



Product Change Notification / BLAS-31IUJG103

Date:

01-Jun-2023

Product Category:

32-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6149 Final Notice: Qualification of MP3A as an additional assembly site for ATSAMC20xxx, ATSAMC21xxx, ATSAM20xxx and ATSAM21xxx device families available in 32L VQFN (5x5x1mm) package.

Affected CPNs:

[BLAS-31IUJG103_Affected_CPN_06012023.pdf](#)

[BLAS-31IUJG103_Affected_CPN_06012023.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 MP3A as an additional assembly site for ATSAMC20xxx, ATSAMC21xxx, ATSAM20xxx and ATSAM21xxx device families available in 32L VQFN (5x5x1mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change
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Method to Identify Change:

Traceability code

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

Revision History:February 23, 2023: Issued initial notice.

June 1, 2023: Issued final notice. Attached the Qualification Report. Provided estimated first ship date to be on June 30, 2023.

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

Attachments:

[PCN_CENO-20VOKZ226_Qual_Report_Summary.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 #: CENO-20VOKZ226

Date
May 24, 2023

**Qualification of MP3A as an additional assembly site for
ATSAMC20xxx, ATSAMC21xxx, ATSAMD20xxx and
ATSAMD21xxx device families available in 32L VQFN
(5x5x1mm) package.**



MICROCHIP Package Qualification Report

Purpose: Qualification of MP3A as an additional assembly site for ATSAMC20xxx, ATSAMC21xxx, ATSAMD20xxx and ATSAMD21xxx device families available in 32L VQFN (5x5x1mm) package.

CCB No.: 6149

<u>Misc.</u>	Assembly site	MP3A (MPHIL3)
	BD Number	BD-001281 rev. A
	MP Code (MPC)	661P2TS8BA05
	Part Number (CPN)	ATSAMC20E17A-MUT
	MSL information	MSL-1/260
	Assembly Shipping Media (T/R, Tube/Tray)	T/R
	Base Quantity Multiple (BQM)	5000
	Reliability Site	MPHIL
<u>Lead- Frame</u>	Paddle size	154x154 mils
	Material	C194
	DAP Surface Prep	Ag selective
	Treatment	BOT
	Process	Etched
	Lead-lock	Yes
	Part Number	10103205
	Lead Plating	Matte Tin
	Strip Size	250x70 mm
	Strip Density	440 units/strip
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	3280
	Conductive	Yes
<u>MC</u>	Part Number	G700LTD
<u>PKG</u>	PKG Type	VQFN
	Pin/Ball Count	32
	PKG width/size	5x5x1.0mm



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Package Qualification Report

Manufacturing Information

Assembly Lot No.
MP3A235200002.000
MP3A235200003.000
MP3A235200005.000

Result

Pass

Fail

661P2 in 32L VQFN 5x5 (S8B) using Au wire and assembled at MP3A pass reliability test per QCI-39000 which was conducted at MPHL rel lab. This package is qualified Moisture/Reflow Sensitivity Classification Level 1 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 1)	Electrical Test :25°C M1_SV_1024	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 168h(85°C/85%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	Pass		
				Lot 2 0/231	Pass		
				Lot 3 0/231	Pass		
	Electrical Test : 25°C M1_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
High Temperature Storage Life	<p>Stress Condition: Bake 175°C, 500 hrs System: HERAEUS</p> <p>Electrical Test: 25°C /85°C/125°C System: M1_SV_1024</p>	JESD22-A103	45 units 1 lot	Lot 1 0/45	Pass	High Temperature Storage Life
HAST	<p>Stress Condition: (Standard) 130°C, 85%RH, 96 hrs. VOLTS=5.5V System: HIRAYAMA HASTEST PC-422R8</p> <p>Electrical Test: 25°C /85°C/125°C System: M1_SV_1024</p>	JESD22-A110	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
UNBIASED HAST	<p>Stress Condition: (Standard) + 130°C, 85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8</p> <p>Electrical Test: 25°C System: M1_SV_1024</p>	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/125°C System: M1_SV_1024	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, 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	

