Product Change Notification - GBNG-14WQIZ459

Date:

20 Aug 2018

Product Category:

Capacitive Touch Sensors; 8-bit Microcontrollers

Affected CPNs:

Notification subject:

CCB 3370.001 Initial Notice: Qualification of MMT as a new assembly site in selected Atmel products of 19.6K, 35.4K and 35.5K wafer technologies available in 32L VQFN package using palladium coated copper wire with gold flash (CuPdAu) bond wire.

Notification text:

PCN Status:

Initial 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 MMT as a new assembly site in selected Atmel products of 19.6K, 35.4K and 35.5K wafer technologies available in 32L VQFN package using palladium coated copper wire with gold flash (CuPdAu) bond wire.

Pre Change:

Assembled at ANAC assembly site with punched as a singulation method, using palladium coated copper wire (PdCu) bond wire.

Post Change:

Assembled at MMT assembly site with sawn as a singulation method, using palladium coated copper wire with gold flash (CuPdAu) bond wire

Pre and Post Change Summary:

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

Impacts to Data Sheet:

Yes

Change Impact:

None

Reason for Change:

To improve on-time delivery performance by qualifying MMT as a new assembly site.

Change Implementation Status:

In Progress

Estimated Qualification Completion Date:
August 2018
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:

	August 2018				
Workweek	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:
August 20, 2018: 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_GBNG-14WQIZ459_Qual Pan.pdf

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

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QUALIFICATION PLAN SUMMARY

PCN #: GBNG-14WQIZ459

Date:
April 19, 2018

Qualification of MMT as a new assembly site in selected Atmel products of 19.6K, 35.4K and 35.5K wafer technologies available in 32L VQFN package using palladium coated copper wire with gold flash (CuPdAu) bond wire.

Purpose: **Qualification of MMT as a new assembly site in selected Atmel products of 19.6K, 35.4K and 35.5K wafer technologies available in 32L VQFN package using palladium coated copper wire with gold flash (CuPdAu) bond wire.**

CCB No.: **3370**

		Qualification Report
Misc.	**Assembly site**	MMT
	BD Number	BDM-001739 rev. A
	MP Code (MPC)	35473QRXBQUL
	Part Number (CPN)	ATMEGA328P-MNR
Lead-Frame	**Paddle size**	150x150 mils
	Material	C194
	Surface	Bare Cu on paddle
	Treatment	BOT
	Process	Etched
	Lead-lock	Yes
	Part Number	10103202
	Lead Plating	Matte Tin
Bond Wire	**Material**	Au
Die Attach	**Part Number**	3280
MC	**Part Number**	G700LTD
PKG	**PKG Type**	VQFN
	Pin/Ball Count	32
	PKG width/size	5x5x0.9mm
Die	**Die Thickness**	11 mils
	Die Size	134.3 x 124.5 mils
	Fab Process (site)	35.4K/MCSO

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	Test Site	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	MPHL	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	MPHL	
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	3	15	0 fails after TC	5	MMT/MPHL	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	3	15	0	5	MMT/MPHL	30 bonds from a minimum of 5 devices.
Wire Sweep		5	0	3	15	0		MMT	Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	MMT	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	MMT/MPHL	

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	Test Site	Special Instructions
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	MPHL	
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. MSL1 @ 260°C	231	15	3	738	0	15	MPHL	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	MPHL	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	MPHL	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	15	MPHL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

Affected Catalog Part Numbers (CPN)

AT42QT1110-MUR
AT42QT11C12-MUR
AT42QT1244-MU
AT42QT1244-MUR
AT42QT1245-MU
AT42QT1245-MUR
AT42QT2100-MUR
AT42QT4160-MUR
ATMEGA168-20MQ
ATMEGA168-20MQR
ATMEGA168-20MU
ATMEGA168-20MUR
ATMEGA168A-MU
ATMEGA168A-MUR
ATMEGA168P-20MQ
ATMEGA168P-20MQR
ATMEGA168P-20MU
ATMEGA168P-20MUR
ATMEGA168PA-MN
ATMEGA168PA-MNR
ATMEGA168PA-MU
ATMEGA168PA-MUA1
ATMEGA168PA-MUR
ATMEGA168PA-MUR431
ATMEGA168PA-MURA1
ATMEGA168PV-10MU
ATMEGA168PV-10MUR
ATMEGA168PV-10MUR455
ATMEGA168V-10MQ
ATMEGA168V-10MQR
ATMEGA168V-10MQR610
ATMEGA168V-10MU
ATMEGA168V-10MUR
ATMEGA168V-10MUR598
ATMEGA328-MU
ATMEGA328-MUR
ATMEGA328P-MN
ATMEGA328P-MNR
ATMEGA328P-MU
ATMEGA328P-MUR
ATMEGA48-20MU
ATMEGA48-20MUR
ATMEGA48A-MU
ATMEGA48A-MUR
ATMEGA48P-20MU
ATMEGA48P-20MUR

ATMEGA48PA-MN

ATMEGA48PA-MNR

ATMEGA48PA-MU

ATMEGA48PA-MUR

ATMEGA48PA-MURA5

ATMEGA48PV-10MU

ATMEGA48PV-10MUR

ATMEGA48V-10MU

ATMEGA48V-10MUR

ATMEGA48V-10MUR173

ATMEGA48V-10MUR348

ATMEGA48V-10MURA3

ATMEGA8-16MU

ATMEGA8-16MUR

ATMEGA88-20MU

ATMEGA88-20MUR

ATMEGA88-20MURA4

ATMEGA88A-MU

ATMEGA88A-MUR

ATMEGA88P-20MU

ATMEGA88P-20MUR

ATMEGA88PA-MN

ATMEGA88PA-MNR

ATMEGA88PA-MU

ATMEGA88PA-MUR

ATMEGA88PA-MURA06

ATMEGA88PA-MURA6

ATMEGA88PV-10MU

ATMEGA88PV-10MUR

ATMEGA88V-10MU

ATMEGA88V-10MUR

ATMEGA88V-10MUR360

ATMEGA88V-10MUR378

ATMEGA88V-10MUR379

ATMEGA88V-10MURA1

ATMEGA8A-MN

ATMEGA8A-MNR

ATMEGA8A-MU

ATMEGA8A-MUR

ATMEGA8A-MURA7

ATMEGA8L-8MU

ATMEGA8L-8MUA4

ATMEGA8L-8MUR

ATMEGA8L-8MURA3

ATMEGA8L-8MURA5

ATTINY26-16MQR

ATTINY26-16MU

ATTINY26-16MUR

ATTINY261A-MF

ATTINY261A-MFR

ATTINY261A-MFRA0

ATTINY261A-MN

ATTINY261A-MNR

ATTINY261A-MU

ATTINY261A-MUR

ATTINY26L-8MU

ATTINY26L-8MUR

ATTINY28L-4MU

ATTINY28L-4MUR

ATTINY28V-1MU

ATTINY28V-1MUR

ATTINY461-20MU

ATTINY461-20MUR

ATTINY461-20MUR437

ATTINY461-20MUR553

ATTINY461A-MU

ATTINY461A-MUR

ATTINY461V-10MU

ATTINY461V-10MUR

ATTINY48-MU

ATTINY48-MUR

ATTINY48-MUR522

ATTINY48-MUR547

ATTINY861-20MU

ATTINY861-20MUR

ATTINY861-20MUR430

ATTINY861A-MU

ATTINY861A-MUR

ATTINY861V-10MU

ATTINY861V-10MUR

ATTINY88-MU

ATTINY88-MUR

ATTINY88-MURA1

QT60160-ISG

QT60240-ISG