



Product Change Notification - KSRA-07JMKW160

Date:

10 Aug 2018

Product Category:

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

Affected CPNs:



Notification subject:

CCB 3499 Initial 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:

Initial 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 compound	G700	G700	G631H	G700	G700	G631H	G700



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 Qualification Completion Date:

November 2018

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

Time Table Summary:

	August 2018					-->	November 2018			
Workweek	31	32	33	34	35		45	46	47	48
Initial PCN Issue Date		X								
Qual Report Availability								X		
Final PCN Issue Date								X		

Method to Identify Change:

Traceability code

Qualification Plan:

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

Revision History:

August 10, 2018: 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_KSRA-07JMKW160_Qual_Plan.pdf](#)

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

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Affected Catalog Part Numbers (CPN)

PIC32MX470F512LT-V/PF
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DSPIC33EP128GM310-I/PF
DSPIC33EP128GM710-E/PF
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MICROCHIP

QUALIFICATION PLAN SUMMARY

PCN #: KSRA-07JMKW160

**Date:
July 26, 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.

Purpose: 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.

CCB No.: 3499

<u>Misc.</u>	Assembly site	MMT
	BD Number	BDM-001879
	MP Code (MPC)	TDAA17E5XCC8
	Part Number (CPN)	PIC32MX575F512L-80I/PF
<u>Lead-Frame</u>	Paddle size	280x280 mils
	Material	C7025
	Surface	Bare Cu
	Treatment	BOT
	Process	Etched
	Lead-lock	No
	Lead Plating	Matte Tin
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	3280
	Conductive	Yes
<u>MC</u>	Part Number	G700HA
<u>PKG</u>	PKG Type	TQFP
	Pin/Ball Count	100
	PKG width/size	14x14x1.0mm
<u>Die</u>	Die Thickness	11 mils
	Die Size	225.8x219.5 mils
	Fab Process (site)	0.18um TSMC

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	Test Site	Special Instructions
Standard Pb-free Solderability	J-STD-002 ; 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	MTAI	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.
Backward Solderability	J-STD-002 ; Perform 8 hours steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Backward: Matte tin/ NiPdAu finish, SnPb solder, wetting temp 215°C for SMD.	22	5	1	27	> 95% lead coverage	5	MTAI	
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	3	15	0 fails after TC	5	MMT/MTAI	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	3	15		5	MMT/MTAI	30 bonds from a minimum of 5 devices.
Wire Sweep		5	0	3	15	0		MMT	Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	MMT	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	MMT/ MTAI	
HTSL (High Temp Storage Life)	+175 C for 504 hours. Electrical test pre and post stress at +25°C and hot temp.	45	5	1	50	0	25	MTAI	

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	Test Site	Special Instructions
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. MSL1/MSL2 @ 260°C	231	15	3	738	0	15	MTAI	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.	77	5	3	246	0	10	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning..
Unbiased HAST	+130°C/85% RH for 96 hrs. Electrical test pre and post stress at +25°C.	77	5	3	246	0	10	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-65°C to +150°C 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.	77	5	3	246	0	15	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.