Product Change Notification: ALAN-03HRHE038

Date:

05-Jun-2025

Product Category:

32-Bit Microcontrollers

Notification Subject:

CCB 6777 and 6777.002 Final Notice: Qualification of ANAP as an additional assembly location for selected ATSAM4N16C, ATSAM4N8C, ATSAM4S16C, ATSAM4S16CA, ATSAM4S2C, ATSAM4S4C, ATSAM4S4CA, ATSAM4S8C, ATSAM4SA16C, ATSAM4SD16C, ATSAM4SD32C, ATSAM4S4A, ATSAM4S2A and ATSAM4N8A device families available in 100L and 48L LQFP (14x14x1.4mm and 7x7x1.4mm) packages.

Affected CPNs:

ALAN-03HRHE038_Affected_CPN_06052025.pdf
ALAN-03HRHE038_Affected_CPN_06052025.csv

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 ANAP as an additional assembly location for selected ATSAM4N16C, ATSAM4N8C, ATSAM4S16C, ATSAM4S16CA, ATSAM4S2C, ATSAM4S4C, ATSAM4S4CA, ATSAM4S8C, ATSAM4SA16C, ATSAM4SD16C, ATSAM4SD32C, ATSAM4S4A, ATSAM4S2A and ATSAM4N8A device families available in 100L and 48L LQFP (14x14x1.4mm and 7x7x1.4mm) packages.

Pre and Post Summary Changes:

Applicable for ATSAM4N16C, ATSAM4N8C, ATSAM4S16C, ATSAM4S16CA, ATSAM4S2C, ATSAM4S4C, ATSAM4S4CA, ATSAM4S8C, ATSAM4SA16C, ATSAM4SD16C, ATSAM4SD32C device families in 100L LQFP:

	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.					

Applicable for ATSAM4S4A, ATSAM4S2A and ATSAM4N8A device families in 48L LQFP:

	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	CuPd	CuPd	CuPdAu
Die Attach Material	2288A	2288A	3230
Molding Compound Material	CEL-9510	CEL-9510	G631HQ
Lead-Frame Material	C7025	C7025	C194ESH
Lead-Frame Paddle Size	197X197	197X197	197X197
See Pre and Post change for Lead-Frame Comparison.			

Impacts to Datasheet: 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 First Ship Date: 30 June 2025 (date code: 2527)

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

Timetable Summary:

	January 2024					**>**	**June 2025**				
Work Week	1	2	3	4	5		23	24	25	26	27
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 08, 2024: Issued initial notification.
April 10, 2024: Reissued the initial notification to include reference CCB 6777.002. Updated the Notification subject, Description of change and Pre and Post change summary table to include ATSAM4S4A, ATSAM4S2A and ATSAM4N8A device families. Updated the affected CPN list to include CPNs within the scope of CCB 6777.002. Updated Pre and Post Change summary to include lead frame drawing for 48L LQFP (7x7x1.4mm) package.
June 05, 2025: Issued final notification. Updated affected parts list to add ATSAM4SD16CB-AUR catalog part number. Attached the Qualification Report. Provided Estimated First Ship Date to be on June 30, 2025.

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

Attachments:

PCN_ALAN-03HRHE038_Pre and Post Change Summary.pdf
PCN_ALAN-03HRHE038_Qual Report.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)

