



Product Change Notification / GBNG-14DIAU526

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**Date:**

17-Jun-2022

**Product Category:**

8-bit Microcontrollers

**PCN Type:**

Manufacturing Change

**Notification Subject:**

CCB 4821 Final Notice: Qualification of ATP7 as an additional assembly site for selected AT90CAN64 and AT90CAN128 device families available in 64L VQFN (9x9x0.9mm) package.

**Affected CPNs:**

[GBNG-14DIAU526\\_Affected\\_CPN\\_06172022.pdf](#)  
[GBNG-14DIAU526\\_Affected\\_CPN\\_06172022.csv](#)

**Notification Text:**

**PCN Status:**Final Notification

**PCN Type:**Manufacturing Change

**Microchip Parts Affected:**Please open one of the files found in the Affected CPNs section.  
Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

**Description of Change:**Qualification of ATP7 as an additional assembly site for selected AT90CAN64 and AT90CAN128 device families available in 64L VQFN (9x9x0.9mm) package.

**Pre and Post Change Summary:**

	Pre Change	Post Change
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Assembly Site	UTAC Thai Limited (UTL-1) LTD.  (NSEB)	UTAC Thai Limited (UTL-1) LTD.  (NSEB)	Amkor Technology Philippines (P3/P4), INC. (ATP7)
Wire Material	CuPdAu	CuPdAu	CuPdAu
Die Attach Material	8600	8600	CRM1085A
Molding Compound Material	G700LTD	G700LTD	G631BQF
Lead-frame Material	EFTEC-64T	EFTEC-64T	C194FH
Lead-frame Paddle Size	264x264 mils	264x264 mils	252x252 mils
Lead-frame DAP Surface Prep	Ag on lead only	Ag on lead only	Ring Plating
Lead-frame Design	Please see attached Pre and Post Change comparison		

**Impacts to Data Sheet:**None

**Change Impact:**None

**Reason for Change:**To improve on-time delivery performance by qualifying ATP7 as an additional assembly site.

**Change Implementation Status:**In Progress

**Estimated First Ship Date:**July 15, 2022 (date code: 2229)

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

**Time Table Summary:**

	September 2021					→	June 2022					July 2022			
	3 6	3 7	3 8	3 9	4 0		2 3	2 4	2 5	2 6	2 7	2 8	2 9	3 0	3 1
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:**September 16, 2021: Issued initial notification.

June 17, 2022: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on July 15, 2022.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

## **Attachments:**

[PCN\\_GBNG-14DIAU526\\_Qual\\_Report.pdf](#)

[PCN\\_GBNG-14DIAU526\\_Pre\\_and\\_Post Change\\_Summary.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)

AT90CAN64-16MU

AT90CAN64-16MU-HCM

AT90CAN64-16MUR

AT90CAN128-16MU

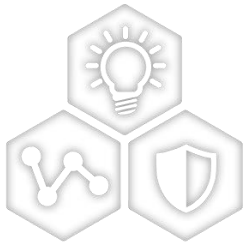
AT90CAN128-16MUR

**CCB 4821**  
**Pre and Post Change Summary**  
**PCN# GBNG-14DIAU526**



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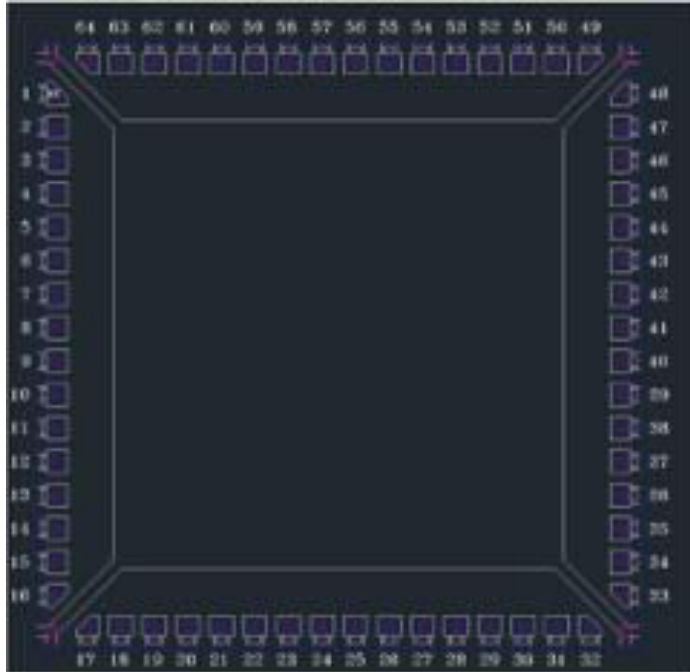
A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



