Product Change Notification / ASER-19HIWO872

Date:

29-Mar-2022

Product Category:

8-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4748 Final Notice: Qualification of MTAI as an additional assembly site for selected ATMEGA324PBxxx and PIC16F1527xxx device families available in 44L TQFP (10x10x1mm) package.

Affected CPNs:

ASER-19HIWO872_Affected_CPN_03292022.pdf
ASER-19HIWO872_Affected_CPN_03292022.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 ATMEGA324PBxxx and PIC16F1527xxx device families available in 44L TQFP (10x10x1mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change

Assembly Site		ASE Group Chung-Li (ASCL)	ASE Group Chung-Li (ASCL)	Microchip Technology Thailand (MTAI)
Moisture Sensitivity Level (MSL)		MSL3	MSL3	MSL1
Shipping Media	**Tray**	Blue Bakeable	Blue Bakeable	Dark Blue Non-bakeable
	T/R	No Change	No Change	No Change
Wire Material		Au	Au	Au
Die Attach Material		EN-4900GC	EN-4900GC	3280
Molding Compound Material		G700	G700	G700
Lead Frame	**Material**	EFECT64	EFECT64	C7025
	Paddle Size	205 x 205 mils	205 x 205 mils	180 x 180 mils
	DAP Surface Prep	Ag ring plate	Ag ring plate	Bare Copper
	See Pre and Post Change Summary for Lead Frame comparison.			

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: April 29, 2022 (date code: 2218)

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

Due to unforeseen circumstances, that are out of Microchip's control, full qualification will be made available as soon as it is approved which may be after the estimated first ship date so that Microchip can maintain continuity of supply and not disrupt customer orders.

Time Table Summary:

	August 2021					**>**	**April 2022**					**May 2022**				
Workweek	32	33	34	36	36		14	15	16	17	18	19	20	21	22	23
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 Plan: Please open the attachments included with this PCN labeled as PCN_#_Qual_Plan.

Estimated Qualification Completion Date: May 2022

Note 1: This final PCN will be updated to include the Qualification report as soon as it is completed.
Note 2: Please be advised the qualification completion times may be extended because of unforeseen business conditions.

Revision History:
August 26, 2021: Issued initial notification.
March 29, 2022: Issued final notification. Provided estimated first ship date to be on April 29, 2022.

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-19HIWO872_Pre and Post Change_Summary.pdf
PCN_ASER-19HIWO872_Qual Plan.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.

QUALIFICATION PLAN SUMMARY

PCN #: ASER-19HIWO872

Date:
Aug 19, 2021

Qualification of MTAI as an additional assembly site for selected ATMEGA324PBxxx and PIC16F1527xxx device families available in 44L TQFP (10x10x1mm) package. This is a Q100 grade 1 qualification.

Purpose: Qualification of MTAI as an additional assembly site for selected ATMEGA324PBxxx and PIC16F1527xxx device families available in 44L TQFP (10x10x1mm) package.

CCB: 4748

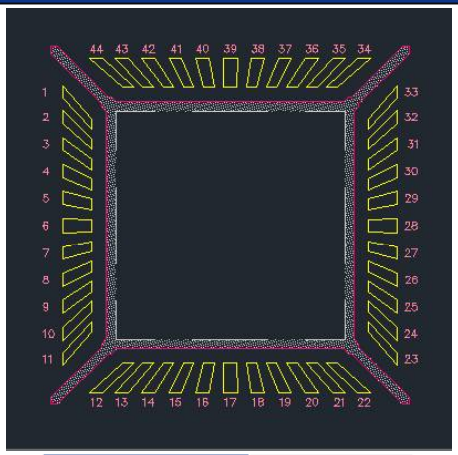
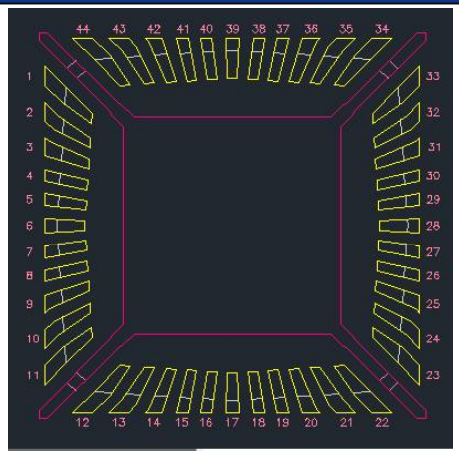
Misc.	Assembly site	MTAI
	BD Number	BDM-002935 rev.A
	MP Code (MPC)	59B18FT4XVA1
	Part Number (CPN)	ATMEGA324PB-ABTVAO
Lead-Frame	Paddle size	180 x 180 mils
	Material	C7025
	DAP Surface Prep	Bare Copper
	Treatment	Yes
	Process	Stamped
	Lead-lock	No
	Part Number	10104404
	Lead Plating	Matte Tin
Bond Wire	Material	Au
Die Attach	Part Number	3280
	Conductive	Yes
MC	Part Number	G700
PKG	PKG Type	TQFP
	Pin/Ball Count	44
	PKG width/size	10x10x1.0 mm

