

Product Change Notification - IIRA-30XLTU681

Date: 08 May 2014

Product Category: 16-bit Microcontrollers and Digital Signal Controllers; Analog (Linear & Mixed Signal) AND Interface; Touch Sensing Technologies; 8-bit Microcontrollers; 32-bit PIC Microcontrollers

Notification subject: CCB 1155.25 Final Notification: Qualification of palladium coated copper (PdCu) bond wire for selected 0.18um products in 64L & 44L TQFP packages 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-30XLTU681_Affected_CPN.xls

PCN_IIRA-30XLTU681_Affected_CPN.pdf

Description of Change:

Qualification of palladium coated copper (PdCu) bond wire for selected 0.18um products in 64L & 44L TQFP packages 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 9, 2014 (Date code: 1419)

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 using the Notification ID IIRA-31RUVX125.

May 8, 2014: Issued final notification using the Notification ID IIRA-30XLTU681. Removed the 200K process technology from the final notification subject, description and list of Affected CPN. Attached the qualification report. Revised the estimated first ship date from March 28, 2014 to May 9, 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-30XLTU681_Affected CPN.pdf](#) [PCN_IIRA-30XLTU681_Qual Report.pdf](#) [PCN_IIRA-30XLTU681_Affected CPN.xls](#)

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PCN_IIRA-30XLTU681
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MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

PCN #: IIRA-30XLTU681

Date:
April 29, 2014

**Qualification of palladium coated copper (PdCu) bond wire
for selected 0.18um products in 64L TQFP package at MTAI
assembly site. The 44L TQFP package will qualify by
similarity at MTAI assembly site.**

Distribution

Somnuek T.
V. Danginis
Wichai K.
Payungsak W.

Rangsun K.
A. Navarro
J. Fernandez
S. Kelsall
S. Melby



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose Qualification of palladium coated copper (PdCu) bond wire for selected 0.18um products in 64L TQFP package at MTAI assembly site. The 44L TQFP package will qualify by similarity at MTAI assembly site.

CN BC131903 / BC140127

QUAL ID Q14007

MP CODE TDAA17V2XEA8

Part No. PIC32MX795F512H-80I/PT

Bonding No. A-039826 Rev. E

CCB No. 1155.25

Package

Type 64L TQFP

Package size 10x10x1 mm

Die thickness 11 mils

Die size 225.80 x 219.50 mils

Lead Frame

Paddle size 275 x 275 mils

Material C7025

Surface Bare copper on paddle

Process Stamp

Lead Lock No

Part Number 10106402

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
MT AI144102028	TC03914221848.110	140221V
MT AI144102029	TC03914221848.120	140221W
MT AI144102030	TC03914221848.130	140221Y

Result

Pass Fail _____

64L TQFP (10x10x1 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: April 29, 2014 (Sr. Reliability Engineer)

(Mr. Thinnapol Nakkasun)

Approved By: *Som* Date: April 29, 2014 (Reliability Manager)

(Mr. Somnuek Thongprasert)

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)	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	

<u>Precondition Prior Perform Reliability Tests (At MSL Level 1)</u>	Electrical Test : 25°C, 105°C and -40°C System: J750	JESD22-A113	693(0)	693		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		
	Electrical Test : 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
Temp Cycle	Stress Condition: (Standard) -65°C to +150°C 50,250,500 Cycles System : TABAI ESPEC TSA-70H Electrical Test: 105°C System: J750 Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (15.00 grams)	JESD22-A104	231(0) 15 (0) 15 (0)	0/231 0/15 0/15	Pass Pass Pass	Parts had been pre-conditioned at 260°C
UNBIASED-HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: 25°C System: J750	JESD22-A118	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C
HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. Bias Volt: 2.0 Volts System: HAST 6000X Electrical Test: 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
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB Electrical Test: 25°C and 105°C System: J750	JESD22-A103	45(0)	45 0/45	Pass	45 units
Bond Strength Data Assembly	Wire Pull (> 2.5 grams) Bond Shear (15.00 grams)	JESD22-B116	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	