Product Change Notification - JAON-29UFUC479

Date:	11 Jan 2016
Product Category:	Analog (Linear & Mixed Signal) AND Interface; Analog (Thermal, Power Management & Safety)
Notification subject:	CCB 1753 Final Notice: Qualification of palladium coated copper (PdCu) bond wire for selected products fabricated at X-Fab available in 8L SOIC package at MTAI assembly site.

Notification text:

PCN Status:

Final notification

Microchip Parts Affected:

Please open the attachments found in the attachments field below labeled as PCN_#_Affected_CPN.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).

Description of Change:

Qualification of palladium coated copper (PdCu) bond wire for selected products fabricated at X-Fab available in 8L SOIC package at MTAI assembly site.

Pre Change:

Gold wire (Au) bond wire

Post Change:

Palladium coated copper (PdCu) bond wire

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	MTAI assembly site	MTAI Assembly site
Wire material	Au wire	PdCu Wire
Die attach material	8390A	8390A
Molding compound material	G600IMP10 / G600V / SG-8300GM	G600V
Lead frame material	CDA194	CDA194

Impacts to Data Sheet:

None

Reason for Change:

To improve on-time delivery performance by qualifying Palladium coated copper (PdCu) bond

wire

Change Implementation Status:

In Progress

Estimated First Ship Date:

February 8, 2016 (date code: 1606)

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

Summary Table:

	October 2015				November 2015				December 2015					January 2016				February 2016			
WW	41	42	43	44	45	46	47	48	49	50	51	52	53	01	02	03	04	05	06	07	08
Initial PCN Issue Date		X																			
Qual Report Availability								X													
Final PCN Issue Date															X						
Implementation Date																			X		

Markings to Distinguish Revised from Unrevised Devices:

Traceability code

Revision History:

October 13, 2015: Issued initial notification.

January 11, 2016: Issued final notification. Attached the qualification report. Revised the estimated first ship date from November 30, 2015 to February 8, 2016.

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_JAON-29UFUC479_Qual_Report.pdf PCN_JAON-29UFUC479_Affected_CPN.pdf PCN_JAON-29UFUC479_Affected_CPN.xls

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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Affected Catalog Part Numbers (CPN)

PCN_JAON-29UFUC479
CATALOG_PART_NBR
MCP2003A-E/SN
MCP2003AT-E/SN
MCP2003-E/SN
MCP2003T-E/SN
MCP2004A-E/SN
MCP2004AT-E/SN
MCP2004-E/SN
MCP2004T-E/SN
MCP2021A-330E/SN
MCP2021A-500E/SN
MCP2021AT-330E/SN
MCP2021AT-330E/SNTSL
MCP2021AT-500E/SN
MCP2021AT-500E/SNTSL
MCP2025-330E/SN
MCP2025-500E/SN
MCP2025T-330E/SN
MCP2025T-500E/SN
MCP2551-E/SN
MCP2551-I/SN
MCP2551T-E/SN
MCP2551T-I/SN
RE46C311S8F
RE46C311S8TF
RE46C312S8F
RE46C312S8TF
RE46C317S8F
RE46C317S8TF
RE46C318S8F
RE46C318S8TF

QUALIFICATION REPORT

RELIABILITY LABORATORY

PCN #: JAON-29UFUC479

Date
November 23, 2015

Qualification of palladium coated copper (PdCu) bond wire for selected products fabricated at X-Fab available in 8L SOIC package at MTAI assembly site.

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of palladium coated copper (PdCu) bond wire for selected products fabricated at X-Fab available in 8L SOIC package at MTAI assembly site.
CN	BC151560
QUAL ID	Q15146
MP CODE	VK0014C2XA00
Part No.	MCP2551-E/SN
Bonding No.	BDM-000833 Rev. A
CCB No.	1753

Package

Type	8L SOIC
Package size	150 mils
Die thickness	15 mils
Die size	103.4 x 62.3 mils

Lead Frame

Paddle size	95 x 130 mils
Material	CDA194
Surface	Ag spot plate
Process	Stamped
Lead Lock	No
Part Number	10100819
Treatment	Brown Oxide Treatment

Die attach material

Epoxy	8390A
Wire	PdCu wire
Mold Compound	G600V
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI162302194.000	XFGM916198980.100	1536RQK
MTAI162302613.000	XFGM916198980.100	1536T27
MTAI162302614.000	XFGM916198980.100	1536T28

Result [X] Pass [ ] Fail [ ] ____________________

8L SOIC (.150”) 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:** November 23, 2015 **(Sr.Reliability Engineer)**

(Mr.Thinnapol Nakkasun)

Approved By: ____________________ **Date:** November 23, 2015 **(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</u> (At MSL Level 1)	**Electrical Test :**+25°C,85°C and 125°C System: J750 Bake 150°C, 24 hrs System: CHINEE 85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 **Electrical Test :**+25°C and 85°C (With 1 lot 125°C on MTAI162302194.000) System: J750	JESD22-A113	693(0)	693 693 693 693 0/693	Pass	Good Devices

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, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 85°C (With 1 lot 125°C on MTAI162302194.000) System: J750		231(0)	0/231	Pass	
	Bond Strength:					
	Wire Pull (>4.0 grams)		15 (0)	0/15	Pass	
	Bond Shear (>18.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System:J750		231(0)	0/231	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. **Bias Volt:** 5.5 Volts System: HAST 6000X **Electrical Test:** + 25°C and 85°C (With 1 lot 125°C on MTAI162302194.000) System: J750	JESD22-A110	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB **Electrical Test :**+25°C, 85°C and 125°C System: J750	JESD22-A103	45(0)	45 0/45	Pass	45 units
Cross section	Cross section Inspection 3 units / lot		9(0) Wires	0/9		
Bond Strength	Wire Pull (> 4.0 grams)	M2011	30 (0) Wires	0/30	Pass	
Data Assembly	Bond Shear (>18.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	