lot 2 0/460	Pass	
				Lot 3 0/460	Pass	
Temp Cycle	Stress Condition: (Standard) 65°C to +150°C, 500 Cycles System : Votsch VTS ² 7012 Electrical Test: +25°C, 125°C System: Magnum	JESD22- A104	90 units per lot	Lot 1 0/88	Pass	Parts had been pre- conditioned at 260°C
				Lot 2 0/90	Pass	
				Lot 3 0/87	Pass	
	Internal Package Analysis System:		5 units per lot	Lot 1 0/5	Pass	
				Lot 2 0/5	Pass	
				Lot 3 0/5	Pass	
	Bond Strength: Wire Pull (> 1.75 grams) Bond <i>Shear</i> (>12.6 grams) System: Dage		5 units per lot		Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	Stress Condition: (Standard) + 130°C, 85%RH, 96 hrs. VOLTS=5.5V System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	84 units 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		
	Bond Strength: Wire Pull (> 1.75 grams) Bond Shear (>12.6 grams) System: Dage		5 units per lot		Pass	
UNBIASED HAST	Stress Condition: (Standard) + 130°C, 85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8	JESD22-A110	80 units per lot	Lot 1 0/80	Passed	Parts had been pre-conditioned at 260°C
	Lot 2 0/80			Passed		
	Lot 3 0/80			Passed		
High Temperature Storage Life	Stress Condition: Bake 175°C, 500 hrs System: HERAEUS	JESD22-A103	90 units per lot	Lot 1 0/90	Passed	90 units per lot
	Electrical Test: +25°C, 125°C System: Magnum			Lot 2 0/90	Passed	
				Lot 3 0/90	Passed	
	Bond Strength: Wire Pull (> 1.75 grams) Bond Shear (>12.6 grams) System: Dage		5 units per lot	Lot 1 0/5	Pass	
				Lot 2 0/5	Pass	
				Lot 3 0/5	Pass	
Bond Strength	Wire Pull (> 1.75 grams) Bond Shear (>12.6 grams) System: Dage	M2011.8 MIL-STD-883	5 units per lot	Lot 1 0/5	Pass	
				Lot 2 0/5	Pass	
				Lot 3 0/5	Pass	