



Product Change Notification / ALAN-03HRHE038

Date:

08-Jan-2024

Product Category:

32-Bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6777 Initial Notice: Qualification of ANAP as an additional assembly location for selected ATSAM4N16C, ATSAM4N8C, ATSAM4S16C, ATSAM4S16CA, ATSAM4S2C, ATSAM4S4C, ATSAM4S4CA, ATSAM4S8C, ATSAM4SA16C, ATSAM4SD16C, and ATSAM4SD32C device families available in 100L LQFP (14x14x1.4mm) package.

Affected CPNs:

[ALAN-03HRHE038_Affected_CPN_01082024.pdf](#)

[ALAN-03HRHE038_Affected_CPN_01082024.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 ANAP as an additional assembly location for selected ATSAM4N16C, ATSAM4N8C, ATSAM4S16C, ATSAM4S16CA, ATSAM4S2C, ATSAM4S4C, ATSAM4S4CA, ATSAM4S8C, ATSAM4SA16C, ATSAM4SD16C, and ATSAM4SD32C device families available in 100L LQFP (14x14x1.4mm) package.

Pre and Post Change Summary:

	Pre Change		Post Change		
Assembly Site	ATX Semiconductor (Shanghai)Co. Ltd (ASSH)		ATX Semiconductor (Shanghai)Co. Ltd (ASSH)		Amkor Technology Philippine (P1/P2), INC. (ANAP)
Wire Material	CuPdAu	CuPd	CuPdAu	CuPd	CuPdAu
Die Attach Material	2288A		2288A		3230
Molding Compound Material	CEL-9510HFL		CEL-9510HFL		G631HQ
Lead-Frame Material	C7025		C7025		C194ESH
Lead-Frame Paddle Size	240X240	180X180	240X240	180X180	256X256
Lead Lock	No		No		Yes
See Pre and Post change for Lead-Frame Comparison.					

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve on-time delivery performance by qualifying ANAP as an additional assembly site.

Change Implementation Status:In Progress

Estimated Qualification Completion Date:May 2024

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:

	January 2024					>	May 2024				
Workweek	1	2	3	4	5		18	19	20	21	22
Initial PCN Issue Date		X									
Qual Report Availability									X		

Final PCN Issue Date											X			
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Method to Identify Change: Traceability code

Qualification Plan: Please open the attachments included with this PCN labeled as PCN_#_Qual_Plan.

Revision History: January 08, 2024: 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_ALAN-03HRHE038_Pre and Post Change_Summary.pdf](#)
- [PCN_ALAN-03HRHE038_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.

ALAN-03HRHE038 - CCB 6777 Initial Notice: Qualification of ANAP as an additional assembly location for selected ATSAM4N16C, ATSAM4N8C, ATSAM4S16C, ATSAM4S16CA, ATSAM4S2C, ATSAM4S4C, ATSAM4S4CA, ATSAM4S8C, ATSAM4SA16C, ATSAM4SD16C, and ATSAM4SD32C device families available in 100L LQFP (14x14x1.4mm) package.

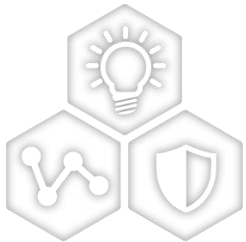
Affected Catalog Part Numbers (CPN)

ATSAM4S8CB-AN
ATSAM4S8CB-ANR
ATSAM4SD16CB-AN
ATSAM4SD16CB-ANR
ATSAM4S8CA-AN
ATSAM4S8CA-ANR
ATSAM4SD32CB-AN
ATSAM4SD32CB-ANR
ATSAM4SD32CA-AU
ATSAM4SD32CA-AUR
ATSAM4S16CB-AN
ATSAM4S16CB-ANR
ATSAM4S2CB-AN
ATSAM4S2CB-ANR
ATSAM4S16CA-AN
ATSAM4S16CA-ANR
ATSAM4S16CA-AU
ATSAM4S16CA-AUR
ATSAM4SD16CA-AU
ATSAM4SD16CA-AUR
ATSAM4SA16CA-AU
ATSAM4SA16CA-AUR
ATSAM4SA16CB-AN
ATSAM4SA16CB-ANR
ATSAM4N8CA-AU
ATSAM4N8CA-AUR
ATSAM4N16CA-AU
ATSAM4N16CA-AUR
ATSAM4S4CA-AU
ATSAM4S4CA-AUR
ATSAM4S8CA-AU
ATSAM4S8CA-AUR
ATSAM4S4CB-AN
ATSAM4S4CB-ANR
ATSAM4S2CA-AU