BLAS-31IUJG103 - CCB 6149 ATSAMC21 ATSAM20xxx and ATSAM21xxx device families available in 32L VC

Affected Catalog Part Numbers(CPN)

ATSAMD21E16B-MUTN02
ATSAMD20E15B-MUTDY
ATSAMD20E16B-MUTDY
ATSAMC21E18A-MNTDY
ATSAMC21E18A-MUTN01
ATSAMC21E16A-MUTN01
ATSAMD20E18A-MUTN01
ATSAMD20E18A-MUTN02
ATSAMD21E15B-MUTN01
ATSAMD20E16B-MUTN01
ATSAMC21E16A-MNTS2
ATSAMC20E16A-MUTS2
ATSAMC21E18A-MUTS2
ATSAMC21E18A-MUTDY
ATSAMD21E18A-MUA1
ATSAMD21E17A-MUA1
ATSAMD21E18A-MUDBG
ATSAMD21E18A-MUTA1
ATSAMD21E17A-MUTA1
ATSAMD21E18A-MUTDBG
ATSAMD20E14A-MUA2
ATSAMD20E15A-MUA2
ATSAMD20E16A-MUA2
ATSAMD20E17A-MUA2
ATSAMD20E18A-MUA2
ATSAMD20E16A-MNA2
ATSAMD20E14A-MUTA2
ATSAMD20E15A-MUTA2
ATSAMD20E16A-MUTA2
ATSAMD20E17A-MUTA2
ATSAMD20E18A-MUTA2
ATSAMD20E18A-MUTA8
ATSAMD20E18A-MUTA9
ATSAMD20E18A-MUTB0
ATSAMD20E18A-MUTB1
ATSAMD20E18A-MUTB2
ATSAMD20E18A-MUTB3
ATSAMD21E17L-MF
ATSAMD21E17D-MU
ATSAMD21E17L-MN
ATSAMD21E17L-MNT
ATSAMD21E17D-MUT

ATSAMD21E17D-MUT-SLL
ATSAMD21E17L-MFT
ATSAMD21E16B-MF
ATSAMD21E15B-MF
ATSAMD21E16L-MF
ATSAMD21E15L-MF
ATSAMD21E16B-MU
ATSAMD21E15B-MU
ATSAMD21E16B-MU-SLL
ATSAMD21E16L-MNTB7
ATSAMD21E16L-MNTA7
ATSAMD21E16L-MNT
ATSAMD21E16L-MNTP01
ATSAMD21E15L-MNT
ATSAMD21E16B-MUT
ATSAMD21E15B-MUT
ATSAMD21E16B-MUTN10
ATSAMD21E16B-MUT-SLL
ATSAMD21E16B-MFT
ATSAMD21E15B-MFT
ATSAMD21E16L-MFT
ATSAMD21E15L-MFT
ATSAMD21E15B-MFTA7
ATSAMD20E16B-MU
ATSAMD20E15B-MU
ATSAMD20E14B-MU
ATSAMD20E16B-MN
ATSAMD20E14B-MN
ATSAMD20E15B-MN
ATSAMD20E16B-MNT
ATSAMD20E14B-MNT
ATSAMD20E15B-MNT
ATSAMD20E16B-MUT
ATSAMD20E14B-MUT
ATSAMD20E15B-MUT
ATSAMC20E15A-MNT
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ATSAMC20E18A-MUT

ATSAMC21E15A-MUT
ATSAMC21E16A-MUT
ATSAMC21E17A-MUT
ATSAMC21E18A-MUT
ATSAMC20E17A-MUTS2
ATSAMC21E18A-MUT64
ATSAMC21E17A-MUT510
ATSAMD21E18A-MF
ATSAMD21E17A-MF
ATSAMD21E18A-MU
ATSAMD21E17A-MU
ATSAMD21E18A-MU-SLL
ATSAMD21E18A-MUT
ATSAMD21E17A-MUT
ATSAMD21E18A-MFT
ATSAMD21E17A-MFT
ATSAMD21E15A-MFT
ATSAMD20E14A-MU
ATSAMD20E15A-MU
ATSAMD20E16A-MU
ATSAMD20E17A-MU
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