



Product Change Notification / ASER-14IXRW319

Date:

18-Jun-2021

Product Category:

8-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 3430.007 Final Notice: Qualification of MTAI as an additional assembly site for selected PIC16xxx and PIC18xxx device families available in 28L QFN (6x6x0.9mm) package.

Affected CPNs:

[ASER-14IXRW319_Affected_CPN_06182021.pdf](#)

[ASER-14IXRW319_Affected_CPN_06182021.csv](#)

Notification Text:

PCN Status:Final notification.

PCN Type:Manufacturing Change

Microchip Parts Affected:Please open one of the files found in the Affected CPNs section.

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

Description of Change:Qualification of MTAI as an additional assembly site for selected PIC16xxx and PIC18xxx device families available in 28L QFN (6x6x0.9mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	UTAC Thai Limited (UTL-1) LTD. (NSEB)	UTAC Thai Limited (UTL-1) LTD. (NSEB)	Microchip Technology Thailand (HQ) (MTAI)
Wire material	Au	Au	Au
Die attach material	8600	8600	3280

Molding compound material	G700LTD	G700LTD	G700LTD
Lead frame material	EFTEC-64T	EFTEC-64T	*A194
Lead Frame Lead-lock	No	No	Yes
	See Pre and Post Change Summary for comparison.		

*C194, A194 or CDA194 Lead frame materials are the same. The differences are simply MCHP internal labeling conventions.

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve manufacturability by qualifying MTAI as an additional assembly site

Change Implementation Status:In Progress

Estimated First Ship Date:

July 10, 2021 (date code: 2128)

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

Time Table Summary:

	June 2021					July 2021			
Workweek	2 3	2 4	2 5	2 6	2 7	28	29	30	31
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:

June 18, 2021: Issued final notification.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachments:

[PCN_ASER-14IXRW319 Qual Report.pdf](#)

[PCN_ASER-14IXRW319_Pre and Post Change Summary.pdf](#)

Please contact your local **Microchip sales office** with questions or concerns regarding this notification.

Terms and Conditions:

If you wish to receive Microchip PCNs via email please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

If you wish to change your PCN profile, including opt out, please go to the [PCN home page](#) select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

Affected Catalog Part Numbers (CPN)

PIC16F18856-E/ML
PIC16LF18856-E/ML
PIC16F18856-E/MLVAO
PIC16F18856-I/ML
PIC16LF18856-I/ML
PIC16F18856-I/MLVAO
PIC16LF18856-I/MLVAO
PIC16F18856T-I/MLC01
PIC16F18856T-I/ML
PIC16LF18856T-I/ML
PIC16F18856T-I/MLVAO
PIC16LF18856T-I/MLVAO
PIC16F18856T-E/MLVAO
PIC18F27K40-E/ML
PIC18LF27K40-E/ML
PIC18F27K40-I/ML
PIC18LF27K40-I/ML
PIC18F27K40T-I/ML
PIC18LF27K40T-I/ML
PIC18F27K40T-I/MLVAO
PIC18F26K40-E/ML
PIC18LF26K40-E/ML
PIC18F26K40-E/MLVAO
PIC18F26K40-I/ML
PIC18LF26K40-I/ML
PIC18F26K40T-I/ML020
PIC18F26K40T-I/ML
PIC18LF26K40T-I/ML
PIC18F26K40T-E/ML
PIC18F26K40T-E/MLVAO
PIC16F15356-E/ML
PIC16LF15356-E/ML
PIC16F15356-I/ML
PIC16LF15356-I/ML
PIC16F15356T-I/ML
PIC16LF15356T-I/ML
PIC18F27K42-E/ML
PIC18LF27K42-E/ML
PIC18F27K42-E/MLVAO
PIC18F27K42-I/ML
PIC18LF27K42-I/ML
PIC18F27K42T-I/ML
PIC18LF27K42T-I/ML
PIC18F27K42T-E/ML
PIC18LF27K42T-E/ML
PIC18F27K42T-E/MLVAO

