

# Product Change Notification - IIRA-31TJQC709

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**Date:** 15 May 2014

**Product Category:** 16-bit Microcontrollers and Digital Signal Controllers; 8-bit Microcontrollers; 32-bit PIC Microcontrollers

**Notification subject:** CCB 1155.29 Final Notification: Qualification of palladium coated copper (PdCu) bond wire for selected 0.18um products in the 100L TQFP package at MTAI assembly site.

**Notification text:**

## **PCN Status:**

Final notification

## **Microchip Parts Affected:**

See attachments of affected catalog part numbers (CPN) labeled as...

PCN\_IIRA-31TJQC709\_Affected\_CPN.xls

PCN\_IIRA-31TJQC709\_Affected\_CPN.pdf

## **Description of Change:**

Qualification of palladium coated copper (PdCu) bond wire for selected 0.18um products in the 100L TQFP package at MTAI assembly site.

NOTE: Selected products are non-automotive for standalone PIC MCU products. Please review the affected CPN lists (attached) to identify the actual parts affected.

## **Pre Change:**

Gold (Au) wire

**Post Change:**

Palladium coated copper (PdCu) wire

**Impacts to Data Sheet:**

None

**Reason for Change:**

To improve manufacturability

**Change Implementation Status:**

Complete

**Estimated First Ship Dates:**

May 16, 2014 (Date code: 1420)

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

**Markings to Distinguish Revised from Unrevised Devices:**

Traceability code

**Revision History:**

**February 11, 2014:** Issued initial notification.

**May 15, 2014:** Issued final notification. Removed the 200K process technology from the final notification subject and description. Attached the qualification report. Revised the estimated first ship date from April 25, 2014 to May 16, 2014.

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\\_IIRA-31TJQC709\\_Affected CPN.pdf](#) [PCN\\_IIRA-31TJQC709\\_Qual Report.pdf](#) [PCN\\_IIRA-31TJQC709\\_Affected CPN.xls](#)

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

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PCN_IIRA-31TJQC709
CATALOG_PART_NBR
DSPIC33EP128GM310-E/PT
DSPIC33EP128GM310-H/PT
DSPIC33EP128GM310-I/PT
DSPIC33EP128GM310T-I/PT
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PIC24FJ128GB210T-I/PT
PIC24FJ128GC010-I/PT
PIC24FJ128GC010T-I/PT
PIC24FJ256DA110-I/PT
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PIC24FJ256DA210-I/PT
PIC24FJ256DA210-I/PT020
PIC24FJ256DA210T-I/PT
PIC24FJ256GB210-I/PT
PIC24FJ256GB210T-I/PT
PIC24FJ64GA310-I/PT
PIC24FJ64GA310-I/PTREL
PIC24FJ64GA310T-I/PT
PIC24FJ64GC010-I/PT
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PIC32MX795F512L-80I/PTE22
PIC32MX795F512L-80V/PT
PIC32MX795F512LT-80I/PT
PIC32MX795F512LT-80I/PTE21
PIC32MX795F512LT-80I/PTE22
PIC32MX795F512LT-80V/PT



**MICROCHIP**

**QUALIFICATION REPORT  
RELIABILITY LABORATORY**

**PCN #: IIRA-31TJQC709**

Date:  
May 5, 2014

**Qualification of palladium coated copper (PdCu) bond wire  
for selected 0.18um products in the 100L TQFP package at  
MTAI assembly site.**

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## MICROCHIP PACKAGE QUALIFICATION REPORT

**Purpose** Qualification of palladium coated copper (PdCu) bond wire for selected 0.18um products in the 100L TQFP package at MTAI assembly site.

**CN** BC132075 / BC140643

**QUAL ID** Q14009

**MP CODE** TDAA17V7XEA8

**Part No.** PIC32MX795F512L-80I/PT

**Bonding No.** A-042809 Rev. C

**CCB No.** 1155.29

### Package

**Type** 100L TQFP

**Package size** 12x12x1 mm

**Die thickness** 11 mils

**Die size** 225.80 x 219.50 mils

### Lead Frame

**Paddle size** 280 x 280 mils

**Material** C7025

**Surface** Bare copper on paddle

**Process** Stamp

**Lead Lock** No

**Part Number** 10110001

**Treatment** Brown Oxide Treatment

### Die attach material

**Epoxy** 3280

**Wire** PdCu wire

**Mold Compound** G700HA

**Plating Composition** Matte Tin



# MICROCHIP PACKAGE QUALIFICATION REPORT

## Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI144202077	TC03914221775.700	14039VG
MTAI144202078	TC03914221775.600	14039VH
MTAI144202079	TC03914221775.500	14039VJ

## Result

Pass  Fail  \_\_\_\_\_

100L TQFP (12x12x1 mm) assembled by MTAI 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-020D standard.

Prepared By: *Thinnapol* Date: May 05, 2014 (Sr. Reliability Engineer)

(Mr. Thinnapol Nakkasun)

Approved By: *Som* Date: May 05, 2014 (Reliability Manager)

(Mr. Somnuek Thongprasert)

# 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 1)</b>	85°C/ 85%RH Moisture Soak 168 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	135	0/135	Pass	

<b><u>Precondition Prior Perform Reliability Tests (At MSL Level 1)</u></b>	<b>Electrical Test</b> : 25°C,105°C and -40°C System: J750	JESD22- A113	693(0)	693	Pass	Good Devices
	Bake 150°C, 24 hrs System: CHINEE			693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max  System: Vitronics Soltec MR1243			693		
	<b>Electrical Test</b> : 25°C and 105°C System: J750			0/693		

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>Temp Cycle</b>	<b>Stress Condition:</b> (Standard) -65°C to +150°C 50,250,500 Cycles System : TABAI ESPEC TSA-70H <b>Electrical Test:</b> 105°C System: J750 <b>Bond Strength:</b> Wire Pull (> 2.5 grams) Bond Shear (15.00 grams)	JESD22- A104	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C
			15 (0)	0/15	Pass	
			15 (0)	0/15	Pass	
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X <b>Electrical Test:</b> 25°C System: J750	JESD22- A118	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C
<b>HAST</b>	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 2.0 Volts System: HAST 6000X <b>Electrical Test:</b> 25°C and 105°C System: J750	JESD22- A110	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C

# 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, 504 hrs System: SHEL LAB <b>Electrical Test:</b> 25°C and 105°C System: J750	JESD22- A103		45		45 units
			45(0)	0/45	Pass	
<b>Bond Strength Data Assembly</b>	Wire Pull (> 2.5 grams)	JESD22- B116	30 (0) Wires	0/30	Pass	
	Bond Shear (15.00 grams)		30 (0) bonds	0/30	Pass	