Product Change Notification / JAON-30NGXA111

Date:

17-Nov-2020

Product Category:

Interface- Controller Area Network (CAN), Interface- LIN Transceiver

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4036 and 4036.001 Final Notice: Qualification of MTAI as an additional assembly site for selected Atmel ATA656x, ATA6570, ATA6625, ATA663211 and ATA663254 device families available in 8L and 14L SOIC packages.

Affected CPNs:

JAON-30NGXA111_Affected_CPN_11172020.pdf
JAON-30NGXA111_Affected_CPN_11172020.csv

Notification Text:

PCN Status: Final notification

PCN Type: Manufacturing Change

Microchip Parts Affected: Please open one of the icons found in the Affected CPNs section above.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).

Description of Change: Qualification of MTAI as an additional assembly site for selected Atmel ATA656x, ATA6570, ATA6625, ATA663211 and ATA663254 device families available in 8L and 14L SOIC packages.

Pre Change:
For 14L SOIC package: Assembled at ASSH assembly site using EN-4900GC die attach and G700 mold compound material with NiPd-AgPd lead plating.For 8L SOIC package: Assembled at ANAP assembly site using 8290 die attach and G700 mold compound material with NiPdAu lead plating.

Post Change:

For 14L SOIC package: Assembled at ASSH assembly site using EN-4900GC die attach and G700 mold compound material with NiPd-AgPd lead plating or assembled at MTAI using 8390A die attach and G600V mold compound material with Matte Tin lead platingFor 8L SOIC package: Assembled at ANAP assembly site using 8290 die attach and G700 mold compound material with NiPdAu lead plating or assembled at MTAI using 8390A die attach and G600V mold compound material with Matte Tin lead plating

Pre and Post Change Summary:For 14L SOIC Package:

	Pre Change	Post Change	
Assembly Site	ASE Advanced Semiconductor (Shanghai) Co., Ltd. (ASSH)	ASE Advanced Semiconductor (Shanghai) Co., Ltd. (ASSH)	Microchip Technology Thailand (HQ) (MTAI)
Wire material	CuPdAu	CuPdAu	CuPdAu
Die attach material	EN-4900GC	EN-4900GC	8390A
Molding compound material	G700	G700	G600V
Lead frame material	CDA194	CDA194	CDA194
Lead Plating	NiPd-AgPd	NiPd-AgPd	Matte Tin

For 8L SOIC Package:

	Pre Change	Post Change	
Assembly Site	Amkor Technology Philippines (P1/P2), INC. (ANAP)	Amkor Technology Philippines (P1/P2), INC. (ANAP)	Microchip Technology Thailand (HQ) (MTAI)
Wire material	CuPdAu	CuPdAu	CuPdAu
Die attach material	8290	8290	8390A
Molding compound material	G700	G700	G600V
Lead frame material	CDA194	CDA194	CDA194
Lead Plating	NiPdAu	NiPdAu	Matte Tin

Impacts to Data Sheet: None.

Change Impact: None.

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

Change Implementation Status: In Progress

Estimated First Ship Date: December 17, 2020 (date code: 2051)

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

Time Table Summary:

	January 2020					->	November 2020				December 2020				
Workweek	01	02	03	04	05		45	46	47	48	49	50	51	52	53
Initial PCN Issue Date					X										
Qual Report Availability									X						
Final PCN Issue Date									X						
Estimated First Ship 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:January 31, 2020: Issued initial notification.**November 17, 2020**: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on December 17, 2020. Corrected lead finish at ANAP from NiPd-AgPd to NiPdAu.

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

Attachments:

PCN_JAON-30NGXA111_Qual_Report.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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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.

