Product Change Notification - RMES-10NGWL694

Date: 06 Oct 2017

Product Category: 8-bit PIC Microcontrollers; Capacitive Touch Sensors

Notification subject: CCB 2913 Final Notice: Qualification of MTAI as an additional assembly site for selected Atmel products available in 32L TQFP (7x7x1 mm) package using CuPdAu bond wire.

Notification text:

PCN Status:

Final notification.

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 an additional assembly site for selected Atmel products available in 32L TQFP (7x7x1 mm) package using palladium coated copper with gold flash (CuPdAu) bond wire.

Pre Change:
Assembled at LPI, ANAK (ATK) or ANAP (ATP) using gold (Au) or palladium coated copper (PdCu) bond wire.

Post Change:
Assembled at LPI, ANAK (ATK), ANAP (ATP) using gold (Au) or palladium coated copper (PdCu) bond wire
or Assembled at MTAI using palladium coated copper with gold flash (CuPdAu) bond wire.

Pre and Post Change Summary:

	Pre Change			Post Change			
Assembly Site	LPI	ANAK	ANAP	LPI	ANAK	ANAP	MTAI
Lead frame material	C7025	CDA194	CDA194	C7025	CDA194	CDA194	C7025
Wire material	Au or PdCu	Au or PdCu	Au or PdCu	Au or PdCu	Au or PdCu	Au or PdCu	CuPdAu
Die attach material	CRM1033BF	3230	3230	CRM1033BF	3230	3230	3280
Mold compound material	G700			G700			G700

Impacts to Data Sheet:
None

Change Impact:
None

Reason for Change:
To improve productivity by qualifying MTAI as an additional assembly site.

Change Implementation Status:
In Progress

Estimated First Ship Date:
November 06, 2017 (1745)

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:

	May 2017					->	October 2017				November 2017				
Workweek	18	19	20	21	22		40	41	42	43	44	45	46	47	48
Initial PCN Issue Date	X														
Qual Report Availability							X								
Final PCN Issue Date							X								
Estimated Implementation 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:
May 3, 2017: Issued initial notification.
May 8, 2017: Re-issued the initial notification to notify all affected customers.
October 06, 2017: Issued final notification. Attached the Qualification Report. Updated the affected parts list.Provided estimated first ship date on November 06, 2017.

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_RMES-10NGWL694_Affected_CPN.pdf
PCN_RMES-10NGWL694_Qual Report.pdf
PCN_RMES-10NGWL694_Affected_CPN.xlsx

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

Terms and Conditions:

If you wish to change your product/process change notification (PCN) profile please log on to our website at http://www.microchip.com/PCN sign into myMICROCHIP to open the myMICROCHIP home page, then select a profile option from the left navigation bar.

To opt out of future offer or information emails (other than product change notification emails), click here to go to microchipDIRECT and login, then click on the "My account" link, click on "Update profile" and un-check the box that states "Future offers or information about Microchip's products or services."

RMES-10NGWL694 - CCB 2913 Final Notice: Qualification of MTAI as an additional assembly site for selected Atmel products available in 32L TQFP (7x7x1 mm) package using (CuPdAu) bond wire.

Affected Catalog Part Number (CPN)