Test Name	Conditions	Reliability Stress Read Point Grade 1: -40°C to +125°C (MCHP E Temp)	Pre & Post Reliability Stress Test Temperature Grade 1: -40°C to +125°C (MCHP E Temp)	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	ATE Test Site	REL Test Site	Special Instructions
Standard Pb-free Solderability	J-STD-002D ; Perform 8 hours of 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			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.
Wire Bond Pull - WBP	Mil. Std. 883-2011			5	0	1	5	0	5			30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001			5	0	1	5	0	5			30 bonds from a min. 5 devices.
Physical Dimensions	Measure per JESD22 B100 and B108			10	0	3	30	0	5			
External Visual	Mil. Std. 883-2009/2010			All devices prior to submission for qualification testing	0	3	ALL	0	5			
HTSL (High Temp Storage Life)	JESD22-A103 +175°C	Grade 1: 500 hrs (+175°C)	Grade 1: +25°C, +85°C, +125°C	45	5	1	50	0	21 - 83	MPHL	MPHL	Spares should be properly identified.
Preconditioning - Required for surface mount devices	J-STD-020JESD22-A113+150°C Bake for 24 hours, moisture loading requirements per MSL level **(MSL1/260)** + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type. Perform SAM analysis using 45 samples per lot.		Grade 1: +25°C	231	15	3	738	0	15	MPHL	MPHL	Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test. 45 parts from one lot to be used for PTC test (for devices requiring
HAST	JESD22-A101 or A110 +130°C/85% RH for 96 hrs	Grade 1: 96 hrs (+130°C/ 85% RH)	Grade 1: +25°C, +85°C, +125°C	77	5	3	246	0	10 - 14	MPHL	MPHL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	JESD22-A102, A118, or A101 +130°C/85% RH for 96 hrs o	Grade 1: 96 hrs (+130°C/ 85% RH)	Grade 1: +25°C	77	5	3	246	0	10	MPHL	MPHL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	JESD22-A104 and Appendix 3 -65°C to +150°C	Grade 1: 500 cycles (-65ºC to 150ºC)	Grade 1: +85°C, +125°C	77	5	3	246	0	15 - 60	MPHL	MPHL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

CCB 4748
Pre and Post Change Summary
PCN #: ASER-19HIWO872

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

Lead Frame Comparison

ASCL	MTAI
	
Material: EFECT64 **Paddle Size**: 205 x 205 mils **DAP Surface Prep**: Ag ring plate	**Material**: C7025 **Paddle Size**: 180 x 180 mils **DAP Surface Prep**: Bare copper

MICROCHIP

ASER-19HIWO872 - CCB 4748 Final Notice: Qualification of MTAI as an additional assembly site for selecte

Affected Catalog Part Numbers(CPN)

ATMEGA324PB-AN
ATMEGA324PB-ABT
PIC16F15274-E/PT
PIC16F15275-E/PT
PIC16F15276-E/PT
PIC16F15274-I/PT020
PIC16F15274-I/PT
PIC16F15275-I/PT
PIC16F15276-I/PT
ATMEGA324PB-AU
ATMEGA324PB-ABTVAO
ATMEGA324PB-ANR
ATMEGA324PB-AUR