



Product Change Notification - JAON-27BVIQ372

Date:

13 Mar 2018

Product Category:

8-bit PIC Microcontrollers; Capacitive Touch Sensors

Notification subject:

CCB 2966.001 Final Notice: Qualification of MTAI as a new assembly site for selected Atmel products available in 32L VQFN (5x5x0.9mm) package using gold (Au) bond wire.

Notification text:**PCN Status:**

Final notification

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open the attachments found in the attachments field below labeled as PCN_#_Affected_CPN.

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

Description of Change:

Qualification of MTAI as a new assembly site for selected Atmel products available in 32L VQFN (5x5x0.9mm) package using gold (Au) bond wire.

Pre Change:

Assembled at ANAC assembly site with punched singulation method using 8290 die attach material.

Post Change:

Assembled at MTAI Assembly site with sawn singulation method using 3280 die attach material.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Amkor Assembly & Test (Shanghai) Co., LTD (ANAC)	Microchip Technology Thailand – HQ (MTAI)
Wire material	Au	Au
Die attach material	8290	3280
Molding compound material	G700	G700
Lead frame material	C194	C194
Singulation method	Punched	Sawn

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve productivity by qualifying MTAI assembly site with sawn singulation method.

Change Implementation Status:

In Progress

Estimated First Ship Date:

April 12, 2018 (date code: 1815)

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



post change parts.

Time Table Summary:

	March 2018					April 2018			
Workweek	09	10	11	12	13	14	15	16	17
Qual Report Availability			X						
Final PCN Issue Date			X						
Estimated Implementation 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:

March 13, 2018: Issued final notification. This PCN is qualified by similarity (QBS) to PCN # [KSRA-14COLN193](#).

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

Attachment(s):

- [PCN_JAON-27BVIQ372_Qual Report.pdf](#)
- [PCN_JAON-27BVIQ372_Affected_CPN.pdf](#)
- [PCN_JAON-27BVIQ372_Affected_CPN.xlsx](#)

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

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MICROCHIP

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN # : JAON-27BVIQ372

Date
September 27, 2017

**Qualification of MTAI as a new assembly site for selected
Atmel products available in 32L VQFN (5x5x0.9mm) package
using gold (Au) bond wire.**



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose: Qualification of MTAI as a new assembly site for selected Atmel products available in 32L VQFN (5x5x0.9mm) package using gold (Au) bond wire.

CCB No. 2966 and 2966.001

Misc.	Assembly site	MTAI
	BD Number	BDM-001383 rev.A
	MP Code (MPC)	354T4QRXBA01
	Part Number (CPN)	AT90PWM81
Lead-Frame	Paddle size	150x100 mils
	Material	C194
	Surface	Bare Cu on paddle
	Treatment	BOT
	Process	Etched
	Lead-lock	Yes
	Part Number	10103202
	Lead Plating	Matte Tin
	LF Matrix (RowxColumn)	(11 row x 8 column x 5 panel) 440 pads/strip
	Strip test capable	Yes
Bond Wire	Material	Au
Die Attach	Part Number	3280
	Conductive	Yes
MC	Part Number	G700LTD
PKG	PKG Type	VQFN
	Pin/Ball Count	32
	PKG width/size	5x5 mm
Die	Die Thickness	11 mils
	Die Size	98.4x105.7 mils



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI181003743.000	MCSO518070208.110	1722UPQ
MTAI181003744.000	MCSO518070208.120	1722UPR
MTAI181003745.000	MCSO518070208.100	1722UPS

Result Pass Fail _____

32L VQFN 5x5 assembled by MTAI using Au wire pass reliability test per QCI-39000 which was conducted at MPHL rel lab. This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard.

Note: Saw Isolation and singulation were performed at MPHIL.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	Electrical Test :+110°C, -40°C System: MT9510 Handler 2580 0hr CSAM Bake 150°C, 24 hrs System: HERAEUS 85°C/85%RH Moisture Soak 168 hrs. System: Climats Excal 5423-HE 3x Convection-Reflow 265°C max System: Mancorp CR.5000F	JESD22-A113	900(0)	900	Passed	Good Devices
				135		
				900		
			IPC/JEDEC J-STD-020D	900	Passed	
				900		
	Electrical Test :+110°C, -40°C System: MT9510 Handler 2580			0/900	Passed	
Temp Cycle	Stress Condition: (Standard) 65°C to +150°C, 500 Cycles System : VOTSCH VT 7012 S2	JESD22-A104		249		Parts had been pre-conditioned at 260°C
	Electrical Test: +110°C, -40°C System: MT9510 Handler:2580		249(0)	0/249	Passed	
	Bond Strength: Wire Pull (> 2.50 grams) Bond Shear (>15.00 grams)		18(0)	0/18	Passed	
UNBIASED-HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8	JESD22-A118		240		Parts had been pre-conditioned at 260°C
	Electrical Test: +110°C, -40°C System: MT9510 Handler:2580		240	0/240	Pass	
HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HIRAYAMA HASTEST PC-422R8	JESD22-A110		246		Parts had been pre-conditioned at 260°C
	Electrical Test: +110°C, -40°C System: MT9510 Handler:2580		246	0/246	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: HERAEUS Electrical Test : +110°C, -40°C System: MT9510 Handler:2580	JESD22-A103	50(0)	50 0/50	Pass	50 units
Solderability Temp 245°C	Bake: Temp 155°C,4Hrs System: Oven Solder Bath: Temp.245°C Solder material: SAC305 Visual Inspection: External Visual Inspection	JESD22B-102E	15 (0)	0/15	Pass	Performed at MPHIL
Physical Dimensions	Physical Dimension, 30 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	Physical Dimension Performed at MPHIL
Bond Strength Data Assembly	Wire Pull (> 2.50 grams)	M2011.8 MIL-STD-883	30 (0) Wires		Pass	
Bond Strength Data Assembly	Bond Shear (>15.00 grams)	M2011.8 MIL-STD-883	30 (0) bonds		Pass	

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Affected Catalog Part Numbers (CPN)

PCN_JAON-27BVIQ372
CATALOG_PART_NBR
ATMEGA8L-8MUA4
ATMEGA8L-8MURA3
ATMEGA48V-10MURA3
ATMEGA48V-10MURA3
ATMEGA88V-10MURA1
ATMEGA48V-10MURA3
ATMEGA88V-10MURA1
QT60240-ISG
QT60160-ISG
ATMEGA88PA-MN
ATMEGA168PA-MN
ATMEGA168PA-MN
ATTINY28V-1MU
ATTINY28L-4MU
ATMEGA48A-MU
ATMEGA48A-MU
ATMEGA8L-8MURA5
ATMEGA168PA-MUA1
ATMEGA168PA-MUA1
ATTINY261A-MFR
ATMEGA48PA-MURA5
ATMEGA168PA-MURA1
ATMEGA168PA-MURA1
ATMEGA48A-MUR
ATTINY828-MUR
ATMEGA88PA-MNR
ATTINY261A-MF
ATTINY828-MU
ATMEGA48PA-MNR
ATMEGA48P-20MUR
ATMEGA88-20MUR
AT42QT1245-MUR
AT42QT1244-MUR
AT42QT1245-MU
ATMEGA168PA-MNR
ATTINY461-20MUR486
ATMEGA88PA-MURA6
ATTINY26-16MQR
ATTINY26-16MQRA3
ATMEGA48V-10MUR
ATMEGA48PA-MURA5