CCB 6777
Pre and Post Change Summary
PCN# ALAN-03HRHE038



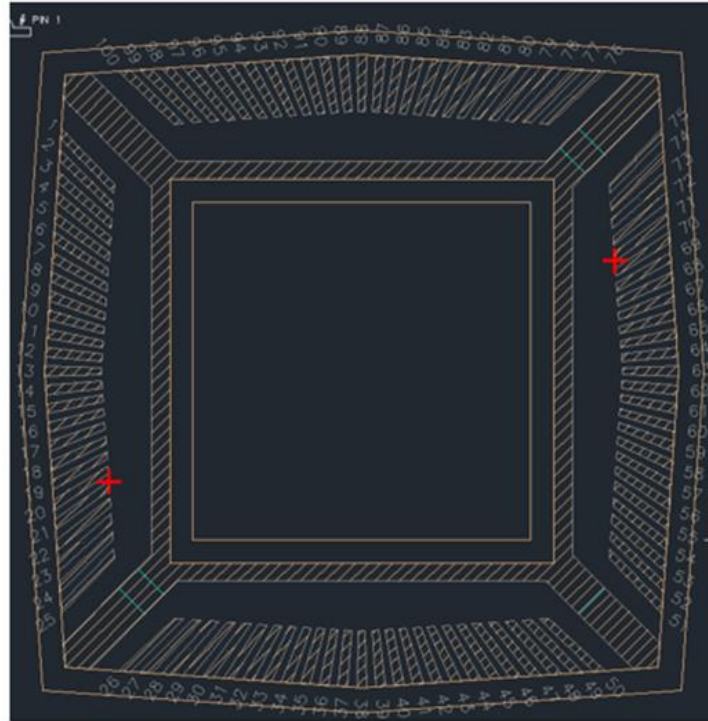
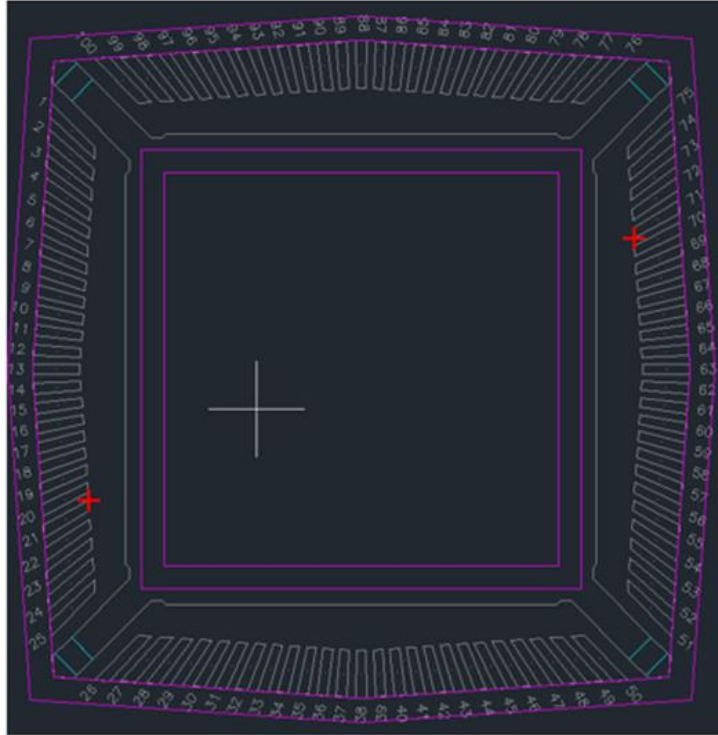
A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



