



Product Change Notification - LIAL-17KNYR589

Date:

24 Jun 2019

Product Category:

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

Affected CPNs:**Notification subject:**

CCB 3222 Final Notice: Qualification of MMT as an additional assembly site for selected products of 0.25um, 0.18um, 90nm TSMC, 70nm SMIC and 200K wafer technologies available in 64L QFN (9x9x0.9mm) 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, 70nm SMIC and 200K wafer technologies available in 64L QFN (9x9x 0.9mm) package.

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	Au	Au	
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:

July 24, 2019 (date code: 1930)

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

Time Table Summary:

	January 2018				-->	June 2019					July 2019				
Workweek	01	02	03	04		22	23	24	25	26	27	28	29	30	31
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 24, 2018: Issued initial notification.

June 24, 2019: Issued final notification. Attached the qualification report. Provided estimated first ship date EFSD to be July 24, 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_LIAL-17KNYR589_QUAL_REPORT.pdf](#)

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Affected Catalog Part Numbers (CPN)

DSPIC33EP128GM306-E/MR
DSPIC33EP128GM306-I/MR
DSPIC33EP128GM706-E/MR
DSPIC33EP128GM706-H/MR
DSPIC33EP128GM706-I/MR
DSPIC33EP128GM706T-I/MR
DSPIC33EP256GM306-E/MR
DSPIC33EP256GM306-I/MR
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PIC32MX550F256HT-V/MR
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PIC32MX564F064HT-V/MR
PIC32MX564F064H-V/MR
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PIC32MX564F128HT-I/MR
PIC32MX564F128HT-I/MRC21
PIC32MX564F128HT-V/MR
PIC32MX564F128H-V/MR
PIC32MX570F512H-50I/MR
PIC32MX570F512H-I/MR
PIC32MX570F512HT-50I/MR
PIC32MX570F512HT-I/MR
PIC32MX570F512HT-V/MR
PIC32MX570F512H-V/MR
PIC32MX575F256H-80I/MR
PIC32MX575F256H-80V/MR
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PIC32MX575F512H-80I/MR
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PIC32MZ2048ECH064T-I/MR
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PIC32MZ2048EFG064T-I/MR
PIC32MZ2048EFG064T-I/MRL21
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PIC32MZ2048EFH064-E/MR
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PIC32MZ2048EFH064T-I/MR
PIC32MZ2048EFM064-E/MR
PIC32MZ2048EFM064-I/MR

LIAL-17KNYR589 - CCB 3222 Final Notice: Qualification of MMT as an additional assembly site for selected products of 0.25um, 0.18um, 90nm TSMC, 70nm SMIC and 200K wafer technologies available in 64L QFN (9x9x0.9mm) package.

PIC32MZ2048EFM064T-E/MR

PIC32MZ2048EFM064T-I/MR



MICROCHIP

QUALIFICATION REPORT SUMMARY

PCN #: LIAL-17KNYR589

Date

Jun 14, 2019

Qualification of MMT as an additional assembly site for selected products of 0.25um, 0.18um, 90nm TSMC, 70nm SMIC and 200K wafer technologies available in 64L QFN (9x9x0.9mm) package.



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose Qualification of MMT as an additional assembly site for selected products of 0.25um, 0.18um, 90nm TSMC, 70nm SMIC and 200K wafer technologies available in 64L QFN (9x9x 0.9mm) package.

CN	ES272665
QUAL ID	Q19032
QUAL REVISION	A
CCB No.	3222
MP CODE	WACD14R4XAXF
Part No.	PIC32MA0512EFE064-E/MR
Bonding No.	BDM-001701 Rev. A
<u>Package</u>	
Type	64L QFN
Package size	9x9x0.9 mm
Die thickness	11 mils
Die size	230.4x211.4 mils
<u>Lead Frame</u>	
Paddle size	311x311 mils
Material	C194
Surface	Bare Cu
Process	Etched
Lead Lock	No
Part Number	10106408
Treatment	BOT
<u>Material</u>	
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
MMT-194601862.000	TC14919364365.210	1907Q23
MMT-194701574.000	TC14919364365.210	1908Q22
MMT-194701591.00	TC14919364365.210	19082T4

Result

Pass Fail _____

64L QFN 9x9x0.9 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-020E standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/S S	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-020E)	IPC/JEDEC J-STD-020E	135	0/135	Pass	

<u>Precondition Prior Perform Reliability Tests</u> (At MSL Level 1)	Electrical Test :+25°C,125°C and -40°C System: J750	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 125°C System: J750			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 Electrical Test: +125°C System: J750 Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	JESD22-A104	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C and 125°C System: J750	JESD22-A118	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 3.6 Volts System: HAST 6000X Electrical Test: +25°C and 125°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
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test :+25°C and 125°C System: J750		45(0)	0/45	Pass	
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	J-STD-002	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	J-STD-002	22 (0)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 10 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 (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	