



Product Change Notification / GBNG-01CETU513

Date:

18-Dec-2020

Product Category:

8-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4427 Initial Notice: Qualification of NSEB as a new assembly site for selected Atmel ATXMEGA device family available in 64L (9x9x1mm) VQFN package.

Affected CPNs:

[GBNG-01CETU513_Affected_CPN_12182020.pdf](#)
[GBNG-01CETU513_Affected_CPN_12182020.csv](#)

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 NSEB as a new assembly site for selected Atmel ATXMEGA device family available in 64L (9x9x1mm) VQFN package.

Pre Change:

Assembled at ASKR assembly site using palladium coated copper (PdCu) or gold (Au) bond wire, EN-4900GC die attach, PPF lead plating and lead frame without lead lock.

Post Change:

Assembled at NSEB assembly site using palladium coated copper with gold flash (CuPdAu) bond wire, 8600 die attach, Matte Sn lead plating and lead frame with lead lock.

Pre and Post Change Summary:

		Pre Change		Post Change
Assembly Site		ASE Korea Inc. (ASKR)		UTAC Thai Limited (NSEB)
Wire material		PdCu	Au	CuPdAu
Die attach material		EN-4900GC		8600
Molding compound material		G700		G700
Lead frame	Material	C194		C194
	Design	Please see attached pre and post change comparison		
Lead Plating Finish		PPF		Matte Sn
Lead-lock		No		Yes

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

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

Change Implementation Status:

In Progress

Estimated Qualification Completion Date: August 2021

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:

	December 2020					→	August 2021				
	49	50	51	52	53		32	33	34	35	36
Workweek											
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:

December 18, 2020: 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.

Attachments:

PCN_GBNG-01CETU513_Pre_and_Post_Change Summary.pdf

PCN_GBNG-01CETU513 Qual Plan.pdf

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

Terms and Conditions:

If you wish to receive Microchip PCNs via email please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

If you wish to change your PCN profile, including opt out, please go to the [PCN home page](#) select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

Affected Catalog Part Numbers (CPN)

ATXMEGA192A3-MH
ATXMEGA64D3-MHA1
ATXMEGA256D3-MH
ATXMEGA256A3-MH
ATXMEGA128A3-MH
ATXMEGA64A3-MH
ATXMEGA64D3-MHA3
ATXMEGA256A3B-MH
ATXMEGA256A3B-MHR
ATXMEGA192A3-MHR
ATXMEGA256D3-MHR
ATXMEGA256A3-MHR
ATXMEGA128A3-MHR
ATXMEGA64A3-MHR
ATXMEGA256A3BU-MHA0
ATXMEGA128A3U-MHA1
ATXMEGA256A3BU-MH
ATXMEGA256A3U-MH
ATXMEGA192A3U-MH
ATXMEGA192D3-MHA0
ATXMEGA128D3-MHA0
ATXMEGA128A3U-MH
ATXMEGA256A3BU-MHR
ATXMEGA256A3U-MHR
ATXMEGA192A3U-MHR
ATXMEGA192D3-MHRA0
ATXMEGA128D3-MHRA0
ATXMEGA128A3U-MHR
ATXMEGA256A3BU-MHRA2
ATXMEGA64A3U-MH
ATXMEGA64A3U-MHR

PRE AND POST CHANGE SUMMARY

CCB 4427

PCN #: GBNG-01CETU513



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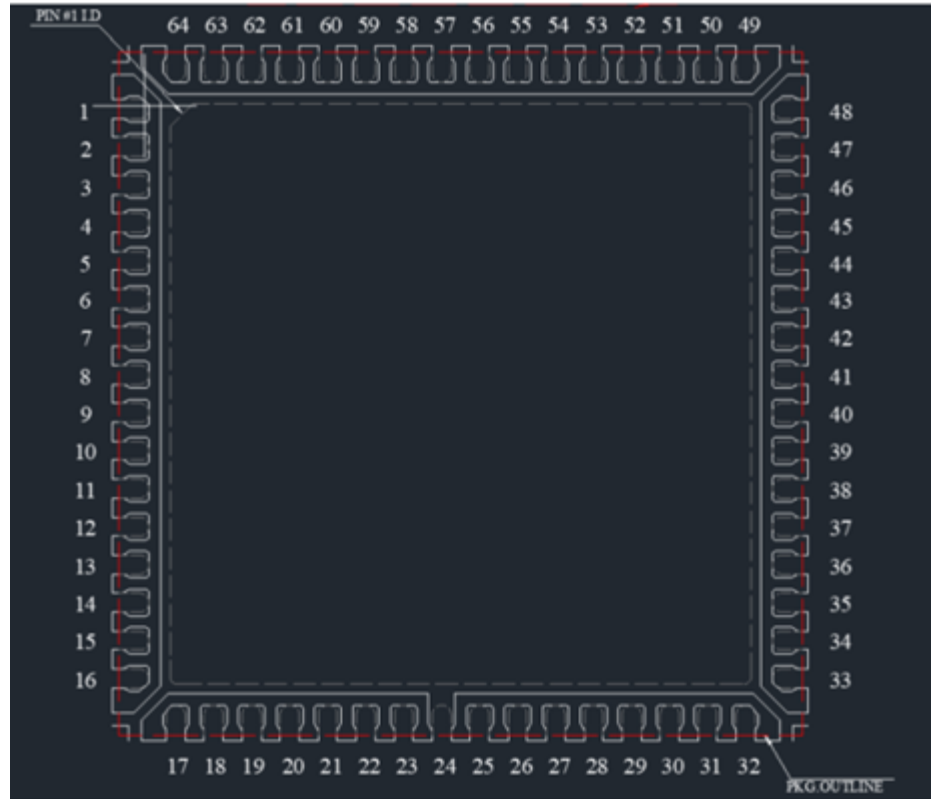


