



Product Change Notification - LIAL-21VFOW015

Date:

26 Apr 2018

Product Category:

8-bit PIC Microcontrollers; Digital Potentiometers; Capacitive Touch Sensors; 16-Bit - Microcontrollers and Digital Signal Controllers; Interface- Serial Peripherals

Affected CPNs:**Notification subject:**

CCB 3219,3219.001-3219.005 Final Notice: Qualification of MMT as an additional site for selected products of 150K and 160K wafer technologies available in 28L QFN-S,16L,20L,28L and 44L QFN packages

Notification text:**PCN Status:**

Final notification.

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open one of the icons found in the Affected CPNs section above.

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

Description of Change:

Qualification of MMT as an additional site for selected products of 150K and 160K wafer technologies available in 44 QFN (8x8mm), 28L QFN-S(6x6mm), 28L QFN(6x6mm), 20L QFN (4x4mm), 16L QFN((4x4mm) and 16L QFN(3x3mm) packages.

Pre Change:

Assembled at MTAI assembly site

Post Change:

Assembled at MTAI or MMT assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	Microchip Technology Thailand HQ (MTAI).	Microchip Technology Thailand HQ (MTAI).	Microchip Technology Thailand Branch (MMT)
Wire material	CuPdAu	CuPdAu	
Die attach material	3280	3280	
Molding compound material	G700LTD	G700LTD	
Lead frame material	C194	C194	

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve on-time delivery performance by qualifying MMT as an additional assembly site.

Change Implementation Status:



In Progress

Estimated First Ship Date:

May 26, 2018(date code: 1821)

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

Time Table Summary:

Workweek	January 2018					-->	April 2018					May 2018			
	01	02	03	04	05		14	15	16	17	18	19	20	21	22
Initial PCN Issue Date			X												
Qual Report Availability									X						
Final PCN Issue Date									X						
Estimated Implementation Date														X	

Method to Identify Change:

Traceability code

Qualification Report

Please open the attachments included with this PCN labeled as PCN_#_Qual Report.

Revision History:

January 16, 2018: Issued initial notification.

April 26, 2018: Issued final notification. Attached is the qualification report. Provided estimated first ship date to be on May 26, 2018.

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_LIAL-21VFOW015_QUAL_REPORT.pdf](#)

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QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN#: LIAL-21VFOW015

Date
April 04, 2018

Qualification of MMT as an additional assembly site for selected products of 150K and 160K wafer technologies available in 44L QFN package. The selected products available in 28L QFN-S, 16L, 20L and 28L QFN packages will qualify by similarity(QBS).



Purpose: Qualification of MMT as an additional assembly site for selected products of 150K and 160K wafer technologies available in 44L QFN package. The selected products available in 28L QFN-S, 16L, 20L and 28L QFN packages will qualify by similarity(QBS).

CCB NO.:	3219
CN	ES164998-24255
QUAL ID	Q18026
MP CODE	DECH1YT3XAXF
Part No.	PIC18F4520T-E/ML
Bonding No.	BDM-001587 Rev. A
<u>Package</u>	
Type	44L QFN
Package size	8x8x0.9 mm
Die thickness	11 mils
Die size	145.70 x 146.90 mils
<u>Lead Frame</u>	
Paddle size	272 x 272 mils
Material	C194
Surface	Bare Cu
Process	Stamped
Lead Lock	No
Part Number	10104411
Treatment	BOT
<u>Material</u>	
Epoxy	3280
Wire	CuPdAu wire
Mold Compound	G700LTD
Plating Composition	Matte Tin



Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-184500396.000	GRSM418251500.210	1805S3Y
MMT-184501533.000	GRSM418251500.210	180512G
MMT-184501534.000	GRSM418251500.200	18051MV

Result Pass Fail _____

44L QFN (8x8x0.9 mm) assembled by MMT 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.

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	
Precondition Prior Perform Reliability Tests (At MSL Level 1)	Electrical Test : +25°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 125°C System: J750	JESD22A113	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: -65°C to +150°C, 500 Cycles System: TABAI ESPEC TSA-70H Electrical Test: +125°C System: J750 Bond Strength: Wire Pull (>2.50 grams) Bond Shear (>15.00 grams)	JESD22A104		231		Parts had been pre-conditioned at 260°C 77 units / lot
			231(0)	0/231	Pass	
				231		
			15 (0)	0/15	Pass	
			15 (0)	0/15	Pass	
UNBIASEDHAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: J750	JESD22-A118		231		Parts had been pre-conditioned at 260°C 77 units / lot
			231(0)	0/231	Pass	
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X Electrical Test: +25°C and +125°C System: J750	JESD22-A110		231		Parts had been pre-conditioned at 260°C 77 units / lot
			231(0)	0/231	Pass	
				231		

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 +125°C System: J750	JESD22A103	45(0)	45 0/45	Pass	45 units
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	JESD22B-102E	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 95.5Ag3.9Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22B-102E	22 (0)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 10 units/lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (>2.50 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22B116	30 (0) bonds	0/30	Pass	

LIAL-21VFC 3219.001-3 16L

20L

28L and 44L QFN packages

Affected Catalog Part Numbers(CPN)