Affected Catalog Part Numbers(CPN)

PIC16F18856-E/ML
PIC16LF18856-E/ML
PIC16F18856-E/MLVAO
PIC16F18856-I/ML
PIC16LF18856-I/ML
PIC16F18856-I/MLVAO
PIC16LF18856-I/MLVAO
PIC16F18856T-I/MLC01
PIC16F18856T-I/ML
PIC16LF18856T-I/ML
PIC16F18856T-I/MLVAO
PIC16LF18856T-I/MLVAO
PIC16F18856T-E/MLVAO
PIC18F27K40-E/ML
PIC18LF27K40-E/ML
PIC18F27K40-I/ML
PIC18LF27K40-I/ML
PIC18F27K40T-I/ML
PIC18LF27K40T-I/ML
PIC18F27K40T-I/MLVAO
PIC18F26K40-E/ML
PIC18LF26K40-E/ML
PIC18F26K40-E/MLVAO
PIC18F26K40-I/ML
PIC18LF26K40-I/ML
PIC18F26K40T-I/ML020
PIC18F26K40T-I/ML
PIC18LF26K40T-I/ML
PIC18F26K40T-E/ML
PIC18F26K40T-E/MLVAO
PIC16F15356-E/ML
PIC16LF15356-E/ML
PIC16F15356-I/ML
PIC16LF15356-I/ML
PIC16F15356T-I/ML
PIC16LF15356T-I/ML
PIC18F27K42-E/ML
PIC18LF27K42-E/ML
PIC18F27K42-E/MLVAO
PIC18F27K42-I/ML
PIC18LF27K42-I/ML
PIC18F27K42T-I/ML
PIC18LF27K42T-I/ML
PIC18F27K42T-E/ML
PIC18LF27K42T-E/ML
PIC18F27K42T-E/MLVAO



MICROCHIP

**QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY**

PCN #: ASER-14IXRW319

Date:
Sep 21, 2018

Qualification of MTAI as an additional assembly site for selected PIC16xxx and PIC18xxx device families available in 28L QFN (6x6x0.9mm) package. This is a qualification by similarity (QBS) and a Q100 grade 1 qualification.

Purpose	Qualification of MTAI as an additional assembly site for selected PIC16xxx and PIC18xxx device families available in 28L QFN (6x6x0.9mm) package. This is a qualification by similarity (QBS) and a Q100 grade 1 qualification.
CCB	3430 & 3430.007
CN	ES221246
QUAL ID	Q18125 Rev. A
MP CODE	MVAJ145LXVL1
Part No.	PIC16LF19196-E/5LXVAO
Bonding No.	BDM-001820 Rev A
<u>Package</u>	
Type	64L VQFN-WFS (Wettable flank)
Package size	9 x 9 x 1 mm
<u>Lead Frame</u>	
Paddle size	264 x 264 mils
Material	C194
Surface	Bare Cu DAP
Process	Etched
Lead Lock	No
Part Number	10106409
Treatment	Roughening
<u>Material</u>	
Epoxy	3280
Wire	Au wire
Mold Compound	G700LTD
Plating Composition	Matte Tin

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI191403570.000	TMPE218237901.211	18278DP
MTAI191404149.000	TMPE218237901.211	1827JB8
MTAI191502417.000	TMPE218237901.211	1828JH4

Result

Pass Fail _____

64L VQFN 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-020E 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-020E)	IPC/JEDEC C J-STD-020E	135	0/135	Pass	

Precondition Prior Perform Reliability Tests (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	JESD22- A104		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: + 125°C System: J750		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22- A118		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: +25°C System: J750		231(0)	0/231	Pass	
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 3.6 Volts System: HAST 6000X	JESD22- A110		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: +25°C and 125°C System: J750		231(0)	0/231	Pass	