PCN_RMES-10NGWL694
CATALOG_PART_NBR
AT42QT1110-AUR
AT42QT1244-AU
AT42QT1244-AUR
AT42QT1245-AU
AT42QT1245-AUR
AT89LP428-20AU
AT89LP828-20AU
AT90USB162-16AU
AT90USB162-16AUR
ATMEGA168-20AU
ATMEGA168-20AUR
ATMEGA168-20AURA0
ATMEGA168A-AU
ATMEGA168A-AUR
ATMEGA168P-20AN
ATMEGA168P-20ANR
ATMEGA168P-20AU
ATMEGA168P-20AUR
ATMEGA168PA-AN
ATMEGA168PA-ANR
ATMEGA168PA-AU
ATMEGA168PA-AUA1
ATMEGA168PA-AUR
ATMEGA168PV-10AN
ATMEGA168PV-10AU
ATMEGA168PV-10AUR
ATMEGA168V-10AU
ATMEGA168V-10AUR
ATMEGA16M1-AU
ATMEGA16U2-AU
ATMEGA16U2-AUR
ATMEGA328-AU
ATMEGA328-AUR
ATMEGA328P-AN
ATMEGA328P-ANR
ATMEGA328P-AU
ATMEGA328P-AUR
ATMEGA328P-AURA0
ATMEGA32M1-AU
ATMEGA32M1-AUR
ATMEGA32U2-AU
ATMEGA32U2-AUR

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Affected Catalog Part Number (CPN)

PCN_RMES-10NGWL694
CATALOG_PART_NBR
ATMEGA48-20AU
ATMEGA48-20AUR
ATMEGA48A-AU
ATMEGA48A-AUR
ATMEGA48P-20AU
ATMEGA48P-20AUR
ATMEGA48PA-AN
ATMEGA48PA-ANR
ATMEGA48PA-AU
ATMEGA48PA-AUA8
ATMEGA48PA-AUR
ATMEGA48PA-AURA9
ATMEGA48PA-AURB0
ATMEGA48PV-10AU
ATMEGA48PV-10AUR
ATMEGA48V-10AU
ATMEGA48V-10AUB1
ATMEGA48V-10AUR
ATMEGA48V-10AURA4
ATMEGA48V-10AURA6
ATMEGA64M1-AU
ATMEGA8-16AU
ATMEGA8-16AUA4
ATMEGA8-16AUR
ATMEGA8-16AUR133
ATMEGA8-16AUR478
ATMEGA8-16AURA0
ATMEGA8-16AURA3
ATMEGA88-20AU
ATMEGA88-20AU591
ATMEGA88-20AUR
ATMEGA88-20AUR453
ATMEGA88-20AUR618
ATMEGA88-20AURA7
ATMEGA88A-AU
ATMEGA88A-AUR
ATMEGA88P-20AU
ATMEGA88P-20AUR
ATMEGA88PA-AN
ATMEGA88PA-ANR
ATMEGA88PA-AU
ATMEGA88PA-AUA5

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Affected Catalog Part Number (CPN)

PCN_RMES-10NGWL694
CATALOG_PART_NBR
ATMEGA88PA-AUA6
ATMEGA88PA-AUR
ATMEGA88PA-AURA3
ATMEGA88PA-AURA4
ATMEGA88PV-10AU
ATMEGA88PV-10AUR
ATMEGA88V-10AU
ATMEGA88V-10AUR
ATMEGA88V-10AURA0
ATMEGA8A-AN
ATMEGA8A-ANR
ATMEGA8A-AU
ATMEGA8A-AU744
ATMEGA8A-AUR
ATMEGA8L-8AU
ATMEGA8L-8AUA1
ATMEGA8L-8AUA4
ATMEGA8L-8AUR
ATMEGA8L-8AUR056
ATMEGA8L-8AURA2
ATMEGA8L-8AURA3
ATMEGA8L-8AURA5
ATMEGA8L-8AURA6
ATMEGA8U2-AU
ATMEGA8U2-AUR
ATMEGAS64M1-MA-HP
ATTINY48-AU
ATTINY48-AU907
ATTINY48-AUR
ATTINY828-AU
ATTINY828-AUR
ATTINY828R-AU
ATTINY828R-AUR
ATTINY88-AU
ATTINY88-AUR
ATXMEGA16E5-AN
ATXMEGA16E5-ANR
ATXMEGA16E5-AU
ATXMEGA16E5-AUR
ATXMEGA32E5-AN
ATXMEGA32E5-ANR
ATXMEGA32E5-AU

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Affected Catalog Part Number (CPN)

PCN_RMES-10NGWL694
CATALOG_PART_NBR
ATXMEGA32E5-AUR
ATXMEGA8E5-AN
ATXMEGA8E5-ANR
ATXMEGA8E5-AU
ATXMEGA8E5-AUR
QT60168-ASG
QT60168C-ASG

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN#: RMES-10NGWL694

Date

September 15, 2017

Qualification of MTAI as an additional assembly site for selected Atmel products available in 32L TQFP (7x7x1 mm) package using palladium coated copper with gold flash (CuPdAu) bond wire.

