



## Product Change Notification / LIAL-07JNOW904

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**Date:**

12-Dec-2022

**Product Category:**

Motor Drivers

**PCN Type:**

Manufacturing Change

**Notification Subject:**

CCB 4952 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected MCP8025xx and MCP8026xx device families available in 40L QFN (5x5x0.9mm) package assembled at MMT assembly site.

**Affected CPNs:**

[LIAL-07JNOW904\\_Affected\\_CPN\\_12122022.pdf](#)

[LIAL-07JNOW904\\_Affected\\_CPN\\_12122022.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 palladium coated copper with gold flash (CuPdAu) bond wire for selected MCP8025xx and MCP8026xx device families available in 40L QFN (5x5x0.9mm) package assembled at MMT assembly site.

**Pre and Post Change Summary:**

	Pre Change	Post Change	
Assembly Site	Microchip Technology Thailand (Branch) / (MMT)	Microchip Technology Thailand (Branch) / (MMT)	Microchip Technology Thailand (Branch) / (MMT)
Wire Material	Au	Au	CuPdAu
Die Attach Material	3280	3280	3280
Molding Compound Material	G700LTD	G700LTD	G700LTD
Lead-Frame Material	C194	C194	C194

**Impacts to Data Sheet:**None

**Change Impact:**None

**Reason for Change:**To improve manufacturability by qualifying palladium coated copper with gold flash (CuPdAu) bond wire.

**Change Implementation Status:**In Progress

**Estimated First Ship Date:**January 7, 2023 (date code: 2302)

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

**Time Table Summary:**

	February 2022				→	December 2022					January 2023				
Workweek	06	07	08	09		49	50	51	52	53	01	02	03	04	05
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:**February 7, 2022: Issued initial notification.

December 12, 2022: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on January 7, 2023.

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

## **Attachments:**

[PCN\\_LIAL-07JNOW904-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.

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LIAL-07JNOW904 - CCB 4952 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected MCP8025xx and MCP8026xx device families available in 40L QFN (5x5x0.9mm) package assembled at MMT assembly site.

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Affected Catalog Part Numbers (CPN)

MCP8025-115E/MP  
MCP8026-115E/MP  
MCP8026-115E/MPB3  
MCP8025A-115E/MP  
MCP8025T-115H/MP  
MCP8026T-115H/MP  
MCP8025AT-115H/MP  
MCP8025-115H/MP  
MCP8026-115H/MP  
MCP8025A-115H/MP  
MCP8025T-115E/MP  
MCP8026T-115E/MP  
MCP8026T-115E/MPB3



**MICROCHIP**

**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN #: LIAL-07JNOW904**

**Date:**  
**November 25, 2022**

**Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected MCP8025xx and MCP8026xx device families available in 40L QFN (5x5x0.9mm) package assembled at MMT assembly site. This is Q006 Grade 0 qualification.**



## **MICROCHIP**

### **PACKAGE QUALIFICATION REPORT**

<b>Purpose</b>	Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected MCP8025xx and MCP8026xx device families available in 40L QFN (5x5x0.9mm) package assembled at MMT assembly site. This is Q006 Grade 0 qualification.
<b>CN</b>	E000081185
<b>QUAL ID</b>	R2200019 Rev. A
<b>MP CODE</b>	VGBD3MNHXA02
<b>Part No.</b>	MCP8025-115H/NHX
<b>Bonding No.</b>	BD-000271 Rev.01
<b><u>Package</u></b>	
<b>Type</b>	40L VQFN-WFS
<b>Package size</b>	5 x 5 x 0.9 mm
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	154 x 154 mils
<b>Material</b>	C194
<b>Surface</b>	Ag Ring Plated
<b>Process</b>	Etched
<b>Lead Lock</b>	Yes
<b>Part Number</b>	10104013
<b><u>Material</u></b>	
<b>Epoxy</b>	3280
<b>Wire</b>	CuPdAu wire
<b>Mold Compound</b>	G700LTD
<b>Plating Composition</b>	Matte Sn



## MICROCHIP PACKAGE QUALIFICATION REPORT

### Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-223701392.000	TC08922113407.000	2149H0G
MMT-223701581.000	TC08922113407.000	2149KYD
MMT-223800117.000	TC08922113407.000	2150KYT

### Result

☒

Pass

☐

Fail

☐

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40L VQFN-WFS (5x5x0.9 mm) assembled by MMT pass reliability test per QCI-39000.

This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard.

# PACKAGE QUALIFICATION REPORT

[illegible]



## PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	<b>Stress Condition:</b> -55°C to +150°C, 1500 Cycles System: TABAI ESPEC TSA-70H <b>Electrical Test:</b> +85°C, 125°C and 150°C System: ETS-300	JESD22-A104	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C
	<b>Bond Strength:</b> Wire Pull (>2.50 grams) Bond Shear (>15.00 grams)		45(0)	0/45	Pass	
	<b>Stress Condition:</b> -55°C to +150°C, 3000 Cycles System: TABAI ESPEC TSA-70H <b>Electrical Test:</b> +85°C, 125°C and 150°C System: ETS-300		231(0)	0/231	Pass	
	<b>Bond Strength:</b> Wire Pull (>2.50 grams) Bond Shear (>15.00 grams)		45(0)	0/45	Pass	

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 5.5 Volts System: HAST 6000X	JESD22-A110		0/231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°C, 85°C, 125°C and 150°C System: ETS-300		231(0)	0/231	Pass	77 units / lot
	<b>Bond Strength:</b> Wire Pull (>2.50 grams) Bond Shear (>15.00 grams)		45(0)	0/45	Pass	
	<b>Stress Condition:</b> +130°C/85%RH, 192 hrs. <b>Bias Volt:</b> 5.5 Volts System: HAST 6000X			0/231		
	<b>Electrical Test:</b> +25°C, 85°C, 125°C and 150°C System: ETS-300		231(0)	0/231	Pass	
	<b>Bond Strength:</b> Wire Pull (>2.50 grams) Bond Shear (>15.00 grams)		45(0)	0/45	Pass	

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		0/231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°C System: ETS-300		231(0)	0/231	Pass	77 units / lot
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 1000 hrs. System: TPS DC-166-F-ST350	JESD22-A103		0/135		45 units / lot
	<b>Electrical Test:</b> +25°C, 85°C, 125°C and 150°C System: ETS-300		135(0)	0/135	Pass	
	<b>Stress Condition:</b> Bake 175°C, 2000 hrs. System: TPS DC-166-F-ST350			0/135		
	<b>Electrical Test:</b> +25°C, 85°C, 125°C and 150°C System: ETS-300		135(0)	0/135	Pass	
<b>Solderability Temp 245°C</b>	<b>Steam Aging:</b> Temp 93°C, 8Hrs System: SAS-3000 Solder Dipping: Solder Temp. 245°C Solder material: Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22(0)	0/22 0/22 0/22	Pass	

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>Physical Dimensions</b>	Physical Dimension, 10 units / lot from 3 lot	JESD22- B100/B108	30(0) Units	0/30	Pass	
<b>Bond Strength Data Assembly</b>	Wire Pull (>4.00 grams)	Mil. Std. 883-2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>18.00 grams)	CDF-AEC- Q100-001	30 (0) bonds	0/30	Pass	