ATSAM4S8CA-AN

ATSAM4S8CA-ANR

ATSAM4SD16CB-AN

ATSAM4SD16CB-ANR

ATSAM4S8CB-AN

ATSAM4S8CB-ANR

ATSAM4SD32CB-AN

ATSAM4SD32CB-ANR

ATSAM4SD32CA-AU

ATSAM4SD32CA-AUR

ATSAM4S16CB-AN

ATSAM4S16CB-ANR

ATSAM4S16CA-AN

ATSAM4S16CA-ANR

ATSAM4S2CB-AN

ATSAM4S2CB-ANR

ATSAM4S16CA-AU

ATSAM4S16CA-AUR

ATSAM4SA16CA-AU

ATSAM4SA16CA-AUR

ATSAM4SA16CB-AN

ATSAM4SA16CB-ANR

ATSAM4S8CA-AU

ATSAM4S8CA-AUR

ATSAM4N8CA-AU

ATSAM4N8CA-AUR

ATSAM4N16CA-AU

ATSAM4N16CA-AUR

ATSAM4S4CB-AN

ATSAM4S4CB-ANR

ATSAM4SD16CA-AU

ATSAM4SD16CA-AUR

ATSAM4SD16CB-AU

ATSAM4SD16CB-AUR

ATSAM4S4CA-AU

ATSAM4S4CA-AUR

ATSAM4S2CA-AU

ATSAM4S4AB-AN

ATSAM4S2AB-AN

ATSAM4N8AA-AU

ATSAM4S4AA-AU

ATSAM4S2AA-AU

ATSAM4N8AA-AUR

ATSAM4S4AB-ANR

ATSAM4S2AB-ANR

CCB 6777 and 6777.002

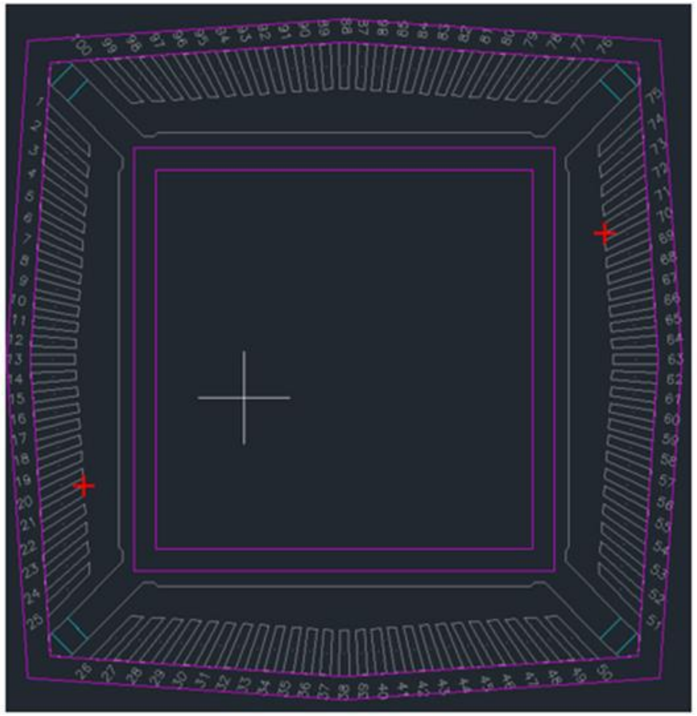
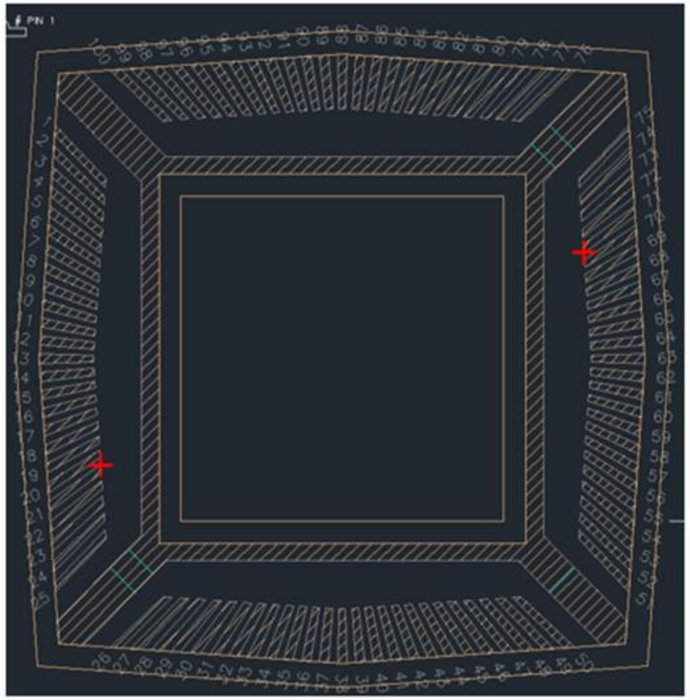
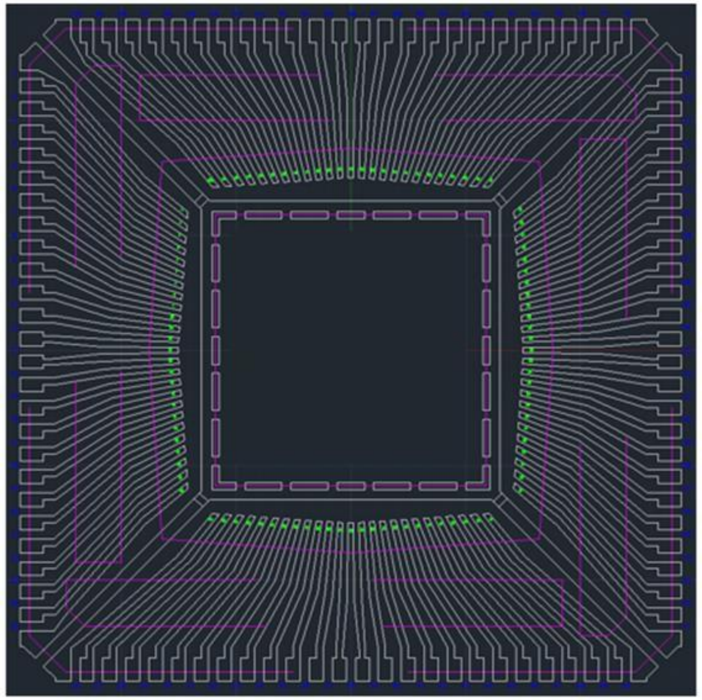
Pre and Post Change Summary