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PACKAGE QUALIFICATION REPORT

Purpose : Qualification of MTAI as an additional assembly site for selected Atmel products available in 32L TQFP (7x7x1 mm) package using palladium coated copper with gold flash (CuPdAu) bond wire.

CCB No.: 2913

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Misc.	**Assembly site**	MTAI	MTAI
	BD Number	BDM-001310 rev A	BDM-0013110 rev A
	MP Code (MPC)	35473 x 1 lot	35469 x 2 lots
	Part Number (CPN)	ATMEGA328	ATMEGA8
Lead-Frame	**Paddle size**	160x160 mils	160x160 mils
	Material	C7025	C7025
	Surface	Bare Cu on paddle	Bare Cu on paddle
	Treatment	BOT	BOT
	Process	Etched	Etched
	Lead-lock	No	No
	Part Number	10103201	10103201
	Lead Plating	Matte Tin	Matte Tin
	LF Matrix (RowxColumn)	14x5; 70 pad/strip	14x5; 70 pad/strip
	Strip test capable	Yes	Yes
Bond Wire	**Material**	CuPdAu	CuPdAu
Die Attach	**Part Number**	3280	3280
	Conductive	Yes	Yes
MC	**Part Number**	G700HA	G700HA
PKG	**PKG Type**	TQFP	TQFP
	Pin/Ball Count	32	32
	PKG width/size	7x7 mm	7x7 mm
Die	**Die Thickness**	11 mils	11 mils
	Die Size	119.0x117.0 mils	95.0x98.0 mils

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI181103389.000	MCSO518090270.000	17232JQ
MTAI181103056.000	MCSO518090271.100	1723200
MTAI181103388.000	MCSO518090271.100	17232JP

Result [X] Pass [ ] Fail [ ] ____________________

32L TQFP 7x7x1mm package using ASM etched Leadframe at MTAI 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.

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 :**+85°C System: MT9320 Handler:020 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 **Electrical Test :**+85°C System: MT9320 Handler:0202	JESD22-A113 IPC/JEDEC J-STD-020D	900(0)	900 900 900 900 99	Pass	Good Devices
Temp Cycle	**Stress Condition:** (Standard) 65°C to +150°C, 500 Cycles System : VOTSCH VT 7012 S2 **Electrical Test:** + 85°C System: MT9320 Handler:0202 **Bond Strength:** Wire Pull (> 2.50 grams) Bond Shear (>15.00 grams)	JESD22-A104	249(0) 15(0)	249 0/249 0/15	Pass Pass	Parts had been pre-conditioned at 260°C
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8 **Electrical Test:** +85°C System: MT9320 Handler: 0202	JESD22-A118	240	240 0/240	Pass	Parts had been pre-conditioned at 260°C
HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. **Bias Volt:** 5.5 Volts System: HIRAYAMA HASTEST PC-422R8 **Electrical Test:**+85°C System: MT9320 Handler:0202	JESD22-A110	252(0)	252 0/252	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
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: HERAEUS **Electrical Test :**+85°C System: MT9320 Handler:0202	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	
Physical Dimensions	Physical Dimension, 30 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30		
Bond Strength Data Assembly	Wire Pull (> 2.50 grams) Bond Shear (>15.00 grams)	M2011.8 MIL-STD-883	30 (0) Wires 30 (0) bonds	**0/30**	Pass Pass	