

Product Change Notification - RMES-10NGWL694 (Printer Friendly)

Date: 03 May 2017

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

Notification subject: CCB 2913 Initial 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:**
Initial 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 Qualification Completion Date:

August 2017

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:

Workweek	May 2017					->	August 2017				
	18	19	20	21	22		31	32	33	34	35
Initial PCN Issue Date	X										
Qual Report Availability									X		
Final PCN Issue 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.

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_Plan.pdf](#)
[PCN_RMES-10NGWL694_Affected_CPN.xlsx](#)

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

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Affected Catalog Part Number (CPN)

PCN_RMES-10NGWL694
CATALOG_PART_NBR
AT42QT1085-AU
AT42QT1085-AUR
AT42QT1110-AUR
AT42QT1111-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

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Affected Catalog Part Number (CPN)

PCN_RMES-10NGWL694
CATALOG_PART_NBR
ATMEGA32M1-AUR
ATMEGA32U2-AU
ATMEGA32U2-AUR
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
ATMEGA88A-AU
ATMEGA88A-AUR
ATMEGA88P-20AU
ATMEGA88P-20AUR
ATMEGA88PA-15AZ
ATMEGA88PA-AN

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Affected Catalog Part Number (CPN)

PCN_RMES-10NGWL694
CATALOG_PART_NBR
ATMEGA88PA-ANR
ATMEGA88PA-AU
ATMEGA88PA-AUA5
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
ATTINY28L-4AU
ATTINY28L-4AUR
ATTINY28V-1AU
ATTINY28V-1AUR
ATTINY48-AU
ATTINY48-AU907
ATTINY48-AUR
ATTINY828-AU
ATTINY828-AUR
ATTINY828R-AU
ATTINY828R-AUR
ATTINY88-AU
ATTINY88-AUR
ATXMEGA16E5-AN

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Affected Catalog Part Number (CPN)

PCN_RMES-10NGWL694
CATALOG_PART_NBR
ATXMEGA16E5-ANR
ATXMEGA16E5-AU
ATXMEGA16E5-AUR
ATXMEGA32E5-AN
ATXMEGA32E5-ANR
ATXMEGA32E5-AU
ATXMEGA32E5-AUR
ATXMEGA8E5-AN
ATXMEGA8E5-ANR
ATXMEGA8E5-AU
ATXMEGA8E5-AUR
QT16C01-ASG
QT60168-ASG
QT60168C-ASG
QT60248-ASG
QT8C04-ASG



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QUALIFICATION PLAN SUMMARY

PCN #: RMES-10NGWL694

**Date:
April 10, 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.

Microchip Technology (Thailand) Co., Ltd.
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Fax (6638) 857149-50

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 #: _____ 2913

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	TBD	TBD
	Lead Plating	Matte Tin	Matte Tin
	LF Matrix (Row x Column)	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
MSL Classification		L1/260C	L1/260C

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	REL test location	Special Instructions
Standard Pb-free Solderability	J-STD-002 ; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.	22	5	1	27	> 95% lead coverage	5	MPHIL	Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability- SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
Backward Solderability	J-STD-002 ;Perform 8 hours steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Backward: Matte tin/ NiPdAu finish, SnPb solder, wetting temp 215°C for SMD.	22	5	1	27	> 95% lead coverage	5	MPHIL	
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	3	24	0 fails after TC	5	MPHIL	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	3	24	0	5	MPHIL	30 bonds from a minimum of 5 devices.
Wire Sweep		5	0	3	15	0		MPHIL	Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0		MPHIL	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0		MPHIL	
HTSL (High Temp Storage Life)	+175 C for 504 hours. Electrical test pre and post stress at +25°C and hot temp.	45	5	1	50	0	25	MPHIL	Must be in progress at time of package release to production, but completion is not required for release to production.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	REL test location	Special Instructions
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020D for package type; Electrical test pre and post stress at +25°C and hot temp. MSL1 @ 260 °C	231	15	3	738	0	15	MPHIL	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and hot temp.	77	5	3	246	0	10	MPHIL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Unbiased HAST	+130°C/85% RH for 96 hrs. Electrical test pre and post stress at +25°C.	77	5	3	246	0	10	MPHIL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-65°C to +150°C for 500 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	10	MPHIL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.