Product Change Notification / CAAN-01YQNE233

Date:

04-Nov-2022

Product Category:

8-bit Microcontrollers, Capacitive Touch Sensors, Digital Temperature Sensors, Temperature Sensors

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5352 Initial Notice: Qualification of MMT as an additional assembly site for selected MCP990xx, EMC14xx and CAP12xx device families available in 10L VDFN (3x3x0.9mm) package.

Affected CPNs:

CAAN-01YQNE233_Affected_CPN_11042022.pdf
CAAN-01YQNE233_Affected_CPN_11042022.csv

Notification Text:

PCN Status: Initial 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 MMT as an additional assembly site for selected MCP990xx, EMC14xx and CAP12xx device families available in 10L VDFN (3x3x0.9mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change

Assembly Site	HANA Microelectronics-China (HANC)	Amkor Technology Philippines (P3/P4), INC. ATP7	HANA Microelectronics-China (HANC)	Amkor Technology Philippines (P3/P4), INC. ATP7	Microchip Technology Thailand (Branch) MMT
Wire Material	Au	Au	Au	Au	Au
Die Attach Material	2200D	AMK06	2200D	AMK06	8600
Molding Compound Material	CEL9220HF13H	G700Y	CEL9220HF13H	G700Y	G700LTD
Lead-Frame Material*	C194	C194	C194	C194	A194
Lead-Frame Paddle Size	70 x 98 mils	71 x 98 mils	70 x 98 mils	71 x 98 mils	71 x 98 mils
DAP Surface Prep	NiPdAu	NiPdAu	NiPdAu	NiPdAu	NiPdAu
Lead-lock	No	No	No	No	Yes

**Note: C194, A194 or CDA194 lead frame material are the same, it is just a MCHP internal labelling difference.*

Impacts to Data Sheet: None

Change Impact None

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

Change Implementation Status: In Progress

Estimated Qualification Completion Date: December 2022

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:

	November 2022					**December 2022**			
Workweek	45	46	47	48	49	50	51	52	53

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: November 04, 2022: 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.

Attachments:

PCN_CAAN-01YQNE233_Qualification Plan.pdf
PCN_CAAN-01YQNE233_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.

QUALIFICATION PLAN SUMMARY

PCN#: CAAN-01YQNE233

Date:
October 27, 2022

Qualification of MMT as an additional assembly site for selected MCP990xx, EMC14xx and CAP12xx device families available in 10L VDFN (3x3x0.9mm) package.

Purpose:	**Qualification of MMT as an additional assembly site for selected MCP990xx, EMC14xx and CAP12xx device families available in 10L VDFN (3x3x0.9mm) package.**
CCB No.	**5352**
MP Code:	TG105Y9QXD01
Part No.:	CAP1296-1-AIA-TR
BD No:	BD-001010 rev. 01
Package:	
Type:	10L VDFN
Width or Size:	3 x 3 x 0.9 mm
Leadframe:	
Paddle Size:	71 x 98 mils
Paddle Plating:	NiPdAu
Process:	ETCHED
Treatment:	PPF
Lead Lock:	YES
Material:	A194
Part Number:	10101004
Wire:	
Material:	Au
Die Attach Epoxy:	
Part Number	8600
Conductive	Yes
Mold Compound:	
Part Number:	G700LTD
Lead Finish:	100% NiPdAu

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	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
Standard Pb-free Solderability	J-STD-002D ; 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.
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5	-	MTAI		30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	-	MTAI		30 bonds from a min. 5 devices.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	-	MTAI		
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	-	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	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
Preconditioning - Required for surface mount devices	JESD22-A113. +150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at +25°C. MSL-1/260°C	231	15	3	738	0	15	MTAI	MTAI		Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test.
HAST	JESD22-A110. +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	MTAI		Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	JESD22-A118. +130°C/85% RH for 96 hrs Electrical test pre and post stress at +25°C	77	5	3	246	0	10	MTAI	MTAI		Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	JESD22-A104. -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	MTAI		Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

Affected Catalog Part Numbers (CPN)

MCP9903T-1E/9Q
MCP9903T-2E/9Q
MCP9903T-AE/9Q
MCP9904T-1E/9Q
MCP9904T-2E/9Q
MCP9904T-AE/9Q
EMC1403-1-AIA-TR
EMC1403-2-AIA-TR
EMC1413-A-AIA-TR
EMC1414-A-AIA-TR
EMC1444-A-AIA-TR
EMC1464-A-AIA-TR
CAP1206-1-AIA-TR
CAP1296-1-AIA-TR

CCB 5352
Pre and Post Change Summary
PCN #:CAAN-01YQNE233

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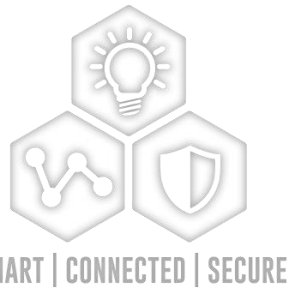
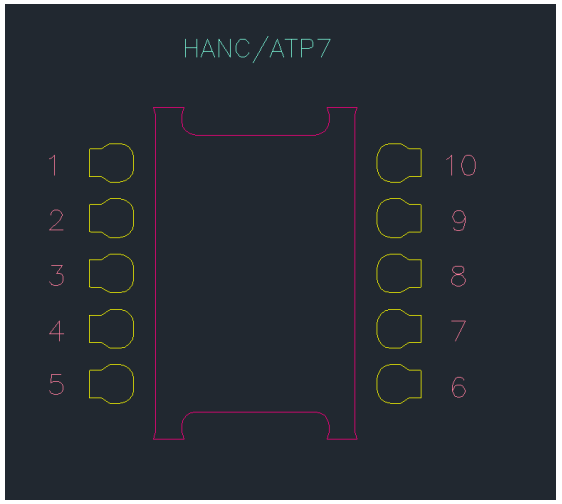


LEAD FRAME COMPARISON

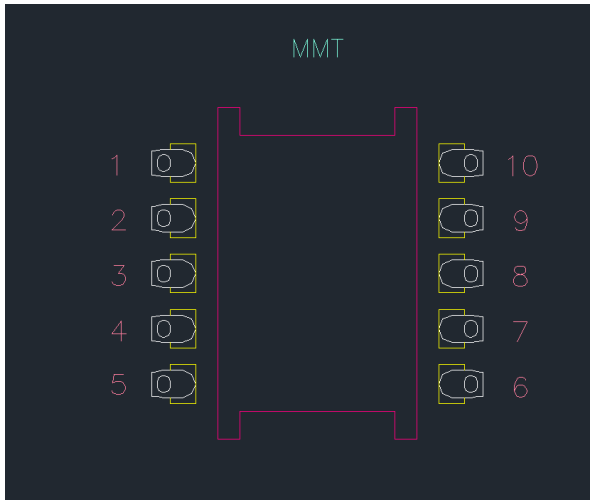
HANC/ATP7



Note: Not to scale

Assembly Site	HANC	ATP7
Lead Lock	No	No
Lead Plating	NiPdAu	NiPdAu
Lead-Frame Paddle Size	70 x 98 mils	71 x 98 mils

MMT



Note: Not to scale

Lead Lock	Yes
Lead Plating	NiPdAu
Lead-Frame Paddle Size	71 x 98 mils

Note: The lead lock hole fills with mold compound during the assembly process and provides improved protection against moisture penetration around the interface edges between pins and mold compound.

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