



Product Change Notification / LIAL-04DLC0554

Date:

11-Aug-2022

Product Category:

Microprocessors

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4830 Final Notice: Qualification of ATK as an additional assembly site for selected ATSAMA5D26 and ATSAMA5D27 device families available in 289L LFBGA (14x14x1.4mm) package.

Affected CPNs:

[LIAL-04DLC0554_Affected_CPN_08112022.pdf](#)

[LIAL-04DLC0554_Affected_CPN_08112022.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 ATK as an additional assembly site for selected ATSAMA5D26 and ATSAMA5D27 device families available in 289L LFBGA (14x14x1.4mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change

Method to Identify Change:Traceability code

Qualification Report:Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.

Revision History:

October 07, 2021: Issued initial notification.

August 11, 2022: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on August 30, 2022. Revised the post change die attach material for ATK.

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

Attachments:

[PCN_LIAL-04DLC0554 Qual Report.pdf](#)

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

Terms and Conditions:

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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.



QUALIFICATION REPORT SUMMARY

PCN #: LIAL-04DLCO554

Date
July 20, 2022

Qualification of ATK as an additional assembly site for selected ATSAMA5D26 and ATSAMA5D27 device families available in 289L LFBGA (14x14x1.4mm) package. This an automotive Q006 Grade 2 qualification.



MICROCHIP Package Qualification Report

Purpose: Qualification of ATK as an additional assembly site for selected ATSAMA5D26 and ATSAMA5D27 device families available in 289L LFBGA (14x14x1.4mm) package. This an automotive Q006 Grade 2 qualification.

<u>Misc.</u>	Assembly site	ATK
	BD Number	BD-000187/01 (ATK-0859860WB)
	MP Code (MPC)	92U037AMBC05
	Part Number (CPN)	ATSAMA5D27C-CU
	MSL information	MSL 3 / 260
	Assembly Shipping Media (T/R, Tube/Tray)	Tray: JT1141401-07 REV.A
	Base Quantity Multiple (BQM)	116
	CCB No	4830
	Quad ID and Rev	REQ2200140 Rev A
	Reliability Site	MPHIL
<u>Substrate</u>	Core Material	HL832NXAHS
	SM Material	AUS308
	Part Number	101420997
	Paddle Size	7.265x7.265mm
<u>Bond Wire</u>	Material	CuPdAu
<u>Die Attach</u>	Part Number	EP 2300
	Conductive	Conductive
<u>MC</u>	Part Number	G770FE
<u>PKG</u>	PKG Type	LFBGA
	Pin/Ball Count	289 Balls
	PKG width/size	14x14x1.4mm
	Ball Pitch/Size	0.8mm
	Solder Ball Material	98.25SN/1.2AG/0.5CU/0.05NI