PACKAGE QUALIFICATION REPORT

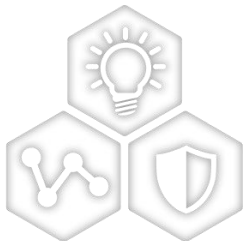
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test :+25°C and 125°C System: J750		45(0)	0/45	Pass	
Solderability Temp 215°C	Steam Aging: 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	

CCB 3430.007
Pre and Post Change Summary
PCN #: ASER-14IXRW319



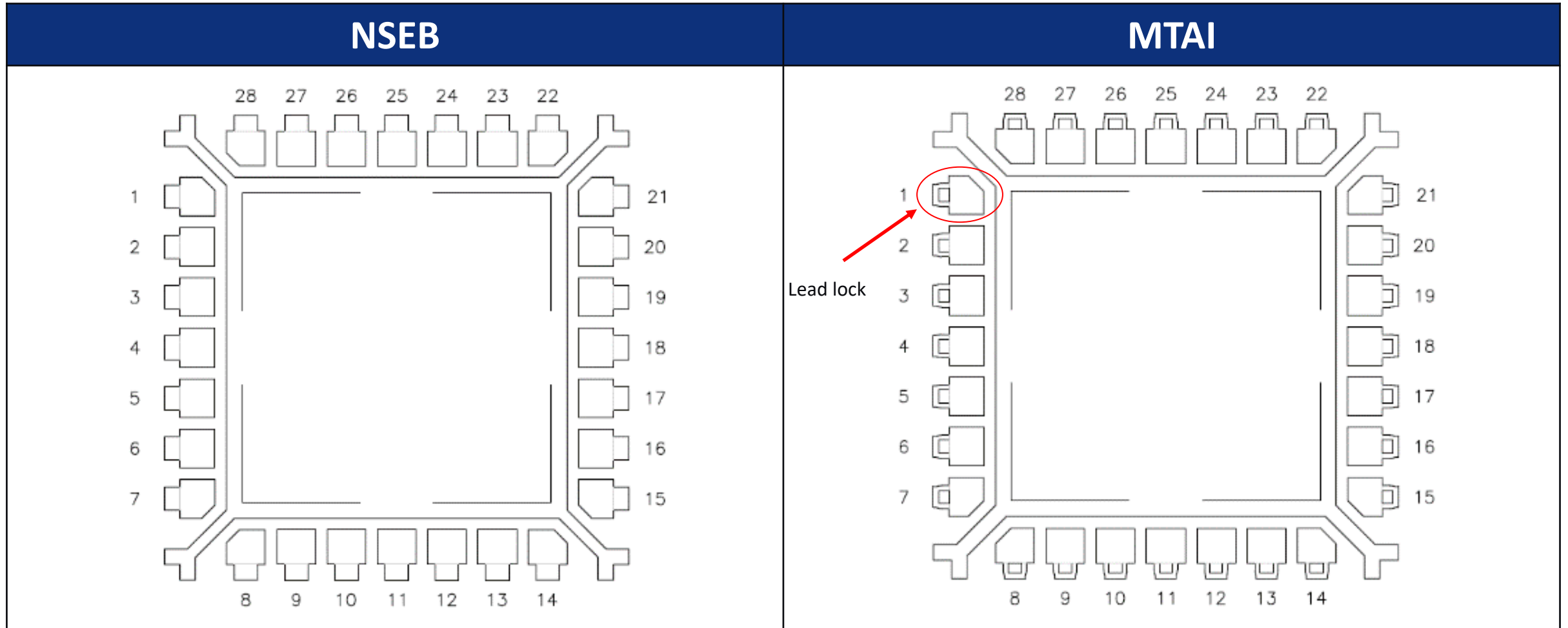
A Leading Provider of Smart, Connected and Secure Embedded Control Solutions

**Qualification of MTAI as an additional assembly site for selected
PIC16xxx and PIC18xxx device families available in 28L QFN
(6x6x0.9mm) package.**



SMART | CONNECTED | SECURE

Lead Frame Comparison



Note: Mold compound material fills the lead lock hole, which provides improved protection against moisture penetration along the edge of the leads (pins) of the package.