



## Product Change Notification - KSRA-07JMKW160

**Date:**

11 Dec 2018

**Product Category:**

8-bit Microcontrollers; 16-Bit - Microcontrollers and Digital Signal Controllers; 32-bit Microcontrollers

**Affected CPNs:****Notification subject:**

CCB 3499 Final Notice: Qualification of MMT as an additional assembly site for selected products of 0.25um, 0.18um, 90nm TSMC and 200K wafer technology available in 100L TQFP (14x14x1mm) package.

**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 assembly site for selected products of 0.25um, 0.18um, 90nm TSMC and 200K wafer technology available in 100L TQFP (14x14x1mm) package

**Pre Change:**

Assembled at ASAC using gold (Au) bond wire, 2200 die attach, G700 molding compound and C7025 lead frame material. Assembled at ANAP using gold (Au) bond wire, 3230 die attach, G700 molding compound and C194 lead frame material. Assembled at ASE using palladium coated copper (PdCu) bond wire, 1076WA die attach, G631H molding compound and C7025 lead frame material.

**Post Change:**

Assembled at ASAC using gold (Au) bond wire, 2200 die attach, G700 molding compound and C7025 lead frame material. Assembled at ANAP using gold (Au) bond wire, 3230 die attach, G700 molding compound and C194 lead frame material. Assembled at ASE using palladium coated copper (PdCu) bond wire, 1076WA die attach, G631H molding compound and C7025 lead frame material. Assembled at MMT using gold (Au) bond wire, 3280 die attach, G700 molding compound and C7025 lead frame material.

**Pre and Post Change Summary:**

	Pre Change			Post Change			
Assembly Site	UTAC Dongguan Ltd (P1) / ASAC	Amkor Technology Philippine (P1/P2), INC. / ANAP	ASE Inc. / ASE	UTAC Dongguan Ltd (P1) / ASAC	Amkor Technology Philippine (P1/P2), INC. / ANAP	ASE Inc. / ASE	Microchip Technology Thailand (Branch) / MMT
Wire material	Au	Au	PdCu	Au	Au	PdCu	Au
Die attach material	2200	3230	1076WA	2200	3230	1076WA	3280
Molding	G700	G700	G631H	G700	G700	G631H	G700



compound material							
Lead frame material	C7025	C194	C7025	C7025	C194	C7025	C7025
MSL	L3/260C	L3/260C	L3/260C	L3/260C	L3/260C	L3/260C	L1/260C or L2/260C

**Impacts to Data Sheet:**

None

**Change Impact:**

None

**Reason for Change:**

To improve on-time delivery performance by qualifying MMT as a new assembly site.

**Change Implementation Status:**

In Progress

**Estimated First Ship Date:**

January 11, 2018 (date code: 1902)

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

**Time Table Summary:**

	August 2018					->	November 2018				December 2018				January 2019				
	31	32	33	34	35		45	46	47	48	49	50	51	52	1	2	3	4	5
Initial PCN Issue Date		X																	
Qual Report Availability										X									
Final PCN Issue Date										X									
Estimated First 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:**

**August 09, 2018:** Issued initial notification.

**December 11, 2018:** Issued final notification. Attached is the qualification report. Added estimated first ship date by January 11, 2019.

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\\_KSRA-07JMKW160\\_Qual\\_Report.pdf](#)

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

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Affected Catalog Part Numbers (CPN)

DSPIC33EP256MU810-E/PF  
DSPIC33EP256MU810-I/PF  
DSPIC33EP256MU810T-E/PF  
DSPIC33EP256MU810T-I/PF  
DSPIC33EP512MU810-E/PF  
DSPIC33EP512MU810-I/PF  
DSPIC33EP512MU810-I/PFC04  
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DSPIC33EP512MU810T-I/PF  
DSPIC33FJ128GP310A-E/PF  
DSPIC33FJ128GP310A-I/PF  
DSPIC33FJ128GP710A-E/PF  
DSPIC33FJ128GP710A-I/PF  
DSPIC33FJ128MC510A-E/PF  
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**MICROCHIP**