AR1010-I/ML

AR1010T-I/ML

AR1011-I/ML

AR1011T-I/ML

AR1020-I/ML

AR1020T-I/ML

AR1021-I/ML

AR1021T-I/ML

DSPIC30F1010-20E/MM

DSPIC30F1010-30I/MM

DSPIC30F2010-20E/MM

DSPIC30F2010-20I/MM

DSPIC30F2010-30I/MM

DSPIC30F2010T-20E/MM

DSPIC30F2010T-20I/MM

DSPIC30F2010T-30I/MM

DSPIC30F2010T-30V/MMA31

DSPIC30F2011-20I/ML

DSPIC30F2011-30I/ML

DSPIC30F2012-20E/ML

DSPIC30F2012-20I/ML

DSPIC30F2012-30I/ML

DSPIC30F2020-20E/MM

DSPIC30F2020-30I/MM

DSPIC30F2020T-30I/MM

DSPIC30F2023-20E/ML

DSPIC30F2023-30I/ML

DSPIC30F2023T-30I/ML

DSPIC30F2023T-30V/MLD31

DSPIC30F3010-20I/ML

DSPIC30F3010-30I/ML

DSPIC30F3010T-30I/ML

DSPIC30F3011-10I/MLB24

DSPIC30F3011-20E/ML

DSPIC30F3011-20I/ML

DSPIC30F3011-30I/ML

DSPIC30F3011T-10I/MLB21

DSPIC30F3012-20E/ML

DSPIC30F3012-20I/ML

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PIC18F1220-H/ML
PIC18F1220-I/ML
PIC18F1220T-I/ML
PIC18F1230-E/ML
PIC18F1230-I/ML
PIC18F1230-I/MLXXX
PIC18F1320-E/ML
PIC18F1320-H/ML
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PIC18F1320T-I/ML
PIC18F1330-E/ML
PIC18F1330-I/ML
PIC18F1330-I/MLXXX

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PIC18F2221-E/ML
PIC18F2221-I/ML
PIC18F2221T-I/ML
PIC18F2321-E/ML
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PIC18F2331-E/MM
PIC18F2331-I/MM
PIC18F2331T-I/MM
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PIC18F4220-E/ML
PIC18F4220-I/ML
PIC18F4220T-I/ML
PIC18F4221-E/ML

PIC18F4221-I/ML
PIC18F4320-E/ML
PIC18F4320-I/ML
PIC18F4320T-I/ML
PIC18F4321-E/ML
PIC18F4321-I/ML
PIC18F4331-I/ML
PIC18F4410-I/ML
PIC18F4420-E/ML
PIC18F4420-I/ML
PIC18F4420T-I/ML
PIC18F4423-E/ML
PIC18F4423-I/ML
PIC18F4423T-I/ML
PIC18F442-I/ML
PIC18F4431-I/ML
PIC18F4450-I/ML
PIC18F4455-I/ML
PIC18F4458-I/ML
PIC18F4480-E/ML
PIC18F4480-I/ML
PIC18F4480T-I/ML
PIC18F4510-E/ML
PIC18F4510-I/ML
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PIC18F4515-I/ML
PIC18F4520-E/ML
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PIC18F4520T-I/ML
PIC18F4523-E/ML
PIC18F4523-I/ML
PIC18F4523T-I/ML
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PIC18F4550-I/ML
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PIC18F4580-E/ML
PIC18F4580-I/ML
PIC18F4580T-I/ML
PIC18F4585-E/ML
PIC18F4585-H/ML
PIC18F4585-I/ML

PIC18F4585-I/MLC01
PIC18F4585T-I/ML
PIC18F4610-I/ML
PIC18F4620-E/ML
PIC18F4620-I/ML
PIC18F4620T-I/ML
PIC18F4680-E/ML
PIC18F4680-H/ML
PIC18F4680-I/ML
PIC18F4680T-I/ML
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PIC18F4682-I/ML
PIC18F4685-E/ML
PIC18F4685-I/ML
PIC18F4685T-I/ML
PIC18LF1220-I/ML
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PIC18LF1320-I/ML
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PIC18LF1330-I/ML
PIC18LF2221-I/ML
PIC18LF2321-I/ML
PIC18LF2321T-I/ML
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PIC18LF2331T-I/MM
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PIC18LF2420-I/ML
PIC18LF2420T-I/ML
PIC18LF2420T-I/ML025
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PIC18LF2423T-I/ML
PIC18LF2431-I/MM
PIC18LF2450-I/ML
PIC18LF2450T-I/ML206
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PIC18LF2520-I/ML
PIC18LF2520T-I/ML
PIC18LF2523-I/ML
PIC18LF2523T-I/ML
PIC18LF2580-I/ML
PIC18LF4220-I/ML
PIC18LF4220T-I/ML
PIC18LF4221-I/ML

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PIC18LF4320T-I/ML
PIC18LF4320T-I/MLC06
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PIC18LF4423T-I/ML
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PIC18LF442T-I/ML
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PIC18LF4553-I/ML
PIC18LF4580-I/ML
PIC18LF4585-I/ML
PIC18LF4585T-I/ML
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PIC18LF4620-I/ML
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PIC18LF4620T-I/ML
PIC18LF4620T-I/ML035
PIC18LF4680-I/ML
PIC18LF4682-I/ML
PIC18LF4685-I/ML
PIC18LF4685T-I/ML