MICROCHIP

Package Qualification Report

Manufacturing Information

Assembly lot #
ATK-223400036.000
ATK-223400037.000
ATK-223500001.000

Result



Pass



Fail

Second source for 92U03 device in 289 LFBGA 14x14x1.4mm in Amkor Korea pass reliability test per AEC-Q006 which was conducted at MPHL rel lab. This package 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, 85°C System: D20 Tester / Thermo	JESD22- A113	231 units per lot	Lot 1 0/265	Pass	
	Bake 150°C, 24 hrs System: HERAEUS			Lot 2 0/265	Pass	
	30°C/60%RH Moisture Soak 192hrs. System: Climats Excal 5423-HE	IPC/JEDEC J-STD- 020E		Lot 3 0/265	Pass	
Temperature Cycle	Electrical Test : 25°C, 85°C System: D20 Tester / Thermo					
	Stress Condition: (Standard) -55°C to +125°C, 1000 Cycles System: Votsch VTS ² 7012	JESD22- A104	77 units per lot	Lot 1 0/90	Pass	
	Electrical Test : 85°C System: D20 Tester / Thermo			Lot 2 0/89	Pass	
	Bond Strength: 3 units per test Wire Pull (>4.0g) Bond <i>Shear</i> (>10g) Stitch Pull (>3g) System: Dage		6 units per lot	Lot 3 0/87	Pass	
				Lot 1 0/6	Pass	
				Lot 2 0/6	Pass	
				Lot 3 0/6	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Temperature Cycle	Stress Condition: (Standard) -55°C to +125°C, 2000 Cycles System: Votsch VTS ² 7012 Electrical Test : 85°C System: D20 Tester / MT9510	JESD22-A104	70 units per lot	Lot 1 0/79	Pass	
				Lot 2 0/78	Pass	
				Lot 3 0/76	Pass	
	Bond Strength: 3 units per test Wire Pull (>4.0g) Bond <i>Shear</i> (>10g) Stitch Pull (>3g) System: Dage		6 units per lot	Lot 1 0/6	Pass	
				Lot 2 0/6	Pass	
				Lot 3 0/6	Pass	
HAST	Stress Condition: (Standard) +110°C/85%RH, 264 hrs System: HIRAYAMA HASTEST PC-422R8 Electrical Test : 25°C, 85°C System: D20 Tester / Thermo	JESD22-A118	77 units per lot	Lot 1 0/84	Pass	
				Lot 2 0/84		
				Lot 3 0/85	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
HAST	Bond Strength: 3 units per test Wire Pull (>4.0g) Bond <i>Shear</i> (>10g) Stitch Pull (>3g) System: Dage		6 units per lot	Lot 1 0/6	Pass	
				Lot 2 0/6	Pass	
				Lot 3 0/6	Pass	
	Stress Condition: (Standard) +110°C/85%RH, 528 hrs System: HIRAYAMA HASTEST PC-422R8 Electrical Test : 25°C, 85°C System: D20 Tester / Thermo	JESD22-A118	77 units per lot	Lot 1 0/73	Pass	
				Lot 2 0/72	Pass	
				Lot 3 0/73	Pass	
UHAST	Bond Strength: 3 units per test Wire Pull (>4.0g) Bond <i>Shear</i> (>10g) Stitch Pull (>3g) System: Dage		6 units per lot	Lot 1 0/6	Pass	
				Lot 2 0/6	Pass	
				Lot 3 0/6	Pass	
	Stress Condition: (Standard) +110°C/85%RH, 264 hrs. no bias System: HIRAYAMA HASTEST PC-422R8 Electrical Test : 25°C System: D20 Tester / Thermo	JESD22-A118	77 units per lot	Lot 1 0/85	Pass	
				Lot 2 0/85	Pass	
				Lot 3 0/85	Pass	
UHAST	Stress Condition: (Standard) +110°C/85%RH, 528 hrs. no bias System: HIRAYAMA HASTEST PC-422R8 Electrical Test : 25°C System: D20 Tester / Thermo	JESD22-A118	70 units per lot	Lot 1 0/85	Pass	
				Lot 2 0/85	Pass	
				Lot 3 0/85	Pass	
				Lot 3 0/85	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
HTSL	Stress Condition: Bake 150°C, 504 hrs. System: HERAEUS Electrical Test : 25°C, 85°C System: D20 Tester / Thermo	JESD22-A10	45 units per lot	Lot 1 0/60 Lot 2 0/59 Lot 3 0/60	Pass Pass Pass	
	Stress Condition: Bake 150°C, 1008 hrs. System: HERAEUS Electrical Test : 25°C, 85°C System: D20 Tester / Thermo	JESD22-A103	44 units per lot	Lot 1 0/49 Lot 2 0/48 Lot 3 0/49	Pass Pass Pass	
Bond Strength	Wire Pull (>4.0g) Bond <i>Shear</i> (>10g) Stitch Pull (>3g) System: Dage		5 units 3 lots 30 bonds		Pass	
Physical Dimension	Physical Dimension, 10 units per 3 lots	JESD22 B100 and B108	10 units per lot	30	Pass	

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Affected Catalog Part Numbers(CPN)

ATSAMA5D26C-CU
ATSAMA5D27C-CU
ATSAMA5D26C-CN
ATSAMA5D27C-CN
ATSAMA5D26C-CNR
ATSAMA5D27C-CNR
ATSAMA5D26C-CNR01
ATSAMA5D26C-CUR
ATSAMA5D27C-CUR