



Product Change Notification / MAAN-24ZHDD989

Date:

28-Jul-2023

Product Category:

8-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6436 Initial Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected ATXMEGA128x, ATXMEGA192x, ATXMEGA256x, ATXMEGA32x, ATXMEGA384x and ATXMEGA64x device families available in 64L and 100L TQFP (14x14x1mm) package.

Affected CPNs:

[MAAN-24ZHDD989_Affected_CPN_07282023.pdf](#)

[MAAN-24ZHDD989_Affected_CPN_07282023.csv](#)

Notification Text:

PCN Status:Initial Notification

PCN Type:Manufacturing Change

Microchip Parts Affected:Please open one of the files found in the Affected CPNs section.

Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

Description of Change:Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected ATXMEGA128x, ATXMEGA192x, ATXMEGA256x, ATXMEGA32x, ATXMEGA384x and ATXMEGA64x device families available in 64L and 100L TQFP (14x14x1mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Microchip Technology Thailand (MMT)	Microchip Technology Thailand (MMT)
Wire Material	Au	CuPdAu
Die Attach Material	3280	3280
Molding Compound Material	G700HA	G700HA
Lead-Frame Material	C7025	C7025

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve productivity by qualifying palladium coated copper with gold flash (CuPdAu) bond wire.

Change Implementation Status:In Progress

Estimated Qualification Completion Date:November 2023

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:

	July 2023					>	November 2023				
Workweek	27	28	29	30	31		44	45	46	47	48
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: July 28, 2023: 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_MAAN-24ZHDD989_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)

ATXMEGA256A3U-AUR
ATXMEGA256C3-AU
ATXMEGA256C3-AUR
ATXMEGA256C3-AURA0
ATXMEGA256D3-AU
ATXMEGA256D3-AUR
ATXMEGA256D3-AURA1
ATXMEGA256D3-AURA3
ATXMEGA32C3-AN
ATXMEGA32C3-ANR
ATXMEGA32C3-AU
ATXMEGA32C3-AUR
ATXMEGA32D3-AN
ATXMEGA32D3-ANR
ATXMEGA32D3-AU
ATXMEGA32D3-AUR
ATXMEGA384C3-AU
ATXMEGA384C3-AUR
ATXMEGA384D3-AU
ATXMEGA64A1-AU
ATXMEGA64A1-AUR
ATXMEGA64A1U-AU
ATXMEGA64A1U-AUR
ATXMEGA64A3-AU
ATXMEGA64A3-AUR
ATXMEGA64A3U-AU
ATXMEGA64A3U-AUR
ATXMEGA64B1-AU
ATXMEGA64B1-AUA0
ATXMEGA64B1-AUR
ATXMEGA64B3-AU
ATXMEGA64B3-AUR
ATXMEGA64C3-AN
ATXMEGA64C3-ANR
ATXMEGA64C3-AU
ATXMEGA64C3-AUR
ATXMEGA64D3-AN
ATXMEGA64D3-ANR
ATXMEGA64D3-AU
ATXMEGA64D3-AUA4
ATXMEGA64D3-AUA6
ATXMEGA64D3-AUR
ATXMEGA64D3-AURA4
ATXMEGA64D3-AURA6
ATXMEGA64D3-AURA7
ATXMEGA128A1-AU

MAAN-24ZHDD989 - CCB 6436 Initial Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected ATXMEGA128x, ATXMEGA192x, ATXMEGA256x, ATXMEGA32x, ATXMEGA384x and ATXMEGA64x device families available in 64L and 100L TQFP (14x14x1mm) package.

ATXMEGA128A1-AUR

ATXMEGA128A1U-AN

ATXMEGA128A1U-ANR

ATXMEGA128A1U-AU

ATXMEGA128A1U-AUR

ATXMEGA128A3-AU

ATXMEGA128A3-AUR

ATXMEGA128A3U-AU

ATXMEGA128A3U-AUR

ATXMEGA128B1-AU

ATXMEGA128B1-AUR

ATXMEGA128B1-AURA0

ATXMEGA128B3-AU

ATXMEGA128B3-AUR

ATXMEGA128C3-AU

ATXMEGA128C3-AUR

ATXMEGA128D3-AU

ATXMEGA128D3-AUA1

ATXMEGA128D3-AUR

ATXMEGA128D3-AURA1

ATXMEGA192A3-AU

ATXMEGA192A3-AUR

ATXMEGA192A3U-AN

ATXMEGA192A3U-ANR

ATXMEGA192A3U-AU

ATXMEGA192A3U-AUR

ATXMEGA192C3-AU

ATXMEGA192C3-AUR

ATXMEGA192D3-AU

ATXMEGA192D3-AUR

ATXMEGA192D3-AURA1

ATXMEGA256A3-AU

ATXMEGA256A3-AUR

ATXMEGA256A3BU-AU

ATXMEGA256A3BU-AUR

ATXMEGA256A3U-AN

ATXMEGA256A3U-ANR

ATXMEGA256A3U-AU



QUALIFICATION PLAN SUMMARY

PCN#: MAAN-24ZHDD989

Date:

July 5, 2023

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire as new wire material for selected ATXMEGA128x, ATXMEGA192x, ATXMEGA256x, ATXMEGA32x, ATXMEGA384x and ATXMEGA64x device families available in 64L and 100L TQFP (14x14x1mm) package.

Purpose: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire as new wire material for selected ATXMEGA128x, ATXMEGA192x, ATXMEGA256x, ATXMEGA32x, ATXMEGA384x and ATXMEGA64x device families available in 64L and 100L TQFP (14x14x1mm) package.

CCB No.: 6167

<u>Misc.</u>	Assembly site	MMT
	BD Number	BD-001574/01
	MP Code (MPC)	359537E5XC03
	Part Number (CPN)	ATXMEGA128A1-AU
	MSL information	MSL-1
	Assembly Shipping Media (T/R, Tube/Tray)	Tray
	Base Quantity Multiple (BQM)	90
	Reliability Site	MTAI
<u>Lead-Frame</u>	Paddle size	280x280 mils
	Material	C7025
	DAP Surface Prep	Cu-RT
	Treatment	BOT
	Process	Stamp
	Lead-lock	No
	Part Number	10110005
	Lead Plating	Matte Tin
	Strip Size	250.0x70.0mm
	Strip Density	30 Unit/Strip
<u>Bond Wire</u>	Material	CuPdAu
<u>Die Attach</u>	Part Number	3280
	Conductive	Yes
<u>MC</u>	Part Number	G700HA
<u>PKG</u>	Package Type	TQFP
	Pin/Ball Count	100L
	PKG width/size	14x14x1mm

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	Special Instructions
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5		MMT/MTAI	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5		MMT/MTAI	30 bonds from a min. 5 devices.
Wire Sweep									MMT	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		MMT/MTAI	
Preconditioning - Required for surface mount devices	JESD22-A113. +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 +25°C. Perform SAM (C-SCAN) analysis using 45 samples per lot. MSL-1/260C	231	15	3	738	0	15	MTAI	MTAI	Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test.
HAST	JESD22-A110. +130°C/85% RH for 96 hours Electrical test pre and post stress at +25°C and +85C.	77	5	3	246	0	10	MTAI	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	JESD22-A118. +130°C/85% RH for 96 hrs. Electrical test pre and post stress at +25°C	77	5	3	246	0	10	MTAI	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	JESD22-A104. -65°C to +150°C for 500 cycles. Electrical test pre and post stress at +85C; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	MTAI	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.