Date:	15 Jan 2014
Product Category:	16-bit Microcontrollers and Digital Signal Controllers; 8-bit Microcontrollers; 32-bit PIC Microcontrollers
Notification subject:	CCB 1360.02 Initial Notice: Qualification of 100L TQFP (14x14x1mm) package with palladium coated copper (PdCu) bond wire at ASE assembly site.

Notification text:

PCN Status:

Initial notification

Microchip Parts Affected:

See attachments of affected catalog part numbers (CPN) labeled as…
PCN_IIRA-08SZRJ543_Affected_CPN.xls
PCN_IIRA-08SZRJ543_Affected_CPN.pdf

Description of Change:

Qualification of 100L TQFP (14x14x1mm) package with palladium coated copper (PdCu) bond wire at ASE assembly site.

Impacts to Data Sheet:

None

Reason for Change:

To improve productivity

Change Implementation Status:

In Progress

Estimated First Ship Date:

May 2, 2014 (date code: 1418)

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:
January 15, 2014: Issued initial notification.

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-08SZRJ543_Affected CPN.pdf PCN_IIRA-08SZRJ543_Qual Plan.pdf PCN_IIRA-08SZRJ543_Affected CPN.xls

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

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PCN_IIRA-08SZRJ543
CATALOG_PART_NBR
DSPIC33EP128GM310-E/PF
DSPIC33EP128GM310-H/PF
DSPIC33EP128GM310-I/PF
DSPIC33EP128GM310T-I/PF
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DSPIC33EP128GM710-H/PF
DSPIC33EP128GM710-I/PF
DSPIC33EP128GM710T-I/PF
DSPIC33EP256GM310-E/PF
DSPIC33EP256GM310-H/PF
DSPIC33EP256GM310-I/PF
DSPIC33EP256GM310T-I/PF
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DSPIC33EP256GM710-H/PF
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PIC32MX795F512LT-80I/PF
PIC32MX795F512LT-80V/PF

QUALIFICATION PLAN

PCN #: IIRA-08SZRJ543

Date:
December 18, 2013

Qualification of 100L TQFP (14x14x1mm) package with palladium coated copper (PdCu) bond wire at ASE assembly site.

Distribution

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Purpose: Qualification of 100L TQFP (14x14x1mm) package with palladium coated copper (PdCu) bond wire at ASE assembly site.

MP code: TDAA117E5X***

Part number: PIC32MX575F*** series

BD number: BDM-000395A_PdCu

CCB number: 1360.02

Package: E5

Type: 100L TQFP

Width or Size: 14x14x1.0mm

Die thickness: 11 mils

Die size: 226X220mil / 5737X5576um

BOM (Bill of materials)

Epoxy	Sumitomo CRM-1076WA
Wire type	PdCu wire
Lead frame ASEK Part number	A07756-0
Lead frame material type	Copper C7025
Leadframe supplier	Fu sheng / Hsin-Chu Taiwan
Strip dimension	70x250mm
Strip size	3x10 units
Leadframe process	Stamped
Leadframe surface treatment	None
Leadlock	No
Lead frame paddle plating	Double ring Ag plating
Lead frame paddle size	7x7mm (276x276 mils)
Mold Compound	Sumitomo EME- G631H
Lead finish	Matte tin

Above materials were all qualified on SMSC legacy product at ASEK to meet MSL 3.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
Standard Pb-free Solderability	JESD22B-102E; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.	22	5	1	27	> 95% lead coverage	5	Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability—SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	30 bonds from a minimum of 5 devices.
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	
HTSL (High Temp Storage Life)	+175°C for 504 hours or 150°C for 1008 hrs. Electrical test pre and post stress at +25°C and hot temp. lot to be tested at 105°C	45	5	1	50	0	10	Must be in progress at time of package release to production, but completion is not required for release to production. For hot temp testing, pre/post test lot at 105°C.
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020D for package type; Electrical test pre and post stress at +25°C. Perform SAM analysis using the standard sample size. MSL-3 @ 260°C	231	15	3	738	0	15	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and hot temp. lot to be tested at 105°C	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. For hot temp testing, pre/post test lot at 105°C.
Unbiased HAST	+130°C/85% RH for 96 hours Electrical test pre and post stress at +25°C.	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
Temp Cycle	-65℃ to +150℃ for 500 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. lot to be tested at 105℃	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. For hot temp testing, pre/post test lot at 105℃.