



## Product Change Notification - JAON-19XHUX626

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**Date:**

18 Feb 2019

**Product Category:**

8-bit Microcontrollers

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

CCB 3359 Final Notice: Qualification of ASSH as a new assembly site for selected Atmel products available in 44L VQFN (5x5x1.0mm) package.

**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 ASSH as a new assembly site for selected Atmel products available in 44L VQFN (5x5x1.0mm) package.

**Pre Change:**

Assembled at ASKR using palladium coated copper (PdCu) bond wire, EN4900GC (top die) die attach material, QMI536 (bottom die) die attach material and G700LY mold compound material.

**Post Change:**

Assembled at ASSH using palladium coated copper with gold flash (CuPdAu) bond wire, ATB125 (top and bottom die) die attach material and CEL9240 mold compound material

**Pre and Post Change Summary:**

	Pre Change	Post Change
Assembly Site	ASE Korea Inc. (ASKR)	ASE-Shanghai (ASSH)
Wire material	PdCu	CuPdAu
Die attach material (Top Die)	EN4900GC	ATB125
Die attach material (Bottom Die)	QMI536	ATB125
Molding compound material	G700LY	CEL9240
Lead frame material	C7025	C7025

**Impacts to Data Sheet:**

None

**Change Impact:**

None

**Reason for Change:**

To improve on-time delivery performance by qualifying ASSH as a new assembly site.

**Change Implementation Status:**

In Progress



### Estimated First Ship Date:

March 18, 2019 (date code: 1912)

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

### Time Table Summary:

	April 2018					📅	February 2019					March 2019				
Workweek	14	15	16	17	18	📅	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:

**April 23, 2018:** Issued initial notification.

**February 18, 2019:** Issued final notification. Attached is the qualification report. Provided estimated first ship date on March 18, 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 JAON-19XHUX626 Qual Report.pdf](#)

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

### Terms and Conditions:

If you wish to receive Microchip PCNs via email please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

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)

ATMEGA164A-MCH  
ATMEGA164A-MCHR  
ATMEGA164PA-MCH  
ATMEGA164PA-MCHR  
ATMEGA324A-MCH  
ATMEGA324A-MCHR  
ATMEGA324PA-MCH  
ATMEGA324PA-MCHR



## **QUALIFICATION REPORT SUMMARY**

### **RELIABILITY LABORATORY**

**PCN #: JAON-19XHUX626**

**Date:**  
**February 01, 2019**

**Qualification of ASSH as a new assembly site for selected Atmel products  
available in 44L VQFN (5x5x1.0mm) package**



## **MICROCHIP**

### **PACKAGE QUALIFICATION REPORT**

<b>Purpose</b>	Qualification of ASSH as a new assembly site for selected Atmel products available in 44L VQFN (5x5x1.0mm) package
<b>CN</b>	ES231672
<b>QUAL ID</b>	Q18148 Rev. A
<b>MP CODE</b>	354557S3BC03
<b>Part No.</b>	ATMEGA324PA-MCH
<b>Bonding No.</b>	BDM-001793 Rev. A
<b>CCB No.</b>	3359
<b><u>Package</u></b>	
<b>Type</b>	44L VQFN
<b>Package size</b>	5x5x1.0 mm
<b>Die thickness</b>	6 mils
<b>Die size</b>	124.0 x 131.0 mils
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	118 x 118 mils
<b>Material</b>	C7025
<b>Surface</b>	PPF
<b>Process</b>	Etched frame
<b>Lead Lock</b>	No
<b>Part Number</b>	LI-WDQ000044-01
<b>Treatment</b>	Roughened
<b><u>Material</u></b>	
<b>Epoxy</b>	ATB125
<b>Wire</b>	CuPdAu wire
<b>Mold Compound</b>	CEL-9240
<b>Plating Composition</b>	NiPdAu



## **MICROCHIP**

### **PACKAGE QUALIFICATION REPORT**

#### **Manufacturing Information**

<b>Assembly Lot No.</b>	<b>Wafer No.</b>	<b>Date Code</b>
ASSH191000026.000	MCSO518415051.100	1823908
ASSH191000027.000	MCSO518415051.100	182390R
ASSH191000028.000	MCSO518415051.100	182391C

#### **Result**

☒ Pass    ☐ Fail    ☐ \_\_\_\_\_

44L VQFN (5x5x1.0 mm) assembled by ASSH pass reliability test per QCI-39000.  
This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 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
<b>Moisture/Reflow Sensitivity Classification Test (At MSL Level 3)</b>	30°C/ 60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243  ( IPC/JEDEC J-STD-020D)	IPC/JEDEC C J-STD-020D	198	0/198	Pass	
<b><u>Precondition Prior Perform Reliability Tests</u> (At MSL Level 3)</b>	<b>Electrical Test</b> :+25°C and 85°C System: magnum  Bake 150°C, 24 hrs System: CHINEE  30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH  3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243  <b>Electrical Test</b> :+25°C and 85°C System: magnum	JESD22-A113	693(0)	693  693  693  0/693	     Pass	Good Devices
<b>Temp Cycle</b>	<b>Stress Condition:</b> -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H  <b>Electrical Test:</b> + 85°C System: magnum	JESD22-A104	  231(0)	231  0/231	  Pass	Parts had been pre-conditioned at 260°C
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. System: HAST 6000X  <b>Electrical Test:</b> + 25°C System: magnum	JESD22-A118	  231(0)	231  0/231	  Pass	Parts had been pre-conditioned at 260°C
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 504 hrs System: SHEL LAB  <b>Electrical Test</b> :+25°C and 85°C System: magnum	JESD22-A103	  135(0)	135  0/135	  Pass	45 units / lot
<b>Bond Strength Data Assembly</b>	Wire Pull (> 2.5 grams)          Bond Shear (>15.00 grams)	M2011 JESD22-B116	30 (0) Wires       30 (0) bonds	0/30       0/30	Pass       Pass	