

# Product Change Notification - IIRA-15FPXM236

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**Date:** 21 Oct 2013

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

**Notification subject:** CCB 1155.18 Final Notification: Qualification of selected products available in the 80L TQFP package with palladium coated copper (PdCu) bond wire 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-15FPXM236\_Affected\_CPN.xls

PCN\_IIRA-15FPXM236\_Affected\_CPN.pdf

## **Description of Change:**

Qualification of selected products available in the 80L TQFP package with palladium coated copper (PdCu) bond wire 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:**

December 13, 2013 (Date code: 1350)

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:**

October 21, 2013: Final notification issue date.

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-15FPXM236\\_Affected CPN.pdf](#) [PCN\\_IIRA-15FPXM236\\_Qual Report.pdf](#) [PCN\\_IIRA-15FPXM236\\_Affected CPN.xlsx](#)

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

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PCN_IIRA-15FPXM236
CATALOG_PART_NBR
DSPIC30F5013-20E/PT
DSPIC30F5013-20E/PTB23
DSPIC30F5013-20E/PTC01
DSPIC30F5013-20I/PT
DSPIC30F5013-30I/PT
DSPIC30F5013T-20E/PT
DSPIC30F5013T-20E/PTB23
DSPIC30F5013T-20E/PTC01
DSPIC30F5013T-30I/PT
DSPIC30F5016-20E/PT
DSPIC30F5016-30I/PT
DSPIC30F5016T-20E/PT
DSPIC30F5016T-30I/PT
DSPIC30F6010A-20E/PT
DSPIC30F6010A-30I/PT
DSPIC30F6010AT-20E/PT
DSPIC30F6010AT-30I/PT
DSPIC30F6013A-20E/PT
DSPIC30F6013A-20E/PTC21
DSPIC30F6013A-30I/PT
DSPIC30F6014A-20E/PT
DSPIC30F6014A-20I/PT
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PIC24FJ96GA008T-I/PT



**MICROCHIP**

**QUALIFICATION REPORT  
RELIABILITY LABORATORY**

**PCN#: IIRA-15FPXM236**

Date  
October 07, 2013

Qualification of selected products available in the 80L TQFP package with palladium coated copper (PdCu) bond wire at MTAI assembly site.

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## MICROCHIP PACKAGE QUALIFICATION REPORT

<b>Purpose</b>	Qualification of selected products available in the 80L TQFP package with palladium coated copper (PdCu) bond wire at MTAI assembly site.
<b>CN</b>	BC130933
<b>QUAL ID</b>	Q13089
<b>MP CODE</b>	C50257X2XAXF
<b>Part No.</b>	PIC18F8720-I/PT
<b>Bonding No.</b>	A-039863 Rev. D
<b>CCB No.</b>	1155.18
<b><u>Package</u></b>	
<b>Type</b>	80L TQFP
<b>Package size</b>	12x12x1 mm
<b>Die thickness</b>	11 mils
<b>Die size</b>	254.20 x 257.40 mils
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	280 x 280 mils
<b>Material</b>	C7025
<b>Surface</b>	Bare copper paddle with BOT
<b>Process</b>	Stamp
<b>Lead Lock</b>	No
<b>Part Number</b>	10108001
<b><u>Die attach material</u></b>	
<b>Epoxy</b>	3280
<b>Wire</b>	PdCu wire
<b>Mold Compound</b>	G700HA
<b>Plating Composition</b>	Matte Tin



# MICROCHIP PACKAGE QUALIFICATION REPORT

## Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MT AI141801385	TMPE214017004.500	1331BK7
MT AI141801386	TMPE214017004.400	1331BK8
MT AI141801387	TMPE214017004.600	1331BK9

## Result

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

80L 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:  Date: October 07, 2013 (Reliability Engineer)

(Mr. Thinnapol Nakkasun)

Approved By:  Date: October 07, 2013 (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 J-STD-020D	135	0/135	Pass	

<b><u>Precondition</u></b> <b><u>Prior Perform</u></b> <b><u>Reliability Tests</u></b> <b>(At MSL Level 1)</b>	<b>Electrical Test</b> :+25°C and 85°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 85°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> + 85°C System: J750 <b>Bond Strength:</b> Wire Pull (> 2.5 grams) Bond Shear (15.00 grams)	JESD22- A104	231(0)  15(0)	0/231  0/15	Pass  Pass	Parts had been pre-conditioned at 260°C
<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> 5.5 Volts System: HAST 6000X <b>Electrical Test:</b> +25°C and 85°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 85°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	