



Product Change Notification / ALAN-08K00J271

Date:

04-Aug-2022

Product Category:

32-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4767 Final Notice: Qualification of ANAP as an additional assembly site for selected Atmel AT91SAM7S1xx and AT91SAM7S2xx device families in 64L LQFP (10x10x1.4mm) package.

Affected CPNs:

[ALAN-08K00J271_Affected_CPN_08042022.pdf](#)
[ALAN-08K00J271_Affected_CPN_08042022.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 ANAP as an additional assembly site for selected Atmel AT91SAM7S1xx and AT91SAM7S2xx device families in 64L LQFP (10x10x1.4mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change
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Assembly location		ASE Inc. (ASEK)	ASE Inc. (ASEK)	Amkor Technology Philippine (P1/P2), INC. (ANAP)
Bond wire material		CuPdAu	CuPdAu	CuPdAu
Die attach material		CRM-1076WA	CRM-1076WA	3230
Mold compound material		G631HQ	G631HQ	G631HQ
Lead-frame	Material	C7025	C7025	C194
	Process	Stamped	Stamped	Etched
	Paddle Size	250x250 mils	250x250 mils	295x295 mils
	See pre and post change comparison			

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve productivity by qualifying ANAP as an additional assembly site.

Change Implementation Status:In Progress

Estimated First Ship Date:September 1, 2022 (date code: 2236)

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

Time Table Summary:

	August 2022				September 2022				
Workweek	3 2	3 3	3 4	35	36	37	38	39	40
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:

July 27, 2021: Issued initial notification

August 25, 2021: Re-issued initial notification to update the molding compound material from G700Y to G631HQ for ANAP assembly site in PCN letter and Qual plan. Updated the Pre and Post change comparison file to reflect the lead frame information only for ASEK and ANAP.

August 4, 2022: Issued final notification. Qualification report attached. Provided estimated first ship date to be on September 1, 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_ALAN-08K00J271_Pre and Post Change_Summary.pdf](#)
[PCN_ALAN-08K00J271_Qual_Report.pdf](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

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QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN#: ALAN-08KOOJ271

Date:
July 26, 2022

**Qualification of ANAP as an additional assembly site for
selected Atmel AT91SAM7S1xx and AT91SAM7S2xx device
families in 64L LQFP (10x10x1.4mm) package**



MICROCHIP Package Qualification Report

Purpose: Qualification of ANAP as an additional assembly site for selected Atmel AT91SAM7S1xx and AT91SAM7S2xx device families in 64L LQFP (10x10x1.4mm) package.

<u>Misc.</u>	Assembly site	ANAP
	BD Number	TBD
	MP Code (MPC)	58Z187V6XC04
	Part Number (CPN)	AT91SAM7S256D-AU
	MSL information	MSL-3 @260C
	Assembly Shipping Media (T/R, Tube/Tray)	101327506
	Base Quantity Multiple (BQM)	Tray - 160 T&R - 1500
	Reliability Site	MPHIL
	CCB	4767
<u>Lead- Frame</u>	Paddle size	295X295 mils
	Material	C194
	DAP Surface Prep	Double Ring Plating
	Treatment	N/A
	Process	Etched
	Lead-lock (With Locking Holes)	No
	Part Number	101387176
	Lead Plating	Matte Sn
	Strip Size	250x70
	Strip Density	56 units/strip
<u>Bond Wire</u>	Material	CuPdAu
<u>Die Attach</u>	Part Number	3230
	Conductive	Yes
<u>MC</u>	Part Number	G631HQ
<u>PKG</u>	PKG Type	LQFP
	Pin/Ball Count	64L
	PKG width/size	10x10x1.4mm



MICROCHIP

Package Qualification Report

Manufacturing Information

Assembly Lot No.	Qty IN	Qty Out
ANAP222400116.000	1410	1367
ANAP222400117.000	1079	1042
ANAP222400115.000	1426	1395

