

Date: 24 Oct 2012

Product Category: 8-bit Microcontrollers

Device Family:  

Notification subject: CCB 1155.02 Final Notification: Qualification of selected products available in the 44L TQFP package with palladium coated copper (PdCu) 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_CYER-27RNNT411_Affected_CPN.xls
PCN_CYER-27RNNT411_Affected_CPN.pdf

Description of Change:

Qualification of selected products available in the 44L TQFP package with palladium coated copper (PdCu) wire at MTAI assembly site.

NOTE: Selected products are non-automotive standalone PIC MCU devices. 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:
January 24, 2013 (Date code: 1304)

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 24, 2012 – 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_CYER-27RNNT411_Affected_CPN.xls](#) [PCN_CYER-27RNNT411_Affected_CPN.pdf](#) [PCN_CYER-27RNNT411_Qual Report.pdf](#)

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

Terms and Conditions:

If you wish to change your product/process change notification (PCN) profile please log on to our website at <http://www.microchip.com/PCN> sign into myMICROCHIP to open the myMICROCHIP home page, then select a profile option from the left navigation bar.

To opt out of future offer or information emails (other than product change notification emails), click here to go to [microchipDIRECT](#) and login, then click on the "My account" link, click on "Update profile" and un-check the box that states "Future offers or information about Microchip's products or services."

Product Change Notification - CYER-27RNNT411

Parts Affected

PIC16C64A
PIC16C65A
PIC16C65B
PIC16C67
PIC16C74A
PIC16C74B
PIC16C765
PIC16C77
PIC16C774
PIC16F59
PIC16F690
PIC16F74
PIC16F747
PIC16F77
PIC16F777
PIC16F871
PIC16F874
PIC16F874A
PIC16F877
PIC16F877A
PIC16F884
PIC16F887
PIC16F914
PIC16F917
PIC17C43
PIC17C44
PIC18C442
PIC18C452
PIC18F4220
PIC18F4221
PIC18F4320
PIC18F4321
PIC18F4331
PIC18F4410
PIC18F442
PIC18F4420
PIC18F4423
PIC18F4431
PIC18F4439
PIC18F4450
PIC18F4455
PIC18F4458
PIC18F448

PIC18F4480
PIC18F4510
PIC18F4515
PIC18F452
PIC18F4520
PIC18F4523
PIC18F4525
PIC18F4539
PIC18F4550
PIC18F4553
PIC18F458
PIC18F4580
PIC18F4585
PIC18F4610
PIC18F4620
PIC18F4680
PIC18F4682
PIC18F4685

PCN_CYER-27RNNT411
CATALOG_PART_NBR
HA1572T-I/PTC06
HA1574-I/PT
HA1574T-I/PT
HA9546-I/PT
HA9546T-I/PT
PIC16C64A-10/PT
PIC16C64A-20/PT
PIC16C64A-20I/PT
PIC16C65B-04I/PT
PIC16C65B-20/PT
PIC16C67-20/PT
PIC16C67-20I/PT
PIC16C74A-20I/PT
PIC16C74B-04/PT
PIC16C74B-20/PT
PIC16C74B-20I/PT
PIC16C765-I/PT
PIC16C765T-I/PT
PIC16C77-04/PT
PIC16C77-04I/PT
PIC16C77-10I/PT
PIC16C77-20I/PT
PIC16C774/PT
PIC16C774-I/PT
PIC16C774T-I/PT
PIC16C77T-04I/PT022
PIC16F59-E/PT
PIC16F59-I/PT
PIC16F59T-E/PT
PIC16F59T-I/PT
PIC16F690-ICD/PT
PIC16F747-I/PT
PIC16F747T-I/PT
PIC16F74-E/PT
PIC16F74-I/PT
PIC16F74-I/PTG
PIC16F74T-I/PT
PIC16F74T-I/PT152
PIC16F74T-I/PTG
PIC16F777-E/PT
PIC16F777-E/PTC02
PIC16F777-I/PT
PIC16F777-I/PTC01
PIC16F777T-I/PT
PIC16F77-E/PT
PIC16F77-I/PT
PIC16F77-I/PT4AP
PIC16F77-I/PTG
PIC16F77T-I/PT

