

Product Change Notification - GBNG-30UKAP366

Date:

16 Sep 2019

Product Category:

32-bit Microcontrollers

Affected CPNs:

Notification subject:

CCB 3802 Initial Notice: Qualification of MTAI as an additional assembly site for selected Atmel products of the 58.85K wafer technology available in 48L TQFP (7x7x1 mm) package.

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 MTAI as an additional assembly site for selected Atmel products of the 58.85K wafer technology available in 48L TQFP (7x7x1 mm) package.

Pre Change:

Assembled at ANAP assembly site using 3230 die attach and C194 lead-frame material.

Post Change:

Assembled at ANAP assembly site using 3230 die attach and C194 lead-frame material or assembled at MTAI assembly site using 3280 die attach and C7025 lead frame material.

Pre and Post Change Summary:

	Pre Change		Post Change	
Assembly Site	Amkor Technology Philippine (ANAP)	Amkor Technology Philippine (ANAP)	Microchip Technology Thailand (HQ) (MTAI)	
Wire material	Au	Au	Au	
Die attach material	3230	3230	3280	
Molding compound material	G700	G700	G700	
Lead frame material	C194	C194	C7025	

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 Qualification Completion Date:

September 2019



Time Table Summary:

	September 2019				
Workweek	36	37	38	39	40
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:

September 16, 2019: 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-30UKAP366_Qual_Plan.pdf](#)

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

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Affected Catalog Part Numbers (CPN)

AT32UC3B1128-AUR
AT32UC3B1128-AUT
AT32UC3B1256-AUR
AT32UC3B1256-AUT
AT32UC3B164-AUR
AT32UC3B164-AUT
AT32UC3L0128-AUR
AT32UC3L0128-AUT
AT32UC3L0256-AUR
AT32UC3L0256-AUT
ATUC128D4-AUT
ATUC128L4U-AUR
ATUC128L4U-AUT
ATUC256L4U-AUR
ATUC256L4U-AUT
ATUC64D4-AUR
ATUC64D4-AUT
ATUC64L4U-AUR
ATUC64L4U-AUT



QUALIFICATION PLAN SUMMARY

PCN #: GBNG-30UKAP366

**Date:
May 15, 2019**

Qualification of MTAI as an additional assembly site for selected Atmel products of the 58.85K wafer technology available in 48L TQFP (7x7x1 mm) package.

Purpose: Qualification of MTAI as an additional assembly site for selected Atmel products of the 58.85K wafer technology available in 48L TQFP (7x7x1 mm) package.

<u>Misc.</u>	Assembly site	MTAI
	BD Number	BDM-002121 rev.A
	MP Code (MPC)	58U397Y8XC07
	Part Number (CPN)	AT32UC3B1128-AUT
	CCB No	3802
<u>Lead-Frame</u>	Paddle size	200 x 200 mils
	Material	C194
	DAP Surface Prep	Bare Copper
	Treatment	Yes
	Process	Stamped
	Lead-lock	No
	Part Number	TBD
	Lead Plating	Matte Tin
	Strip Size	70 x 218 mm
	Strip Density	70 units/strip
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	3280
	Conductive	Yes
<u>MC</u>	Part Number	G700HA
<u>PKG</u>	PKG Type	TQFP
	Pin/Ball Count	48
	PKG width/size	7x7x1.0 mm
<u>Die</u>	Die Thickness	11 mils
	Die Size	169.0 x 179.0
	Fab Process (site)	58.85K

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	Special Instructions
Standard Pb-free Solderability	JESD22B-102E; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing.	22	5	1	27	> 95% lead coverage	5	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	JESD22B-102E; 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	
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	3	24	0 fails after TC	5	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	3	24	0	5	30 bonds from a minimum of 5 devices.
Wire Sweep		5	0	3	15	0		Required for any reduction in wire bond thickness.
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	
HTSL (High Temp Storage Life)	+175 C for 504 hours. Electrical test pre and post stress at +25°C and hot temp.85°C,	45	5	1	50	0	10	Must be in progress at time of package release to production, but completion is not required for release to production.
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)	231	15	3	738	0	15	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.

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	Special Instructions
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	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	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	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.