Affected Catalog Part Numbers (CPN)

ATA663211-GAQW
ATA663254-GAQW
ATA663254-GAQW-VAO
ATA6562-GAQW0
ATA6566-GAQW0
ATA6563-GAQW0
ATA6564-GAQW0
ATA6562-GAQW1
ATA6561-GAQW
ATA6560-GAQW
ATA6564-GAQW1
ATA6563-GAQW1
ATA6566-GAQW1
ATA6560-GAQW-N
ATA6561-GAQW-N
ATA6560-GAQW-VAO
ATA6625-GAQW
ATA6570-GNQW0
ATA6570-GNQW1

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: JAON-30NGXA111

Date
October 26, 2020

Qualification of MTAI as an additional assembly site for selected Atmel ATA656x, ATA6570, ATA6625, ATA663211 and ATA663254 device families available in 14L SOIC packages. The qualification of MTAI for selected Atmel products available in 8L SOIC package will qualify by similarity (QBS). This is an automotive AEC-Q006 Grade 0 qualification.

Package Qualification Report

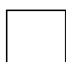
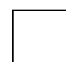
Purpose: Qualification of MTAI as an additional assembly site for selected Atmel ATA656x, ATA6570, ATA6625, ATA663211 and ATA663254 device families available in 14L SOIC packages. The qualification of MTAI for selected Atmel products available in 8L SOIC package will qualify by similarity (QBS). This is an automotive AEC-Q006 Grade 0 qualification.

Misc.	Assembly site	MTAI
	BD Number	BDM-002272
	MP Code (MPC)	77A09JD3XVA1
	Part Number (CPN)	ATA6565-GNQW0-VAO
	MSL information	1
	Assembly Shipping Media (T/R, Tube/Tray)	T&R
	Base Quantity Multiple (BQM)	4000
	Qual ID.	QTP4021 rev. A
	CCB No.	4036 and 4026.001
Lead-Frame	Paddle size	155 x 95 mil
	Material	CDA194
	DAP Surface Prep	Selective Ag plating
	Treatment	Rough Cu
	Process	stamp
	Lead-lock	No
	Lead Plating	Matte tin
	Strip Size	2.756 x 9.8431 inch
	Strip Density	112units / strip
Bond Wire	Material	CuPdAu
Die Attach	Part Number	8390A
	Conductive	yes
MC	Part Number	G600V
PKG	PKG Type	SOIC
	Pin/Ball Count	14
	PKG width/size	150mil

Package Qualification Report

Manufacturing Information

Lot	Device	Lot No.
1	77A09JD3XVA1	MTAI203501813.00
2	77A09JD3XVA1	MTAI203501819.00
3	77A09JD3XVA1	MTAI203501820.00

Result Pass  Fail 

AEC-Q006 Grade 0 Qualification of SO14 150mil package in MTAI using CuPdAu bond wire with 77k devices from Fab4 (MSL 1), pass reliability test per AEC-Q006 which was conducted at MPHL reliability lab. This package is qualified Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)	**Electrical Test:** +25°C, +150°C System: V93K/RASCO 85°C/85%RH Moisture Soak 168 hrs. System: Climats Excal 5423-HE 3x Convection-Reflow 265°C max System: Mancorp CR.5000F (IPC/JEDEC J-STD-020E)	IPC/JEDEC	45 units per lot	Lot 1 0/45 Lot 2 0/45 Lot 3 0/45	Pass Pass Pass	
Precondition Prior Perform Reliability Tests (At MSL Level 1)	**Electrical Test:** +25°C, +150°C System: V93K/RASCO Bake 150°C, 24 hrs System: HERAEUS 85°C/85%RH Moisture Soak 168hrs. System: Climats Excal 5423-HE 3x Convection-Reflow 260°C max System: Mancorp CR.5000F **Electrical Test:** +25°C, +150°C System: V93K/RASCO All units before HAST, UHAST, TCT were submitted to this MSL1 preconditioning	JESD22-A113	231 units per lot	Lot 1 0/253 Lot 2 0/254 Lot 3 0/250	Pass Pass Pass	
Temperature Cycle	**Stress Condition:** (Standard) -55°C to +150°C, 1500 cycles System: Votsch VTS^{2}7012 **Electrical Test:** +150°C System: V93K/RASCO	JESD22-A104	77 units per lot	Lot 1 0/90 Lot 2 0/90 Lot 3 0/90	Pass Pass Pass	
	Bond Strength: 0.8 mils Wire Pull (>4.0g) Bond *Shear* (>10.0g) Stitch Pull (>3.0g) System: Dage		3 units for WP, 3 units for BS and SP per test	Lot 1 0/6 Lot 2 0/6 Lot 3 0/6	Pass Pass Pass	Per lot: 30 wires from the total samples size.

