



## Product Change Notification - KSRA-20BGKY389

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**Date:**

14 Feb 2020

**Product Category:**

8-bit Microcontrollers

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

CCB 4023.001 and 4023.002 Final Notice: Qualification of MTAI as a new 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:**

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 a new 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, G700 and CEL-9240 molding compound, EN4900G die attach, and C194-ESH lead frame material with MSL Level 3 classification

**Post Change:**

Assembled at MTAI assembly site using gold (Au) bond wire, G700 molding compound, 3280 die attach, and C7025 lead frame material with MSL Level 1 classification

**Pre and Post Change Summary:**

	Pre Change	Post Change
<b>Assembly Site</b>	ASE Group Chung-Li / ASCL	Microchip Technology Thailand (HQ) / MTAI
<b>Wire material</b>	CuPdAu	Au
<b>Die attach material</b>	EN4900G	3280
<b>Molding compound material</b>	G700   CEL-9240	G700
<b>Lead frame material</b>	C194-ESH	C7025
<b>MSL</b>	MSL 3	MSL 1

**Impacts to Data Sheet:**

None

**Change Impact:**

None

**Reason for Change:**

To improve productivity by qualifying MTAI as a new assembly site

**Change Implementation Status:**

In Progress

**Estimated First Ship Date:**

March 14, 2020(date code: 2011)



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

**Time Table Summary:**

	December 2019					February 2020					March 2020				
Workweek	49	50	51	52		05	06	07	08	09	10	11	12	13	14
Initial PCN Issue Date				X											
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:**

**December 23, 2019:** Issued initial notification.

**February 14, 2020:** Issued final notification. Attached the Qualification Report. Updated the pre and post change to add CEL-9240 molding compound material. Provided estimated first ship date to be on March 14, 2020.

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\\_Report.pdf](#)

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

**Terms and Conditions:**

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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)

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

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KSRA-20BGKY389 - CCB 4023.001 and 4023.002 Final Notice: Qualification of MTAI as a new assembly site for selected Atmel products available in 32L (7x7x1.0mm) and 48L TQFP (7x7x1.0mm) package using gold (Au) wire.

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ATMEGA4809-AFR

ATMEGA3209-AFR



**MICROCHIP**

**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN#: KSRA-20BGKY389**

**Date**  
**January 14, 2020**

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



## MICROCHIP PACKAGE QUALIFICATION REPORT

**Purpose:** Qualification of MTAI as a new additional assembly site for selected Atmel products available in 48L TQFP (7x7x1.0mm) package using gold (Au) wire. The selected products available in 32L (7x7x1.0mm) TQFP packages 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
	Qualification Document No.	QTP3956 Rev. A
	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
	Part Number	10104805
	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	G700
<u>PKG</u>	PKG Type	TQFP
	Pin/Ball Count	48
	PKG width/size	7 x 7 mm



# MICROCHIP PACKAGE QUALIFICATION REPORT

## Manufacturing Information

<b>Assembly Lot No.</b>
MTAI203002582.000
MTAI203002653.000
MTAI203002654.000

## Result



Pass



Fail



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**59B20 ATMEGA4809 Family UMC using Au wire** assembled in **MTAI** is qualified the Moisture/ Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard. No delamination were observed on all the units.

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability</u> <u>Tests (At MSL</u> <u>Level 1)</u>	<b>Electrical Test :+25°C</b> System:	JESD22-A113	693(0)	0/693	Pass	
	<b>Bake 150°C, 24 hrs</b> System:		693(0)			
	<b>85°C/85%RH Moisture Soak 168 hrs.</b> System: Climats Excal 5423-HE	IPC/JED EC J-STD-020E	693(0)	0/693	Pass	
	<b>3x Convection-Reflow 265°C max</b> System: Mancorp CR.5000F <b>Electrical Test :+25°C</b> System: Magnum PV		693(0)	0/693	Pass	
<b>High Temperature Storage Life</b>	<b>Stress Condition: (Standard)</b> Bake 175°C, 500 hrs  System : VOTSCH VT 7012 S2  <b>Electrical Test : +25°C , +85°C, +125°C</b>  System: Magnum PV	JESD22-A104	135(0)			
		45 units of 3 Lots				
			135(0)	0/135	Pass	
<b>Temp Cycle</b>  <b>Parts had been pre-conditioned at 260°C</b>	Stress Condition: (Standard) -65°C to +150°C, 500 Cycles  System :  <b>Electrical Test :+85°C, +125°C</b>  System: Magnum PV  <b>Bond Strength:</b> Wire /Stitch Pull Bond Shear	JESD22-A104	231(0)			
		77 units of 3 Lots				
			231(0)	0/231	Pass	
			15(0)	0/15	Pass	



# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability</u> <u>Tests(At MSL</u> <u>Level 1)</u>	<b>Electrical Test :+25°C</b> System:	JESD22-A113	693(0)	0/693	Pass	
	<b>Bake 150°C, 24 hrs</b> System:		693(0)			
	<b>85°C/85%RH Moisture Soak 168 hrs.</b> System: Climats Excal 5423-HE	IPC/JED	693(0)			
	<b>3x Convection-Reflow 265°C max</b> System: Mancorp CR.5000F <b>Electrical Test :+25°C</b> System: Magnum PV	EC J-STD-020E	693(0)	0/693	Pass	
<b>High Temperature Storage Life</b>	<b>Stress Condition: (Standard)</b> Bake 175°C, 500 hrs  System : VOTSCH VT 7012 S2	JESD22-A104	135(0)			
	<b>Electrical Test : +25°C , +85°C, +125°C</b>  System: Magnum PV	45 units of 3 Lots	135(0)	0/135	Pass	
<b>Temp Cycle</b>  <b>Parts had been pre-conditioned at 260°C</b>	Stress Condition: (Standard) -65°C to +150°C, 500 Cycles  System :	JESD22-A104	231(0)			
	<b>Electrical Test :+85°C, +125°C</b>  System: Magnum PV	77 units of 3 Lots	231(0)	0/231	Pass	
	<b>Bond Strength:</b> Wire /Stitch Pull Bond Shear		15(0)	0/15	Pass	