PCN# ALAN-03HRHE038

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

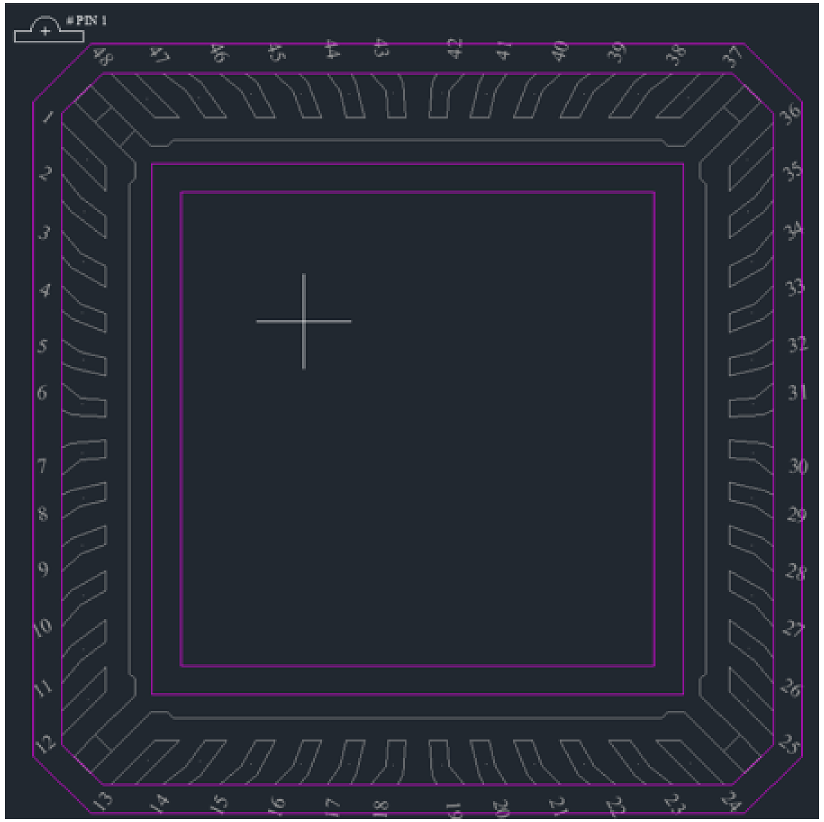
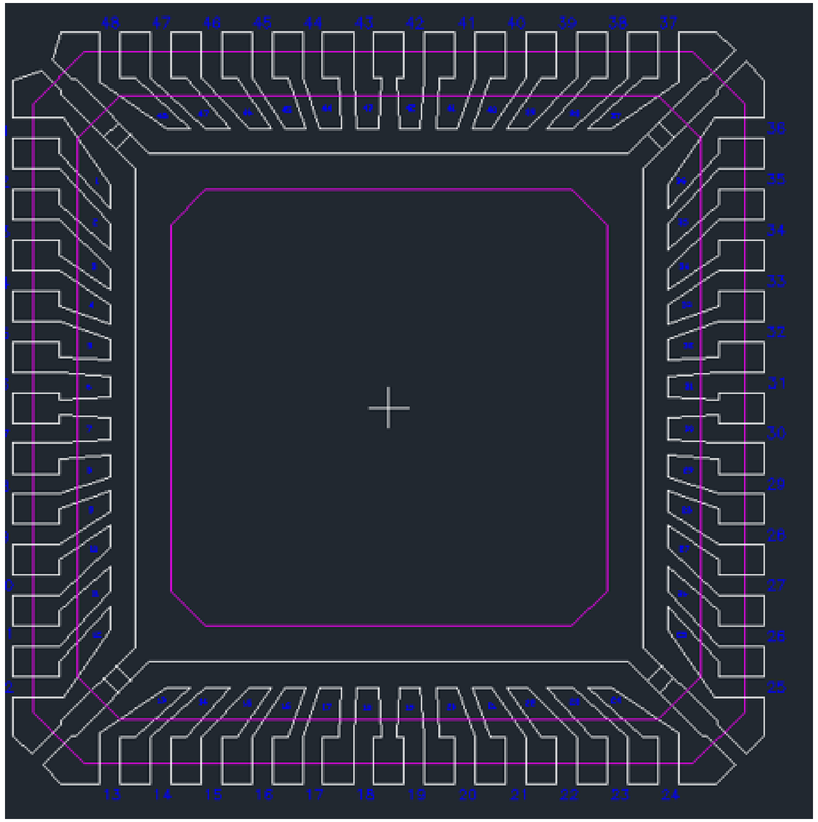
SMART | CONNECTED | SECURE

Lead-Frame Comparison

ASSH	ANAP
For 100L LQFP (14x14x1.4mm) package	
 	

*Not fit to scale

Lead-Frame Comparison

ASSH	ANAP
For 48L LQFP (7x7x1.4mm) package	
	

*Not fit to scale

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: ALAN-03HRHE038

Date:
May 6, 2025

Qualification of ANAP as an additional assembly location for selected ATSAM4N16C, ATSAM4N8C, ATSAM4S16C, ATSAM4S16CA, ATSAM4S2C, ATSAM4S4C, ATSAM4S4CA, ATSAM4S8C, ATSAM4SA16C, ATSAM4SD16C, ATSAM4SD32C, ATSAM4S4A, ATSAM4S2A and ATSAM4N8A device families available in 100L and 48L LQFP (14x14x1.4mm and 7x7x1.4mm) packages.

