Product Change Notification / ALAN-20BLUP482

Date:

23-Sep-2021

Product Category:

32-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4847 Initial Notice: Qualification of ATP7 as an additional assembly site for selected Atmel ATSAMD51Jxx and ATSAME5xx device families available in 64L VQFN (9x9x1.0mm) package.

Affected CPNs:

ALAN-20BLUP482_Affected_CPN_09232021.pdf
ALAN-20BLUP482_Affected_CPN_09232021.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 ATP7 as an additional assembly site for ATSAMD51Jxx and ATSAME5xx device families available in 64L VQFN (9x9x1.0mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change

Assembly location		ASE Inc. (ASE)	ASE Inc. (ASE)	Amkor Technology Philippines (P3/P4), INC. (ATP7)
Bond wire material		CuPdAu	CuPdAu	CuPdAu
Die attach material		EN-4900F	EN-4900F	CRM1085A
Mold compound material		G631H	G631H	G631BQF
Lead-frame	**Material**	C194	C194	C194
	Paddle Size	193 X 193	193 X 193	197X197
	See pre and post change comparison			

Impacts to Data Sheet: None.

Change Impact: None.

Reason for Change:
To improve manufacturability and on-time delivery performance by qualifying ATP7 as an additional assembly site.

Change Implementation Status: In Progress

Estimated Qualification Completion Date: February 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:

	September 2021						**February 2022**				
Workweek	36	37	38	39	40	->	5	6	7	8	9
Initial PCN Issue Date				X							
Qual Report Availability									X		
Final PCN Issue									X		

Date											

Method to Identify Change: Traceability code

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

Revision History:September 23, 2021: 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-20BLUP482_Qual_Plan.pdf
PCN_ALAN-20BLUP482_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.

CCB 4847

Pre and Post Change Summary

PCN# ALAN-20BLUP482

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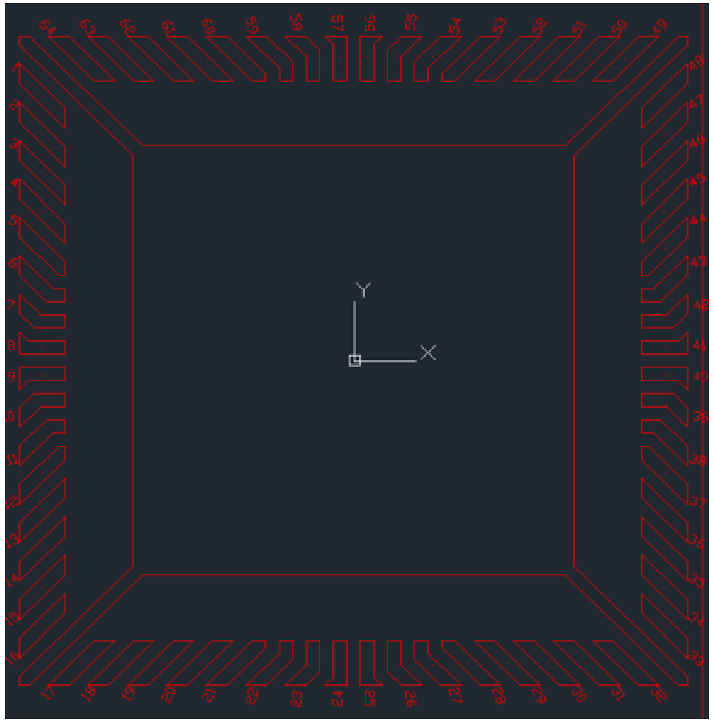
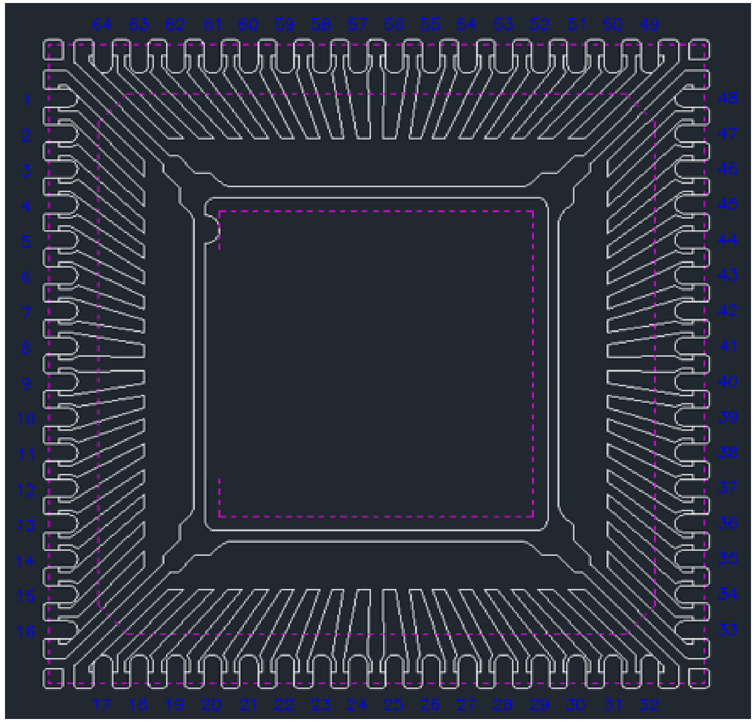
SMART | CONNECTED | SECURE