PIC16F77T-I/PT058
PIC16F77T-I/PT078
PIC16F77T-I/PT089
PIC16F77T-I/PT090
PIC16F871-I/PT
PIC16F874-04/PT
PIC16F874-04I/PT
PIC16F874-20/PT
PIC16F874-20I/PT
PIC16F874A-E/PT
PIC16F874A-I/PT
PIC16F874A-I/PTG
PIC16F874A-I/PTV01
PIC16F874AT-E/PT
PIC16F874AT-I/PT
PIC16F874AT-I/PTC06
PIC16F874AT-I/PTG
PIC16F877-04/PT
PIC16F877-04E/PT
PIC16F877-04I/PT
PIC16F877-10E/PT
PIC16F877-20/PT
PIC16F877-20I/PT
PIC16F877A-E/PT
PIC16F877A-I/PT
PIC16F877A-I/PTV03
PIC16F877AT-I/PT
PIC16F877T-04I/PT034
PIC16F877T-20/PT
PIC16F877T-20I/PT
PIC16F884-E/PT
PIC16F884-I/PT
PIC16F884-I/PT022
PIC16F884T-I/PT
PIC16F887-E/PT
PIC16F887-I/PT
PIC16F887T-E/PT
PIC16F887T-I/PT
PIC16F887T-I/PT021
PIC16F914-E/PT
PIC16F914-I/PT
PIC16F914T-I/PT
PIC16F917-E/PT
PIC16F917-I/PT
PIC16F917-I/PT021
PIC16F917-I/PT022
PIC16F917-I/PT024
PIC16F917-I/PT026
PIC16F917-I/PT046
PIC16F917T-E/PT
PIC16F917T-I/PT
PIC16LC65A-04/PT

PIC16LC65B-04/PT
PIC16LC65B-04I/PT
PIC16LC67-04/PT
PIC16LC77-04/PT
PIC16LC77-04I/PT
PIC16LC774-I/PT
PIC16LF747-I/PT
PIC16LF747T-I/PT
PIC16LF74-I/PT
PIC16LF777-I/PT
PIC16LF777T-I/PT
PIC16LF77-I/PT
PIC16LF77T-I/PT
PIC16LF77T-I/PTC10
PIC16LF871-I/PT
PIC16LF874-04/PT
PIC16LF874-04I/PT
PIC16LF874A-I/PT
PIC16LF874A-I/PTG
PIC16LF874AT-I/PT
PIC16LF874AT-I/PTG
PIC16LF877-04/PT
PIC16LF877-04I/PT
PIC16LF877A-I/PT
PIC16LF877A-I/PTG
PIC16LF877AT-I/PT
PIC16LF877AT-I/PT033
PIC16LF877AT-I/PTG
PIC17C43-25/PT
PIC17C43-33I/PT
PIC17C44-16/PT
PIC17C44-16I/PT
PIC17C44-25/PT
PIC17C44-33/PT
PIC17LC44-08I/PT
PIC18C442-I/PT
PIC18C452-I/PT
PIC18F4220-E/PT
PIC18F4220-I/PT
PIC18F4220T-I/PT
PIC18F4221-E/PT
PIC18F4221-I/PT
PIC18F4221T-E/PT
PIC18F4221T-I/PT
PIC18F4320-E/PT
PIC18F4320-I/PT
PIC18F4320-I/PTC09
PIC18F4320-I/PTG
PIC18F4320T-I/PT
PIC18F4320T-I/PTB3
PIC18F4320T-I/PTC09
PIC18F4320T-I/PTC1

PIC18F4320T-I/PTC2
PIC18F4321-E/PT
PIC18F4321-I/PT
PIC18F4321T-I/PT
PIC18F4331-E/PT
PIC18F4331-I/PT
PIC18F4331T-I/PT
PIC18F4410-I/PT
PIC18F4410-I/PTB3
PIC18F4410T-I/PT
PIC18F4420-E/PT
PIC18F4420-I/PT
PIC18F4420-I/PTC04
PIC18F4420T-E/PT
PIC18F4420T-I/PT
PIC18F4420T-I/PTC04
PIC18F4423-E/PT
PIC18F4423-I/PT
PIC18F4423T-I/PT
PIC18F442-E/PT
PIC18F442-I/PT
PIC18F442-I/PTG
PIC18F442T-I/PT
PIC18F4431-E/PT
PIC18F4431-I/PT
PIC18F4431T-E/PT
PIC18F4431T-I/PT
PIC18F4431T-I/PT020
PIC18F4431T-I/PT021
PIC18F4431T-I/PT022
PIC18F4439-I/PT
PIC18F4450-I/PT
PIC18F4455-I/PT
PIC18F4455T-I/PT
PIC18F4458-I/PT
PIC18F4480-E/PT
PIC18F4480-I/PT
PIC18F4480T-E/PT
PIC18F4480T-I/PT
PIC18F448-E/PT
PIC18F448-I/PT
PIC18F448T-I/PT
PIC18F4510-E/PT
PIC18F4510-I/PT
PIC18F4510T-I/PT
PIC18F4515-I/PT
PIC18F4520-E/PT
PIC18F4520-E/PTC13
PIC18F4520-I/PT
PIC18F4520-I/PTB3
PIC18F4520-I/PTB4
PIC18F4520-I/PTC05

