



## Product Change Notification - JAON-29WASP224

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**Date:**

27 Jan 2020

**Product Category:**

8-bit Microcontrollers

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

CCB 3703 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected Atmel products of the 35.5K wafer technology available in 64L VQFN packages at NSEB assembly site.

**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 palladium coated copper with gold flash (CuPdAu) bond wire for selected Atmel products of the 35.5K wafer technology available in 64L VQFN packages at NSEB assembly site.

**Pre-Change:**

Assembled using gold (Au) bond wire, 8200T die attach and G770HCD molding compound material.

**Post Change:**

Assembled using palladium coated copper with gold flash (CuPdAu) bond wire, 8600 die attach and G700LTD molding compound material.

**Pre and Post Change Summary:**

	Pre Change	Post Change
Assembly Site	UTAC Thai Limited / NSEB	UTAC Thai Limited / NSEB
Wire material	Au	CuPdAu
Die attach material	8200T	8600
Molding compound material	G770HCD	G700LTD
Lead frame material	EFTEC 64T	EFTEC 64T

**Impacts to Data Sheet:**

None

**Change Impact:**

None

**Reason for Change:**

To improve productivity by qualifying palladium coated copper with gold flash (CuPdAu) bond wire, 8600 die attach and G700LTD molding compound material.

**Change Implementation Status:**

In Progress

**Estimated First Ship Date:**

February 27, 2020(date code: 2009)

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



post change parts.

#### Time Table Summary:

	March 2019				-->	January 2020					February 2020				
Workweek	10	11	12	13		01	02	03	04	05	06	07	08	09	10
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:

**March 4, 2019:** Issued initial notification.

**January 27, 2020:** Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on February 27, 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 JAON-29WASP224 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)

AT90CAN32-15MT

AT90CAN32-15MT1

AT90CAN32-15MZ

AT90CAN32-16MU

AT90CAN32-16MUR



**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN#: JAON-29WASP224**

**Date**  
**December 2, 2019**

**Qualification of palladium coated copper with gold flash  
(CuPdAu) bond wire for selected Atmel products of the 35.5K  
wafer technology available in 64L VQFN packages at NSEB  
assembly site.**



## **MICROCHIP**

### **PACKAGE QUALIFICATION REPORT**

**Purpose:** Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected Atmel products of the 35.5K wafer technology available in 64L VQFN packages at NSEB assembly site.

<b><u>Misc.</u></b>	<b>Assembly site</b>	<b>UTAC</b>
	<b>BD Number</b>	<b>BDM-002059A</b>
	<b>MP Code (MPC)</b>	<b>355T4YTLBC01</b>
	<b>Part Number (CPN)</b>	<b>AT90CAN32-15MZ</b>
	<b>Document Number</b>	<b>QTP3828 Rev. A</b>
	<b>CCB No</b>	<b>3703</b>
<b><u>Lead-Frame</u></b>	<b>Paddle size</b>	<b>6.7x6.7</b>
	<b>Material</b>	<b>EFTEC 64T</b>
	<b>Surface</b>	<b>Non rough</b>
	<b>Treatment</b>	<b>Yes (In house roughening)</b>
	<b>Process</b>	<b>Etched</b>
	<b>Lead-lock</b>	<b>Yes</b>
	<b>Part Number</b>	<b>FR0160</b>
	<b>Lead Plating</b>	<b>Selective Ag (Finger only)</b>
	<b>Strip Size</b>	<b>70x250mm</b>
	<b>Strip Density</b>	<b>120 unit/strip</b>
<b><u>Bond Wire</u></b>	<b>Material</b>	<b>CuPdAu</b>
<b><u>Die Attach</u></b>	<b>Part Number</b>	<b>8600</b>
	<b>Conductive</b>	<b>Conductive</b>
<b><u>MC</u></b>	<b>Part Number</b>	<b>G700LTD</b>
<b><u>PKG</u></b>	<b>PKG Type</b>	<b>QFN</b>
	<b>Pin/Ball Count</b>	<b>64</b>
	<b>PKG width/size</b>	<b>9x9x0.85</b>



## MICROCHIP PACKAGE QUALIFICATION REPORT

Assembly Yield:

Lot No.
<i>NSEB200700004.000</i>
<i>NSEB200700005.000</i>
<i>NSEB200700006.000</i>

Result



Pass



Fail



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vQFN Matt Sn 9x9 64L Package with CuPdAu wire in Utac (Shinko Leadframe) is qualified **AECQ006 Grade 1** and Passed Moisture/ Reflow Sensitivity Classification Level 3 at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard. No delaminations were observed on all the units.

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result
<b><u>Precondition Prior Perform Reliability Tests(At MSL Level 3)</u></b>	<b>Electrical Test</b> :+25°C, +85°C, +125°C System: Maverick VT	JESD22-A113 231 units of 3 Lots	693(0)	0/693	Pass
	<b>Bake 150°C, 24 hrs</b> System:		693(0)		
	<b>30°C/60%RH Moisture Soak 192 hrs.</b> System: Climats Excal 5423-HE	IPC/JED EC J- STD- 020E	693(0)		
	<b>3x Convection-Reflow 265°C max</b> System: Mancorp CR.5000F		693(0)	0/693	Pass
<b><u>Temp Cycle</u></b> <u>Parts had been pre-conditioned at 260°C</u>	<b>Stress Condition: (Standard)</b> -65°C to +150°C, 500 Cycles  System : Oven	JESD22-A104  77 units of 3 Lots	231(0)		
	<b>Electrical Test</b> :+85°C, +125°C  System: Maverick VT		231(0)	0/231	Pass
	<b>Bond Strength:</b> Wire /Stitch Pull Bond Shear		15(0)	0/15	Pass
	<b>Cross Section</b>		3(0)	0/3	Pass
<b><u>Biased HAST</u></b> <u>Parts had been pre-conditioned at 260°C</u>	<b>Stress Condition: (Standard)</b> +130°C/85%RH, 96hrs. Bias Volt: 5.5 Volts System : VOTSCH VT 7012 S2	JESD22-A104  77 units of 3 Lots	231(0)		
	<b>Electrical Test</b> : +25°C, +85°C, +125°C  System: Maverick VT		231(0)	0/231	Pass
	<b>Bond Strength:</b> Wire /Stitch Pull Bond Shear		15(0)	0/15	Pass
	<b>Cross Section</b>		3(0)	0/3	Pass

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result
<b>UnBiased HAST</b>  <u>Parts had been pre-conditioned at 260°C</u>	<b>Stress Condition: (Standard)</b> +130°C/85%RH, 96hrs	JESD22-A104	231(0)		
	System : VOTSCH VT 7012 S2	77 units of 3 Lots			
	<b>Electrical Test :+25°C</b>		231(0)	0/213	Pass
	System: Mav VT				
<b>High Temperature Storage Life</b>	<b>Stress Condition: (Standard)</b> Bake 175°C, 500 hrs	JESD22-A104	135(0)		
	System : VOTSCH VT 7012 S2	77 units of 3 Lots			
	<b>Electrical Test : +25°C, +85°C, +125°C</b>		135(0)	0/135	Pass
	System: Mav VT				
<b>Bond Strength</b>  <b>Data Assembly</b>	<b>Cross Section</b>		3(0)	0/3	Pass
	Wire /Stitch Pull	M2011.8	35(0)	0/35	Pass
	Bond Shear	MIL-STD-883	35(0)	0/35	Pass