PACKAGE QUALIFICATION REPORT

Temperature Cycle	**Stress Condition:** (Standard) -55°C to +150°C, 3000 Cycles System: Votsch VTS[2]7012 **Electrical Test:** +150°C System: V93K/RASCO	JESD22-A104	70 units per lot	Lot 1 0/79 Lot 2 0/73 Lot 3 0/78	Pass Pass Pass	
	Bond Strength: 0.8 mils Wire Pull (>4.0g) Bond *Shear* (>10.0g) Stitch Pull (>3.0g) System: Dage		3 units for WP, 3 units for BS and SP per test	Lot 1 0/6 Lot 2 0/6 Lot 3 0/6	Pass Pass Pass	Per lot: 30 wires from the total samples size.
HAST	**Stress Condition:** (Standard) + 130°C, 85%RH, 96hrs. **VOLTS=5.0V** System: HIRAYAMA HASTEST PC-422R8 **Electrical Test:** +25°C, +150°C System: V93K/RASCO	JESD22-A110	77 units per lot	Lot 1 0/80 Lot 2 0/80 Lot 3 0/80	Pass Pass Pass	

PACKAGE QUALIFICATION REPORT

HAST	**Bond Strength:** 0.8 mils Wire Pull (>4.0g) Bond *Shear* (>10.0g) Stitch Pull (>3.0g) System: Dage		3 units for WP, 3 units for BS and SP per test	Lot 1 0/6 Lot 2 0/6 Lot 3 0/6	Pass Pass Pass	Per lot: 30 wires from the total samples size.
	Stress Condition: (Standard) + 130°C, 85%RH, 192hrs. **VOLTS=5.0V** System: HIRAYAMA HASTEST PC-422R8 **Electrical Test:** +25°C, +150°C System: V93K/RASCO	JESD22-A110	70 units per lot	Lot 1 0/70 Lot 2 0/70 Lot 3 0/70	Pass Pass Pass	
	Bond Strength: 0.8 mils Wire Pull (>4.0g) Bond *Shear* (>10.0g) Stitch Pull (>3.0g) System: Dage		3 units for WP, 3 units for BS and SP per test	Lot 1 0/6 Lot 2 0/6 Lot 3 0/6	Pass Pass Pass	Per lot: 30 wires from the total samples size.
UHAST	**Stress Condition:** (Standard) + 130°C, 85%RH, 96hrs. **NO BIAS** System: HIRAYAMA HASTEST PC-422R8 **Electrical Test:** +25°C System: V93K/RASCO	JESD22-A110	77 units per lot	Lot 1 0/83 Lot 2 0/84 Lot 3 0/80	Pass Pass Pass	

PACKAGE QUALIFICATION REPORT

HTSL	**Stress Condition:** Bake 175°C, 1000 hrs. System: HERAEUS **Electrical Test:** +25°C, +150°C System: V93k/RASCO	JESD22-A103	45 units per lot	Lot 1 0/60 Lot 2 0/60 Lot 3 0/60	Pass Pass Pass	
	Stress Condition: Bake 175°C, 2000 hrs. System: HERAEUS **Electrical Test:** +25°C, +150°C System: V93k/RASCO	JESD22-A103	44 units per lot	Lot 1 0/57 Lot 2 0/57 Lot 3 0/57	Pass Pass Pass	
Bond Strength: 0h data	0.8 mils Wire Pull (>4.0g) Bond Shear (>10.0g) Stitch Pull (>3.0g) System: Dage		5 units for WP, 5 units for BS and SP per test	Lot 1 0/5	Pass Pass Pass	5 units for wire pull 5 units for Bond Shear and Stitch Pull
Solderability	Condition: Aging: 155C Bake, 4h Pot temperature: Pb free / 245C Dipping time: 5+/- 0.5 sec	J-STDF-002D	22 units, 1 lot	Lot 1 0/22	Pass	>95% lead coverage
Physical Dimension		JESD22-B100 and B108		3 Lots	Pass	Generic data from assembly