

Product Change Notification - IIRA-19WCBW841

Date: 28 Jan 2014

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

Notification subject: CCB 1355.01 Final Notice: Qualification of 28L QFN (6x6x0.9mm and 5x5x0.9mm), 20L QFN (5x5x0.9mm and 4x4x0.9mm) and 16L QFN (4x4x0.9mm and 3x3x0.9mm) 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-19WCBW841_Affected_CPN.xls](#)

[PCN_IIRA-19WCBW841_Affected_CPN.pdf](#)

Description of Change:

Qualification of 28L QFN (6x6x0.9mm and 5x5x0.9mm), 20L QFN (5x5x0.9mm and 4x4x0.9mm) and 16L QFN (4x4x0.9mm and 3x3x0.9mm) packages at MTAI assembly site.

Impacts to Data Sheet:

None

Reason for Change:

To improve productivity

Change Implementation Status:

In Progress

Estimated First Ship Date:

February 21, 2014 (date code: 1408)

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:

December 26, 2013: Issued initial notification.

January 28, 2014: Issued final notification. Attached the qualification report.

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-19WCBW841_Affected CPN.pdf](#) [PCN_IIRA-19WCBW841_Qual Report.pdf](#) [PCN_IIRA-19WCBW841_Affected CPN.xls](#)

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PCN_IIRA-19WCBW841
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A0061000C1Q001T-I/ML021
A010201-I/MQ
A010201T-I/MQ
AR1010-I/ML
AR1010T-I/ML
AR1011-I/ML
AR1011T-I/ML
AR1020-I/ML
AR1020T-I/ML
AR1021-I/ML
AR1021T-I/ML
AR1100-I/MQ
AR1100T-I/MQ
CAP1028-1-BP-TR
CAP1066-1-BP-TR
CAP1126-1-AP-TR
CAP1128-1-BP-TR
CAP1166-1-BP-TR
CAP1166-1-BP-TR-DCC
CAP1208-1-A4
CAP1208-1-A4-TR
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UCS1002-2-BP
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USB3750A-1-A4-TR
USB3751A-1-A4-TR
USB3751A-2-A4-TR



MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

PCN #: IIRA-19WCBW841

Date:
Jan 21, 2014

**Qualification of 28L QFN (6x6x0.9mm) package at MTAI assembly site.
The 28L QFN (5x5x0.9mm), 20L QFN (5x5x0.9mm, 4x4x0.9mm) and 16L
QFN (4x4x0.9mm, 3x3x0.9mm) packages will qualify by similarity at
MTAI assembly site.**

Distribution

Somnuek T.
Wanphen L.
Wichai K.
Prachit P.

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



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose Qualification of 28L QFN (6x6x0.9mm) package at MTAI assembly site. The 28L QFN (5x5x0.9mm), 20L QFN (5x5x0.9mm, 4x4x0.9mm) and 16L QFN (4x4x0.9mm, 3x3x0.9mm) packages will qualify by similarity at MTAI assembly site.

CN BC132041

QUAL ID Q13144

MP CODE DECH14M4XAXF

Part No. PIC18F2520-I/ML

Bonding No. BDM-000403 Rev. A

CCB No. 1355.01

Package

Type 28L QFN

Package size 6x6x0.9 mm

Die thickness 11 mils

Die size 145.7x146.9 mm

Lead Frame

Paddle size 173X173 mils

Material A194

Surface Bare Cu

Process Etched

Lead Lock Yes

Part Number 10102828

Treatment Micro Etching (ME-2)

Die attach material

Epoxy 3280

Wire Au wire

Mold Compound G700LTD

Plating Composition Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI143801513	TMPE214138943.100	1351DJ4
MTAI143801514	TMPE214138943.200	1351DJ5
MTAI143801515	TMPE214138943.300	1351DJ6

Result

Pass Fail _____

28L QFN (6x6x0.9mm) 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: January 21, 2014 (Sr. Reliability Engineer)

(Mr. Thinnapol Nakkasun)

Approved By: Somnuek Date: January 21, 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</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	Electrical Test :+25°C and 85°C System: J750 (With 1 lot 125°C on MTAI143801513.000)	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		
	Electrical Test :+25°C and 85°C System: J750 (With 1 lot 125°C on MTAI143801513.000)			0/693		

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Inspection: External crack inspection all units under 40X Optical magnification	JESD22- A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 85°C System: J750 (With 1 lot 125°C on MTA1143801513.000)		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (13.00 grams)		15 (0)	0/15	Pass	
			15 (0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: +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	77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X	JESD22- A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 85°C System: J750 (With 1 lot 125°C on MTA1143801513.000)		231(0)	0/231	Pass	77 units / lot
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	JESD22- A103		45		45 units
	Electrical Test :+25°C ,85°C and 125°C System: J750		45(0)	0/45	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Solderability Temp 215°C	Steam Aging: Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63,Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22- B102	22 (0)	22 22 0/22	Pass	
Solderability Temp 245°C	Steam Aging: Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22- B102	22 (0)	22 22 0/22	Pass	
Wire sweep	Wire sweep Inspection 15 Wires / lot	QCI-91024	45(0) Wires	0/45		
Physical Dimensions	Physical Dimension, 30 units from 1 lot	JESD22- B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (13.00 grams)	JESD22- B116	30 (0) bonds	0/30	Pass	