SMART | CONNECTED | SECURE

**Qualification of NSEB as a new assembly site for selected Atmel
ATXMEGA device family available in 64L (9x9x1mm) VQFN
package.**

Lead Frame Comparison

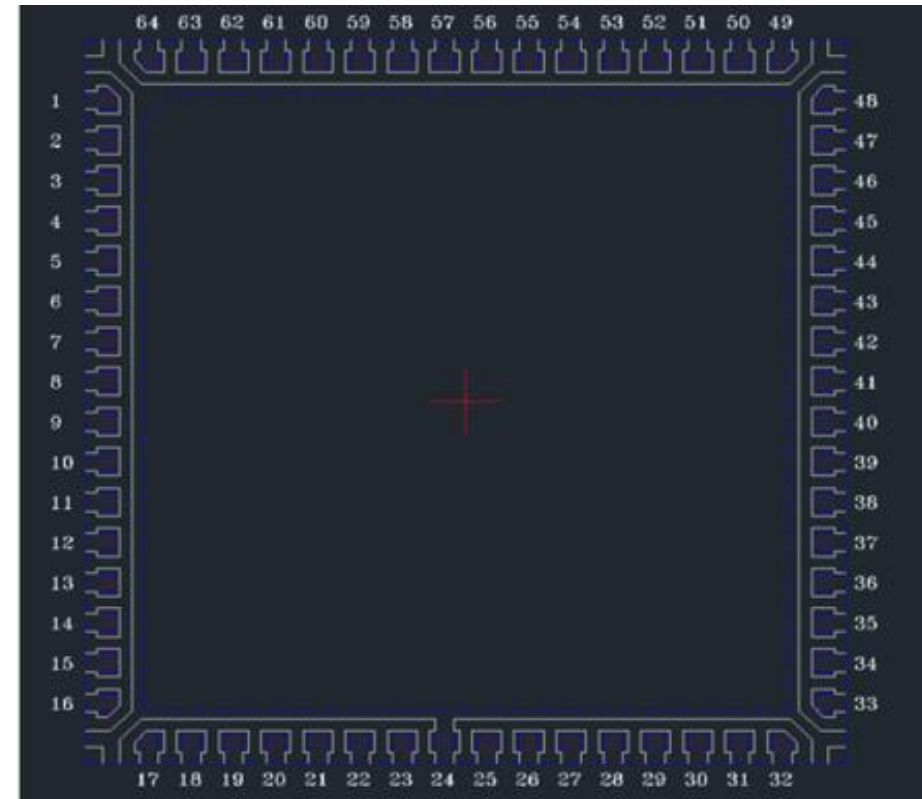
Pre Change



Lead-lock

No

Post Change



Lead-lock

Yes



QUALIFICATION PLAN SUMMARY

PCN #: GBNG-01CETU513

**Date:
Nov. 22, 2020**

**Qualification of NSEB as a new assembly site for selected
Atmel ATXMEGA device family available in 64L (9x9x1mm)
VQFN package.**

Purpose: Qualification of NSEB as a new assembly site for selected Atmel ATXMEGA device family available in 64L (9x9x1mm) VQFN package.

<u>Misc.</u>	Assembly site	UTAC
	MP Code (MPC)	359697TDBC13
	Part Number (CPN)	ATXMEGA128A3U-MH
	MSL information	1
	Assembly Shipping Media (T/R, Tube/Tray)	Tray
	Base Quantity Multiple (BQM)	260
	Reliability Site	MTAI
	CCB No.	4427
<u>Lead-Frame</u>	Paddle size	311 x 311
	Material	C194
	DAP Surface Prep	Spot
	Treatment	None
	Process	Etched
	Lead-lock	Yes
	Part Number	FR1640
	Lead Plating	Matte Sn
	Strip Size	250x70mm
	Strip Density	120 units/strip
<u>Bond Wire</u>	Material	CuPdAu
<u>Die Attach</u>	Part Number	8600
	Conductive	Yes
<u>MC</u>	Part Number	G700
	Manufacturer	Sumitomo
<u>PKG</u>	PKG Type	VQFN
	Pin/Ball Count	64L
	PKG width/size	9x9x1mm

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	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
Standard Pb-free Solderability	J-STD-002D ; 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	ASEKR	MPHIL	64LVQFN	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.
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5	ASEKR	MPHIL	64LVQFN	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5		5	ASEKR	MPHIL	64LVQFN	30 bonds from a min. 5 devices.
Wire Sweep								ASEKR	MPHIL	64LVQFN	Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30		5	ASEKR	MPHIL	64LVQFN	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	ASEKR	MPHIL	64LVQFN	
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-020E for package type; Electrical test pre and post stress at hot temp (85°C). MSL1 / 260c	231	15	3	738	0	15	ASEKR	MPHIL	64LVQFN	Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, 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	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
HAST	+130°C/85% RH for 96 hours or 110°C/85%RH for 264 hours. Electrical test pre and post stress at hot temp (85°C). Perform 2X extended reliability testing	77	5	3	246	0	10	ASEKR	MPHIL	64LVQFN	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	+130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs. Electrical test pre and post stress at hot temp (85°C). Perform 2X extended reliability testing	77	5	3	246	0	10	ASEKR	MPHIL	64LVQFN	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 (85°C). 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. Perform 2X extended reliability testing	77	5	3	246	0	15	ASEKR	MPHIL	64LVQFN	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.