SMART | CONNECTED | SECURE

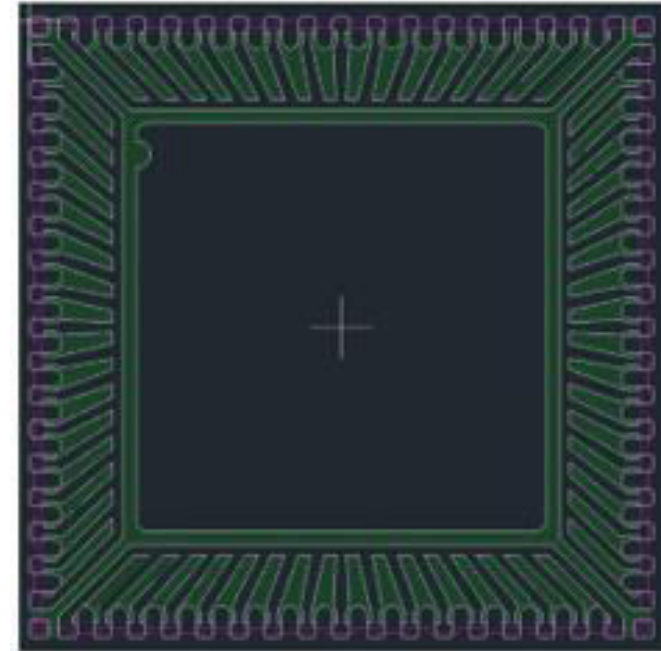
# Lead frame comparison

NSEB



DAP Surface Prep	Ag on lead only
Paddle size	264x264 mils

ATP7



DAP Surface Prep	Ring Plating
Paddle size	252x252 mils



**MICROCHIP**

**QUALIFICATION REPORT SUMMARY  
RELIABILITY LABORATORY**

**PCN #: GBNG-14DIAU526**

**Date:  
May 20, 2022**

**Qualification of ATP7 as an additional assembly site for  
selected AT90CAN64 and AT90CAN128 device families  
available in 64L VQFN (9x9x0.9mm) package.**



# MICROCHIP

## Package Qualification Report

**Purpose: Qualification of ATP7 as an additional assembly site for selected AT90CAN64 and AT90CAN128 device families available in 64L VQFN (9x9x0.9mm) package.**

<u>Misc.</u>	Assembly site	ATP7
	BD Number	TBD
	MP Code (MPC)	355T57TPBC01
	Part Number (CPN)	AT90CAN64-16MU
	MSL information	MSL-3 @260C
	Assembly Shipping Media (T/R, Tube/Tray)	KostatKS-870274
	Base Quantity Multiple (BQM)	Tray -260
	CCB No	4821
	Qual ID	REQ2101610 Rev. A
<u>Lead-Frame</u>	Paddle size	252X252
	Material	C194FH
	DAP Surface Prep	Ring Plating
	Treatment	Roughened
	Process	Etched
	Lead-lock	No
	Part Number	101420183
	Lead Plating	Matte Sn
	Strip Size	250 X 70mm
	Strip Density	144 units/strip
<u>Bond Wire</u>	Material	CuPdAu
<u>Die Attach</u>	Part Number	CRM1085A
	Conductive	Yes
<u>MC</u>	Part Number	G631BQF
<u>PKG</u>	PKG Type	VQFN
	Pin/Ball Count	64L
	PKG width/size	9x9x0.9mm





# MICROCHIP

## Package Qualification Report

### Manufacturing Information

Assembly Lot No.
ATP7222600029.000
ATP7222600030.000
ATP7222600031.000

### Result

Pass     Fail     \_\_\_\_\_

**355T5 mask MCSO 35.5K in 64L VQFN 9x9x0.9mm at ATP7** is qualified the Moisture/ Reflow Sensitivity Classification Level 3 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard. No significant delamination observed on all units.