PIC18F4520-I/PTC10
PIC18F4520T-E/PT
PIC18F4520T-I/PT
PIC18F4520T-I/PTB3
PIC18F4520T-I/PTB4
PIC18F4523-E/PT
PIC18F4523-I/PT
PIC18F4523T-I/PT
PIC18F4525-E/PT
PIC18F4525-I/PT
PIC18F4525T-I/PT
PIC18F452-E/PT
PIC18F452-E/PTC34
PIC18F452-I/PT
PIC18F452-I/PTC17
PIC18F452T-I/PT
PIC18F452T-I/PTC17
PIC18F452T-I/PTG
PIC18F4539-I/PT
PIC18F4550-I/PT
PIC18F4550T-I/PT
PIC18F4553-I/PT
PIC18F4580-E/PT
PIC18F4580-I/PT
PIC18F4580-I/PTC01
PIC18F4580-I/PTC02
PIC18F4580T-E/PT
PIC18F4580T-I/PT
PIC18F4580T-I/PTC02
PIC18F4585-E/PT
PIC18F4585-H/PT
PIC18F4585-I/PT
PIC18F4585T-I/PT
PIC18F458-E/PT
PIC18F458-I/PT
PIC18F458-I/PTG
PIC18F458T-I/PT
PIC18F458T-I/PTG
PIC18F4610-I/PT
PIC18F4610T-I/PT
PIC18F4620-E/PT
PIC18F4620-E/PTB4
PIC18F4620-I/PT
PIC18F4620-I/PTB4
PIC18F4620T-I/PT
PIC18F4680-E/PT
PIC18F4680-E/PTC02
PIC18F4680-E/PTC03
PIC18F4680-E/PTC04
PIC18F4680-H/PT
PIC18F4680-I/PT
PIC18F4680-I/PTC01

PIC18F4680T-E/PT
PIC18F4680T-I/PT
PIC18F4682-E/PT
PIC18F4682-I/PT
PIC18F4682T-I/PT
PIC18F4685-E/PT
PIC18F4685-I/PT
PIC18F4685T-I/PT
PIC18LC452-I/PT
PIC18LF4220-I/PT
PIC18LF4220T-I/PT
PIC18LF4221-I/PT
PIC18LF4320-I/PT
PIC18LF4320-I/PTG
PIC18LF4320T-I/PT
PIC18LF4321-I/PT
PIC18LF4321T-I/PT
PIC18LF4331-I/PT
PIC18LF4410-I/PT
PIC18LF4410T-I/PT021
PIC18LF4420-I/PT
PIC18LF4420T-I/PT
PIC18LF4423-I/PT
PIC18LF4423T-I/PT
PIC18LF442-I/PT
PIC18LF4431-I/PT
PIC18LF4450-I/PT
PIC18LF4455-I/PT
PIC18LF4455T-I/PT
PIC18LF4458-I/PT
PIC18LF4480-I/PT
PIC18LF4480T-I/PT
PIC18LF448-I/PT
PIC18LF4510-I/PT
PIC18LF4510T-I/PT
PIC18LF4515-I/PT
PIC18LF4520-I/PT
PIC18LF4520-I/PTB3
PIC18LF4520-I/PTC12
PIC18LF4520T-I/PT
PIC18LF4520T-I/PTB3
PIC18LF4523-I/PT
PIC18LF4523T-I/PT
PIC18LF4525-I/PT
PIC18LF4525-I/PTLB4
PIC18LF4525T-I/PT
PIC18LF452-I/PT
PIC18LF452T-I/PT
PIC18LF4539-I/PT
PIC18LF4550-I/PT
PIC18LF4550T-I/PT
PIC18LF4553-I/PT

PIC18LF4580-I/PT
PIC18LF4580T-I/PT
PIC18LF4585-I/PT
PIC18LF4585T-I/PT
PIC18LF458-I/PT
PIC18LF4610-I/PT
PIC18LF4610T-I/PT
PIC18LF4620-I/PT
PIC18LF4620T-I/PT
PIC18LF4620T-I/PT025
PIC18LF4620T-I/PT027
PIC18LF4680-I/PT
PIC18LF4680T-I/PT
PIC18LF4682-I/PT
PIC18LF4685-I/PT



MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

PCN: CYER-27RNNT411

Date
July 31, 2012

Qualification of 44L TQFP package with palladium coated copper (PdCu) wire at
MTAI assembly site.

