Product Change Notification / DSNO-28RMBY971

Date:

05-Feb-2024

Product Category:

32-Bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6778.001 Initial Notice: Qualification of ANAP as an additional assembly site for selected ASTAM3Sxx, ATSAM3Nxx and AT91SAM7Sxx device families available in 64L LQFP (10x10x1.4mm) package.

Affected CPNs:

DSNO-28RMBY971_Affected_CPN_02052024.pdf
DSNO-28RMBY971_Affected_CPN_02052024.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 site for selected ASTAM3Sxx, ATSAM3Nxx and AT91SAM7Sxx device families available in 64LQFP (10x10x1.4mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change

<table>
<tr><td>Assembly Site</td><td colspan="4">ATX Semiconductor (Shanghai) Co. Ltd
(ASSH)</td><td colspan="4">ATX Semiconductor (Shanghai) Co. Ltd
(ASSH)</td><td colspan="2">Amkor Technology Philippine (P1/P2), INC. (ANAP)</td></tr>
<tr><td>Bond Wire Material</td><td colspan="2">CuPd</td><td colspan="2">Au</td><td colspan="2">CuPd</td><td colspan="2">Au</td><td colspan="2">Au</td></tr>
<tr><td>Die Attach Material</td><td colspan="4">2288A</td><td colspan="4">2288A</td><td colspan="2">3230</td></tr>
<tr><td>Molding Compound Material</td><td colspan="4">CEL-9510 / CEL-9200THF</td><td colspan="4">CEL-9510 / CEL-9200THF</td><td colspan="2">G631HQ</td></tr>
<tr><td>Lead-Frame Material</td><td colspan="4">C7025</td><td colspan="4">C7025</td><td colspan="2">C194ESH</td></tr>
<tr><td>Lead-Frame Paddle Size</td><td>260X260</td><td>200X200</td><td>210X210</td><td>265X265</td><td>260X260</td><td>200X200</td><td>210X210</td><td>265X265</td><td>236X236</td><td>295X295</td></tr>
</table>

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:

<table>
<tr><td></td><td colspan="5">February 2024</td><td>></td><td colspan="5">May 2024</td></tr>
<tr><td>Workweek</td><td>05</td><td>06</td><td>07</td><td>08</td><td>09</td><td></td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td></tr>
</table>

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: February 05, 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_DSNO-28RMBY971_Qual_Plan.pdf
PCN_DSNO-28RMBY971_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.

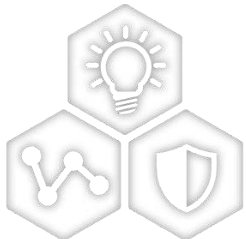
If you wish to change your PCN profile, including opt out, please go to the PCN home page select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

Affected Catalog Part Numbers (CPN)

ATSAM3S4BA-AU
ATSAM3S4BA-AUR
ATSAM3N0BA-AU
ATSAM3N0BA-AUR
ATSAM3N1BB-AU
ATSAM3N1BB-AUR
AT91SAM7S64C-AU
AT91SAM7S64C-AU-999
ATSAM3S8BA-AU
ATSAM3S8BA-AUR
AT91SAM7S512B-AU
AT91SAM7S512B-AU-999
ATSAM3S1BB-AU
ATSAM3S1BB-AUR
ATSAM3N00BA-AU
ATSAM3N00BA-AUR
ATSAM3SD8BA-AU
ATSAM3SD8BA-AUR
ATSAM3S2BA-AU
ATSAM3S2BA-AUR

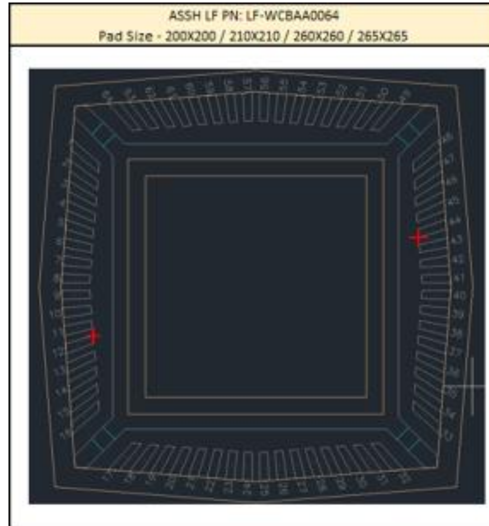
CCB 6778.001
Pre and Post Change Summary
PCN #: DSNO-28RMBY971