Result



Pass



Fail



58Z187V6XC04 in LQFP 64 10x10x1.4mm package from ANAP pass reliability test per QCI-39000 which 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 Magnum	JESD22- A113, JIP/ IPC/JEDE C J-STD- 020E	231 per lot	Lot 1 0/231	Pass	Good Devices
				Lot 2 0/231	Pass	
				Lot 3 0/231	Pass	
	Bake 150°C, 24 hrs System: HERAEUS		231 per lot			
	Moisture Soak 192h(30°C/60%RH) System: Climats Excal 5423-HE		231 per lot			
	Reflow 3x Convection-Reflow 265°C max System: Mancorp CR.5000F		231 per lot	Lot 1 0/231	Pass	
				Lot 2 0/231	Pass	
				Lot 3 0/231	Pass	
	Electrical Test :25°C Magnum SV 1024		231 per lot	Lot 1 0/231	Pass	
				Lot 2 0/231	Pass	
				Lot 3 0/231	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
UNBIASED HAST	Stress Condition: (Standard) + 130°C, 85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8 Electrical Test: 25°C System: Magnum	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
	Stress Condition: (Standard) + 130°C, 85%RH, 192 hrs. System: HIRAYAMA HASTEST PC-422R8 Electrical Test: 25°C System: Magnum	JESD22-A118	77 units per lot	Lot 1 0/77 Lot 2 0/77 Lot 3 0/77	Pass Pass Pass	
	Internal Package Analysis		5 units per lot	Lot 1, 0/5 Lot 2, 0/5 Lot 3, 0/5	Pass Pass Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	Stress Condition: (Standard) 130°C, 85%RH, 96 hrs. VOLTS=3.6 System: HIRAYAMA HASTEST PC-422R8 Electrical Test: 25°C System: Magnum	JESD22-A110	77 units per lot	Lot 1 0/77 Lot 2 0/77 Lot 3 0/77	Pass Pass Pass	
	Stress Condition: (Standard) 130°C, 85%RH, 192 hrs. VOLTS=3.6V System: HIRAYAMA HASTEST PC-422R8 Electrical Test: 25°C System: Magnum	JESD22-A110	77 units per lot	Lot 1 0/77 Lot 2 0/77 Lot 3 0/77	Pass Pass Pass	
	Internal Package Analysis		5 units per lot	Lot 1, 0/5 Lot 2, 0/5 Lot 3, 0/5	Pass Pass Pass	

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: 25°C System: Magnum	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
	Stress Condition: (Standard) - 65°C/150°C, 1000 Cycles System : Votsch VTS ² 7012 Electrical Test: 25°C System: Magnum	JESD22-A104	77 units per lot	Lot 1 0/77 Lot 2 0/77 Lot 3 0/77	Pass Pass Pass	
	Internal Package Analysis		5 units per lot	Lot 1, 0/5 Lot 2, 0/5 Lot 3, 0/5	Pass Pass Pass	
	Bond Strength: System: Dage Wire Bond Pull (> 2 grams) Wire Ball <i>Shear</i> (>9.1 grams) System: Dage		5 units, 30 bonds per lot	Lot 1 0/30 Lot 2 0/30 Lot 3 0/30	Pass Pass Pass	
High Temperature Storage Life	Stress Condition: Bake 150°C, 1000 hrs System: HERAEUS Electrical Test: 25°C System: Magnum	JESD22-A103	45 units per lot	Lot 1 0/45 Lot 2 0/45 Lot 3 0/45	Pass Pass Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Bond Strength, 0 Hour	Bond Strength: System: Dage Wire Bond Pull (> 2 grams) Wire Ball <i>Shear</i> (>9.1 grams) System: Dage		5 units, 30 bonds per lot	Lot 1 0/30 Lot 2 0/30 Lot 3 0/30	Pass Pass Pass	
Solderability	Bake: Temp 155°C,4Hrs System: Oven Solder Bath: Temp.245°C Solder material: SAC305 Visual Inspection: External Visual Inspection	J-STD-002D	22 units from 1 lot	0/22	Pass	
Physical Dimension		JESD22 B100 and B108	10 units per lot	Lot 1 9.8 Lot 2 09.8 Lot 3 9.8	Pass Pass Pass	

CCB 4767
Pre and Post Change Summary
PCN# ALAN-08KOOJ271

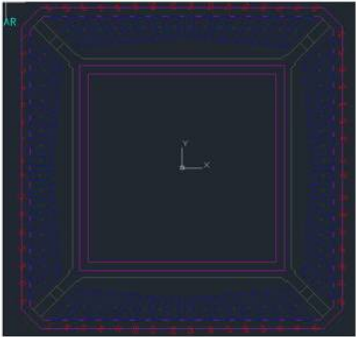
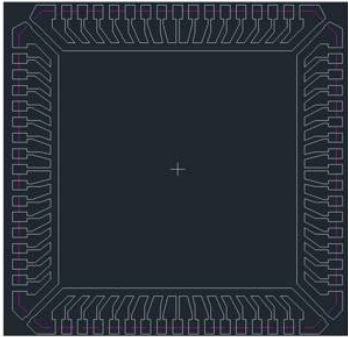


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Pre and Post Change Summary

Pre Change			Post Change		
					
Assembly location		ASE Inc. (ASEK)	Assembly location		Amkor Technology Philippine (P1/P2), INC. (ANAP)
Die attach material		CRM-1076WA	Die attach material		3230
Mold compound material		G631HQ	Mold compound material		G631HQ
Lead frame material	Material	C7025	Lead frame material	Material	C194
	Process	Stamped		Process	Etched

ALAN-08KOOJ271 - CCB 4767 Final Notice: Qualification of ANAP as an additional assembly site for selec

Affected Catalog Part Numbers(CPN)

AT91SAM7S128D-AU

AT91SAM7S256D-AU

AT91SAM7S256D-AU-999

AT91SAM7S128D-AU-999