Distribution

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

Rangsun K.
C.K. Barlingay
R. Sharma

Microchip Technology (Thailand) Co., Ltd.
14 Moo 1 T.Wangtakien A. Muangchacherngsao,
Chacherngsao, Thailand, 24000
Tel. (+66 38) 857119-45, 857311-19 ext. 1231
Fax (+66 38) 857149-50



MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of 44L TQFP package with palladium coated copper (PdCu) wire at MTAI assembly site.
CN	BC120959
QUAL ID	Q12053
MP CODE	A7AU37T4XAXC
Part No.	PIC18C442-I/PT
Bonding No.	A-022704 Rev. H
CCB No.	1155.02
<u>Package</u>	
Type	44L TQFP
Package size	10x10x1 mm
Die thickness	11 mils
Die size	168.00 x 273.70 mils
<u>Lead Frame</u>	
Paddle size	300 x 300 mils
Material	C7025
Surface	Bare copper paddle with MEP
Process	Stamp
Lead Lock	No
Part Number	10104402
<u>Die attach material</u>	
Epoxy	3280
Wire	PdCu wire
Mold Compound	SG-8300ECM
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Trace Code
MTA1130903673	TMPE212428917.310	12223EJ
MTA1130903674	TMPE212428917.320	12223EK
MTA1130903675	TMPE212428917.330	12223EM

Result Pass Fail _____

44L TQFP (10x10) 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:** July 31, 2012 (Reliability Engineer)

(Mr.Thinnapol Nakkasun)

Approved By: _____ **Date:** July 31, 2012 (Reliability Manager)

(Mr. Somnuek Thongprasert)

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
----------------------------	----------------	-------------------	----------------	---------	----------	---------	--------	---------

<u>MSL</u>								
MSL Level 1/260°C	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)	S12/14/16 (PDC)	135	06/15/12	06/26/12	0/135	Pass	

<u>Precondition</u>								
Electrical Test	Electrical Test :+25°C and 125°C System: J750	S12/14/16 (PDC)	693(0)	06/14/12	06/15/12	693		Good Devices
Bake	Bake 150°C, 24 hrs System: CHINEE	PI-92014B		06/16/12	06/17/12	693		
Moisture Soak	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH	PI-91173B		06/18/12	06/25/12	693		
Convection-Reflow	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243	PI-91160B		06/25/12	06/25/12	693		
Electrical Test	Electrical Test :+25°C and 125°C System: J750	S12/14/16 (PDC)		06/25/12	06/26/12	0/693	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	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	PI-91020B		06/27/12	07/07/12	231		Parts had been pre-conditioned at 260°C
		QCI-33003	30(0)	07/07/12	07/07/12	0/30		
	Electrical Test: + 125°C System: J750	S12/14/16 (PDC)	231(0)	07/07/12	07/09/12	0/231	Pass	77 units / lot
		Bond Strength: Bond Shear (12.40 grams) Wire Pull (> 3 grams)	QCI-91022	15 (0) 15 (0)	07/11/12 07/11/12	07/12/12 07/12/12	0/15 0/15	Pass Pass
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	PI-91261B		06/27/12	07/02/12	231		Parts had been pre-conditioned at 260°C
		S12/14/16 (PDC)	231(0)	07/02/12	07/02/12	0/231	Pass	77 units / lot
	Electrical Test: +25°C System: J750							

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X	PI-92010B		07/12/12	07/16/12	231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 125°C System: J750	S12/14/16 (PDC)	231(0)	07/16/12	07/17/12	0/231	Pass	77 units / lot
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	PI-92014B S12/14/16		06/16/12	07/09/12	45		45 units
	Electrical Test: +25°C and 125°C System: J750	(PDC)	45(0)	07/09/12	07/11/12	0/45	Pass	
Bond Strength Data Assembly	Bond Shear (12.40 grams)	QCI-91022	30 (0) bonds	-	-	0/30	Pass	
	Wire Pull (> 3 grams)		30 (0) wires	-	-	0/30	Pass	