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



Pre and Post Change Summary

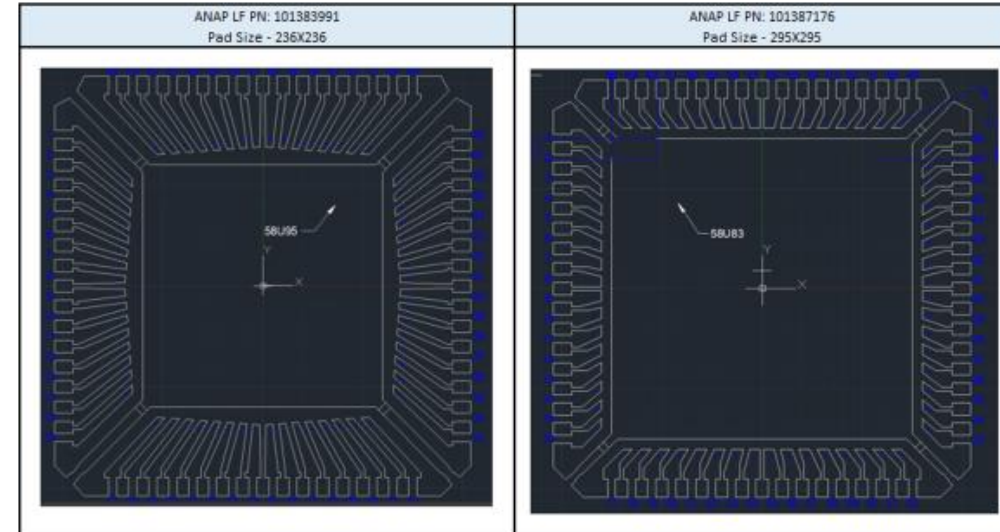
ASSH



Note: Not-to-scale

Lead-frame Paddle Size	200x200 / 210x210 / 260x260 / 265x265
Lead-Frame Material	C7025
Bond Wire Material	CuPd / Au
Die Attach Material	2288A
Mold Compound Material	CEL-9510 / CEL-9200THF

ANAP



Note: Not-to-scale

Lead-frame Paddle Size	236x236 / 295x295
Lead-Frame Material	C194ESH
Bond Wire Material	Au
Die Attach Material	3230
Mold Compound Material	G631HQ

MICROCHIP

QUALIFICATION PLAN SUMMARY

PCN#: DSNO-28RMBY971

Date:
December 21, 2023

Qualification of ANAP as an additional assembly site for ATSAM3S8CA-AU, ATSAM3S8CA-AUR, ATSAM3SD8CA-AU and ATSAM3SD8CA-AUR catalog part numbers (CPN) available in 100L LQFP (14x14x1.4mm) package. The qualification of ANAP as an additional assembly site for selected ASTAM3Sxx, ATSAM3Nxx and AT91SAM7Sxx device families available in 64L LQFP (10x10x1.4mm) package will be qualified by similarity (QBS).

Purpose: Qualification of ANAP as an additional assembly site for ATSAM3S8CA-AU, ATSAM3S8CA-AUR, ATSAM3SD8CA-AU and ATSAM3SD8CA-AUR catalog part numbers (CPN) available in 100L LQFP (14x14x1.4mm) package. The qualification of ANAP as an additional assembly site for selected ASTAM3Sxx, ATSAM3Nxx and AT91SAM7Sxx device families available in 64L LQFP (10x10x1.4mm) package will be qualified by similarity (QBS).

CCB No.: 6779 and 6778.001

Misc.	Assembly site	ANAP
	BD Number	BD-002073-01
	MP Code (MPC)	58U837H7XC01
	Part Number (CPN)	ATSAM3S8CA-AU
	MSL information	MSL3
	Assembly Shipping Media (T/R, Tube/Tray)	Tray
	Base Quantity Multiple (BQM)	90/Tray
	Reliability Site	MPHIL
Lead-Frame	Paddle size	315X315
	Material	C194ESH
	DAP Surface Prep	Double Ring Ag
	Treatment	Non-roughened
	Process	Etched
	Lead-lock	No
	Part Number	101393765
	Lead Plating	Matte Sn
	Strip Size	80x250mm
	Strip Density	UDLF
Bond Wire	Material	Au
Die Attach	Part Number	3230
	Conductive	Yes
MC	Part Number	G631HQ
PKG	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 Instruction
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.
Wire Sweep										Required for any reduction in wire bond thickness.
Physical Dimensions	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 (85°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 (85°C); 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	ASE9	MPHIL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

QUALIFICATION PLAN SUMMARY

PCN #: DSNO-28RMBY971

Date:
December 21, 2023

Qualification of ANAP as an additional assembly site for selected AT91R40008, ATSAM3N0CA, ATSAM3N1CB, ATSAM3S1CB, ATSAM3S2CA, ATSAM3S4CA, and ATSAM3U1CB device families available in 100L LQFP (14x14x1.4mm) package. The qualification of ANAP as an additional assembly site for selected ASTAM3Sxx, ATSAM3Nxx and AT91SAM7Sxx device families available in 64L LQFP (10x10x1.4mm) package will be qualified by similarity (QBS).

Purpose: Qualification of ANAP as an additional assembly site for selected AT91R40008, ATSAM3N0CA, ATSAM3N1CB, ATSAM3S1CB, ATSAM3S2CA, ATSAM3S4CA, and ATSAM3U1CB device families available in 100L LQFP (14x14x1.4mm) package. The qualification of ANAP as an additional assembly site for selected ASTAM3Sxx, ATSAM3Nxx and AT91SAM7Sxx device families available in 64L LQFP (10x10x1.4mm) package will be qualified by similarity (QBS).

CCB No.: 6778 and 6778.001

Misc.	Assembly site	ANAP
	BD Number	BD-002072-01
	MP Code (MPC)	58A907H7XC03
	Part Number (CPN)	AT91R40008-66AU
	MSL information	MSL3
	Assembly Shipping Media (T/R,	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	Au
Die Attach	Part Number	3230
	Conductive	Yes
MC	Part Number	G631HQ
PKG	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 Instruction
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.
Wire Sweep										Required for any reduction in wire bond thickness.
Physical Dimensions	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	ASE9	MPHIL	Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test.
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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 Instruction
	RH for 264 hrs. Electrical test pre and post stress at +25°C									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 (85°C); 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	ASE9	MPHIL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.