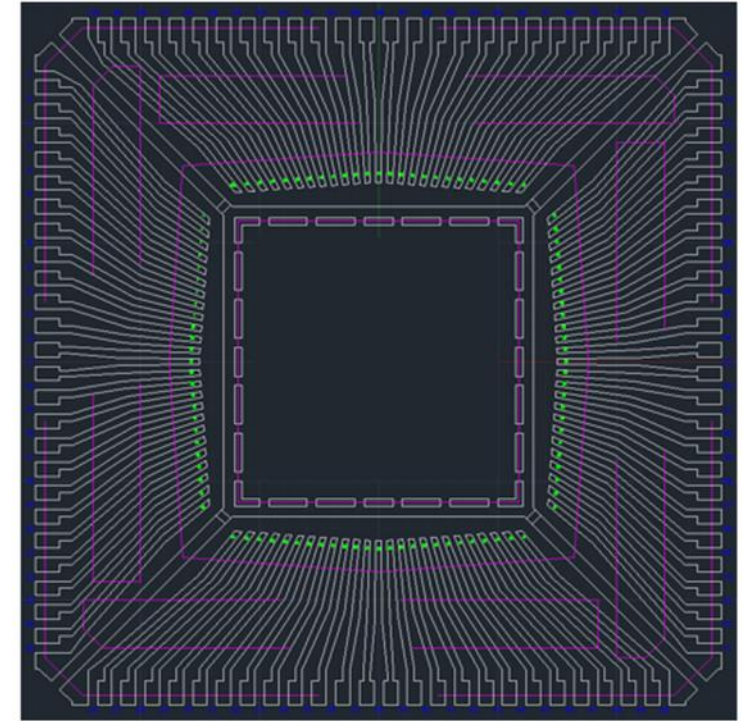
SMART | CONNECTED | SECURE

Lead-Frame Comparison

ASSH



ANAP



*Not fit to scale



QUALIFICATION PLAN SUMMARY

PCN# ALAN-03HRHE038

**Date:
December 21, 2023**

Qualification of ANAP as an additional assembly location for selected ATSAM4N16C, ATSAM4N8C, ATSAM4S16C, ATSAM4S16CA, ATSAM4S2C, ATSAM4S4C, ATSAM4S4CA, ATSAM4S8C, ATSAM4SA16C, ATSAM4SD16C, and ATSAM4SD32C device families available in 100L LQFP (14x14x1.4mm) package.

Purpose:

Qualification of ANAP as an additional assembly location for selected ATSAM4N16C, ATSAM4N8C, ATSAM4S16C, ATSAM4S16CA, ATSAM4S2C, ATSAM4S4C, ATSAM4S4CA, ATSAM4S8C, ATSAM4SA16C, ATSAM4SD16C, and ATSAM4SD32C device families available in 100L LQFP (14x14x1.4mm) package.

CCB No.:

6777

<u>Misc.</u>	Assembly site	ANAP
	BD Number	BD-002071-01
	MP Code (MPC)	63907TH7XC01
	Part Number (CPN)	ATSAM4SD32CA-AUR
	MSL information	MSL3
	Assembly Shipping Media (T/R, Tube/Tray)	Tray
	Base Quantity Multiple (BQM)	90/Tray
	Reliability Site	MPHIL
<u>Lead-Frame</u>	Paddle size	256X256
	Material	C194ESH
	DAP Surface Prep	Double Ring Ag
	Treatment	Non-roughened
	Process	Stamped
	Lead-lock	Yes
	Part Number	101423138
	Lead Plating	Matte Sn
	Strip Size	80x250mm
Strip Density	UDLF	
<u>Bond Wire</u>	Material	CuPdAu
<u>Die Attach</u>	Part Number	3230
	Conductive	Yes
<u>MC</u>	Part Number	G631HQ
<u>PKG</u>	Package Type	LQFP
	Pin/Ball Count	100
	PKG width/size	14x14x1.4mm

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	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			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			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 Dimmensions	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			
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. MSL3/260	231	15	3	738	0	15	ASSH	MPHIL	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 or 110°C/85%RH for 264 hours. Electrical test pre and post stress at +25°C and hot temp (105°C).	77	5	3	246	0	10	ASSH	MPHIL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	JESD22-A118. +130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs. Electrical test pre and post stress at +25°C	77	5	3	246	0	10	ASSH	MPHIL	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 (105°C); 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	ASSH	MPHIL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