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
<b>Precondition Prior Perform Reliability Tests MSL-3 @ 260C</b>	<b>Electrical Test</b> : 25°C, 85°C	JESD22-A113,	693(0)			Good Devices
	<b>External Visual Inspection</b> System: Luxo Lamp	JIP/ IPC/JEDEC C J-STD-020E	693(0)	0/693	Pass	
	<b>Bake</b> 150°C, 24 hrs System: HERAEUS		693(0)			
	<b>Moisture Soak</b> 30°C/60%RH Moisture Soak 168hrs. System: Climats Excal 5423-HE		693(0)			
	<b>Reflow</b> 3x Convection-Reflow 260°C max System: Mancorp CR.5000F		693(0)	0/693		
	<b>Electrical Test</b> : 25°C, 85°C		693(0)	0/693	Pass	

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
	<p><b>Stress Condition:</b> (Standard) -65°C to +150°C, 500 Cycles System: VOTSCH VT 7012 S2</p> <p><b>Electrical Test:</b> +85°C</p> <p><b>Bond Strength:</b> Wire Pull Bond Shear</p> <p><b>Stress Condition:</b> (Standard) -65°C to +150°C, 500 Cycles System: VOTSCH VT 7012 S2</p> <p><b>Electrical Test:</b> +85°C</p> <p><b>Bond Strength:</b> Wire Pull Bond Shear</p>	<p>JESD22- A104</p>	<p>231(0)</p> <p>231(0)</p> <p>15(0)</p> <p>213(0)</p> <p>213(0)</p> <p>15(0)</p>	<p></p> <p>0/231</p> <p>0/15</p> <p>0/213</p> <p>0/213</p> <p>0/15</p>	<p></p> <p>Pass</p> <p>Pass</p> <p>Pass</p> <p>Pass</p> <p>Pass</p>	<p>Parts had been pre-conditioned at 260°C</p>

# 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) +130°C/85% RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	231(0)			Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°C		231(0)	0/231	Pass	
	<b>Stress Condition:</b> (Standard) +130°C/85% RH, 96H System: HIRAYAMA HASTEST PC-422R8		231(0)			
	<b>Electrical Test:</b> +25°C		231(0)	0/231	Pass	
<b>BIASED-HAST</b>	<b>Stress Condition:</b> (Standard) +130°C/85% RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A110	231(0)			
	<b>Electrical Test:</b> +25°C, +85°C		231(0)	0/231	Pass	
	<b>Bond Strength:</b> Wire Pull Bond Shear		15(0)	0/15	Pass	
	<b>Cross Section</b>		3(0)	0/3		
	<b>Stress Condition:</b> (Standard) +130°C/85% RH, 96H System: HIRAYAMA HASTEST PC-422R8		213(0)			
	<b>Electrical Test:</b> +25°C, +85°C		213(0)	0/213	Pass	
	<b>Bond Strength:</b> Wire Pull Bond Shear		15(0)	0/15	Pass	

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 500 hrs System: HERAEUS	JESD22- A103	45 (0)			
	<b>Electrical Test :</b> +25°C +85°C		45 (0)	0/45	Pass	
<b>Solderability Temp 245°C</b>	<b>Bake:</b> Temp 155°C,4Hrs System:Oven Solder Bath: Temp.245°C	J-STD-002	22 (0)	0/22	Pass	Performed at MPHIL
<b>Physical Dimensions</b>	Physical Dimension, 10 units from 3 lot	JESD22- B100/B108	30(0)	0/30	Pass	
<b>Bond Strength Data Assembly</b>	Wire Pull 1 lot, 35 wires from 5 units min	M2011.8 MIL-STD- 883	35(0) Wires	0/35	Pass	
<b>Bond Strength Data Assembly</b>	Bond Shear 1 lot, 35 bonds from 5 units min	M2011.8 MIL-STD- 883	35(0) bonds	0/35	Pass	