**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN # : KSRA-07JMKW160**

**Date:**  
December 21,2018

**Qualification of MMT as an additional assembly site for selected products of 0.25um, 0.18um, 90nm TSMC and 200K wafer technology available in 100L TQFP (14x14x1mm) package.**



## MICROCHIP PACKAGE QUALIFICATION REPORT

<b>Purpose</b>	Qualification of MMT as an additional assembly site for selected products of 0.25um, 0.18um, 90nm TSMC and 200K wafer technology available in 100L TQFP (14x14x1mm) package.
<b>CN</b>	ES244611
<b>QUAL ID</b>	Q18174
<b>MP CODE</b>	TDAA17E5XCC8
<b>Part No.</b>	PIC32MX575F512L-80I/PF
<b>Bonding No.</b>	BDM-001879 Rev. C
<b>CCB No.</b>	3499
<b><u>Package</u></b>	
<b>Type</b>	100L TQFP
<b>Package size</b>	14x14x1.0 mm
<b>Die thickness</b>	11 mils
<b>Die size</b>	225.8 x 219.5 mils
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	280 x 280 mils
<b>Material</b>	C7025
<b>Surface</b>	Bare Cu
<b>Process</b>	Etched
<b>Lead Lock</b>	No
<b>Part Number</b>	10110005
<b>Treatment</b>	BOT
<b><u>Material</u></b>	
<b>Epoxy</b>	3280
<b>Wire</b>	Au wire
<b>Mold Compound</b>	G700HA
<b>Plating Composition</b>	Matte Tin



# MICROCHIP PACKAGE QUALIFICATION REPORT

## Manufacturing Information

Assembly Lot No.	Wafer No.	Date Code
MMT-192601502.000	TC03919192257.110	18394HC
MMT-192701494.000	TC03919192257.110	18404JS
MMT-192701847.000	TC03919192257.110	1840AS0

## Result

Pass     Fail     \_\_\_\_\_

100L TQFP 14x14 mm assembled by MMT pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard.

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
<b>Moisture/Reflow Sensitivity Classification Test (At MSL Level 3)</b>	30°C/ 60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243  ( IPC/JEDEC J-STD-020E)	IPC/JEDEC J-STD-020E	135	0/135	Pass	
<b><u>Precondition Prior Perform Reliability Tests</u> (At MSL Level 3)</b>	<b>Electrical Test</b> :+25°C and 85°C System: J750  Bake 150°C, 24 hrs System: CHINEE  30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH  3x Convection-Reflow 265°C max  System: Vitronics Soltec MR1243  <b>Electrical Test</b> :+25°C and 85°C System: J750	JESD22-A113	693(0)	693  693  693  0/693	       Pass	Good Devices
<b>Temp Cycle</b>	<b>Stress Condition:</b> -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H  <b>Electrical Test:</b> + 85°C  System: J750	JESD22-A104	   231(0)	231   0/231	   Pass	Parts had been pre-conditioned at 260°C  77 units / lot
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. System: HAST 6000X  <b>Electrical Test:</b> +25°C System: J750	JESD22-A118	   231(0)	231   0/231	   Pass	Parts had been pre-conditioned at 260°C  77 units / lot
<b>HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 2.0 Volts System: HAST 6000X  <b>Electrical Test:</b> +25°C and 85°C System: J750	JESD22-A110	   231(0)	231   0/231	   Pass	Parts had been pre-conditioned at 260°C  77 units / lot

## PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 504 hrs System: SHEL LAB  <b>Electrical Test</b> :+25°C and 125°C System: J750	JESD22-A103	45(0)	45 0/45	Pass	45 units
<b>Solderability Temp 215°C</b>	<b>Steam Aging:</b> 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	J-STD-002	22 (0)	22 22 0/22	Pass	
<b>Bond Strength</b>	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
<b>Data Assembly</b>	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	