Pre and Post Change Summary

ASE Inc. (ASE)	Amkor Technology Philippines (P3/P4), INC. (ATP7)



Material	C194
Paddle size	193 X 193



Material	C194
Paddle size	197X197

QUALIFICATION PLAN SUMMARY

PCN#: ALAN-20BLUP482

Date:
September 16, 2021

Qualification of ATP7 as an additional assembly site for selected Atmel ATSAMD51Jxx and ATSAME5xx device families available in 64L VQFN (9x9x1.0mm) package.

Purpose: Qualification of ATP7 as an additional assembly site for selected Atmel ATSAMD51Jxx and ATSAME5xx device families available in 64L VQFN (9x9x1.0mm) package.

Misc.	Assembly site	ATP7
	BD Number	TBD
	MP Code (MPC)	651067TMBC05
	Part Number (CPN)	ATSAMD51J20A-MU
	MSL information	MSL-3 @260C
	Assembly Shipping Media (T/R, Tube/Tray)	Kostat KS-870274
	Base Quantity Multiple (BQM)	Tray -260
	Reliability Site	MPHIL
	CCB No.	4847
Lead-Frame	Paddle size	197X197 (5X5mm)
	Material	C194
	DAP Surface Prep	Double Ring Plating
	Treatment	Roughened
	Process	Etched
	Lead-lock (With Locking Holes)	No
	Part Number	101419822
	Lead Plating	Matte Sn
	Strip Size	250 X 70mm
Bond Wire	Material	CuPdAu
Die Attach	Part Number	CRM1085A
	Conductive	Yes
MC	Part Number	G631BQF

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	MPHIL	MPHIL	64L VQFN	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	MPHIL	MPHIL	64L VQFN	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	MPHIL	MPHIL	64L VQFN	30 bonds from a min. 5 devices.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	MPHIL	MPHIL	64L VQFN	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	MPHIL	MPHIL	64L VQFN	

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	+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 at room temp 25°C.	231	15	3	738	0	15	MPHIL	MPHIL	64L VQFN	Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test.
HAST	+130°C/85% RH for 96 hours or 110°C/85%RH for 264 hours. Electrical test pre and post stress at room temp 25°	77	5	3	246	0	10	MPHIL	MPHIL	64L VQFN	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	+130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs. Electrical test pre and post stress at room temp 25°C. Requires 2X Rel stress Testing	77	5	3	246	0	10	MPHIL	MPHIL	64L VQFN	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

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
Temp Cycle	-65°C to +150°C for 500 cycles. Electrical test pre and post stress at room; 3gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. Requires 2X Rel stress Testing	77	5	3	246	0	15	MPHIL	MPHIL	64L VQFN	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

Affected Catalog Part Numbers (CPN)

ATSAME51J19A-MU
ATSAME51J18A-MU
ATSAMD51J18A-MU
ATSAMD51J19A-MU
ATSAMD51J20A-MU
ATSAME53J18A-MU
ATSAME53J19A-MU
ATSAME53J20A-MU
ATSAME51J20A-MU
ATSAMD51J18A-MU-EFP
ATSAMD51J19A-MU-EFP
ATSAMD51J20A-MU-EFP
ATSAME51J18A-MU-EFP
ATSAME51J19A-MU-EFP
ATSAME51J20A-MU-EFP
ATSAME53J18A-MU-EFP
ATSAME53J19A-MU-EFP
ATSAME53J20A-MU-EFP
ATSAMD51J19A-MUN01
ATSAME53J18A-MUN02
ATSAME51J19A-MUT
ATSAME51J18A-MUT
ATSAMD51J18A-MUT
ATSAMD51J19A-MUT
ATSAMD51J20A-MUT
ATSAME53J18A-MUT
ATSAME53J19A-MUT
ATSAME53J20A-MUT
ATSAME51J20A-MUT
ATSAMD51J18A-MUT-EFP
ATSAMD51J19A-MUT-EFP
ATSAMD51J20A-MUT-EFP
ATSAME51J18A-MUT-EFP
ATSAME51J19A-MUT-EFP
ATSAME51J20A-MUT-EFP
ATSAME53J18A-MUT-EFP
ATSAME53J19A-MUT-EFP
ATSAME53J20A-MUT-EFP
ATSAMD51J19A-MUTN01