MICROCHIP

Package Qualification Report

Purpose: Qualification of ANAP as an additional assembly location for selected ATSAM4N16C, ATSAM4N8C, ATSAM4S16C, ATSAM4S16CA, ATSAM4S2C, ATSAM4S4C, ATSAM4S4CA, ATSAM4S8C, ATSAM4SA16C, ATSAM4SD16C, ATSAM4SD32C, ATSAM4S4A, ATSAM4S2A and ATSAM4N8A device families available in 100L and 48L LQFP (14x14x1.4mm and 7x7x1.4mm) packages.

CCB No.: 6777 and 6777.002

Misc.	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
Lead-Frame	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
Bond Wire	Material	CuPdAu
Die Attach	Part Number	3230
	Conductive	Yes
MC	Part Number	G631HQ
PKG	Package Type	LQFP
	Pin/Ball Count	100
	PKG width/size	14x14x1.4mm

Package Qualification Report

Manufacturing Information

Assembly Lot No.
ANAP244500078.000
ANAP244500079.000
ANAP244500080.000

Result ☑ Pass ☐ Fail ☐ ____________________

63907 UMC 90nm in 100L LQFP 14x14x1.4mm assembled at ANAP pass Reliability test that was conducted at MPHL rel lab. This package is qualified Moisture/Reflow Sensitivity Classification Level 3 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
Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test :** 25°C D10I_UC 85°C D10I_UC	JESD22-A113, JIP/ IPC/JEDEC J-STD-020E	231 per lot	Lot 1 0/231 Lot 2 0/231 Lot 3 0/231	Pass Pass Pass	Good Devices
	Bake 150°C, 24 hrs System: HERAEUS		231 per lot			
	Moisture Soak 192h(30°C/60%RH) System: VOTSCH VC4034		231 per lot			
	Reflow 3x Convection-Reflow 265°C max System: Mancorp CR.5000F		231 per lot	Lot 1 0/231 Lot 2 0/231 Lot 3 0/231	Pass Pass Pass	
	Electrical Test : 25°C D10I_UC 85°C D10I_UC		231 per lot	Lot 1 0/231 Lot 2 0/231 Lot 3 0/231	Pass Pass 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: HERAEUS **Electrical Test:** 25°C D10I_UC 85°C D10I_UC	JESD22-A103	45 units 3 lots	Lot 1 0/45 Lot 2 0/45 Lot 3 0/45	Pass Pass Pass	
HAST	**Stress Condition:** (Standard) 130°C, 85%RH, 96 hrs. VOLTS=3.3V System: HIRAYAMA HASTEST PC-422R8 **Electrical Test:** 25°C D10I_UC 85°C D10I_UC	JESD22-A110	77 units per lot	Lot 1 0/77 Lot 2 0/77 Lot 3 0/77		Parts had been pre-conditioned at 260°C .
UNBIASED HAST	**Stress Condition:** (Standard) 130°C, 85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8 **Electrical Test:** 25°C D10I_UC	JESD22-A118	77 units per lot	Lot 1 0/77 Lot 2 0/77 Lot 3 0/77	Pass Pass Pass	Parts had been pre-conditioned at 260°C

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Temp Cycle	**Stress Condition:** (Standard) - 65°C/150°C, 500 Cycles System : Votsch VTS^{2}7012 **Electrical Test:** 85°C D10I_UC	JESD22-A104	77 units per lot	Lot 1 0/77 Lot 2 0/77 Lot 3 0/77	Pass Pass Pass	Parts had been pre-conditioned at 260°C
	Wire Bond Pull WBP	Mil. Std. 883-2011	5 units, 30 bonds 1 lot	Lot 1 0/30	Pass	
Wire Bond Pull WBP , 0 Hour		Mil. Std. 883-2011	5 units, 30 bonds 1 lot	Lot 1 0/30	Pass	
Wire Bond Shear WBS, 0Hour		CDF-AEC-Q100-001	5 units, 30 bonds 1 lot	Lot 1 0/30	Pass	
Standard Pb-free Solderability	>95% lead coverage	J-STD-002E	22 units 1 lot	0/22	Pass	