



## Product Change Notification - KSRA-05IBFM445

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**Date:**

09 Jan 2019

**Product Category:**

Smart Energy SOC

**Affected CPNs:****Notification subject:**

CCB 3616 Initial Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for ATSAM4C32CA-AU and ATSAM4C32CA-AUR Atmel catalog part numbers (CPN) available in 100 LQFP package using 276 x 276 mils lead frame paddle size at ASE assembly site.

**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 palladium coated copper with gold flash (CuPdAu) bond wire for ATSAM4C32CA-AU and ATSAM4C32CA-AUR Atmel catalog part numbers (CPN) available in 100 LQFP package using 276 x 276 mils lead frame paddle size at ASE assembly site.

**Pre Change:**

Assembled using palladium coated copper (CuPd) bond wire with 240 x 240 mils lead frame paddle size

**Post Change:**

Assembled using palladium coated copper with gold flash (CuPdAu) bond wire with 276 x 276 mils lead frame paddle size

**Pre and Post Change Summary:**

	Pre Change	Post Change
Assembly Site	ASE Inc. / ASE	ASE Inc. / ASE
Wire material	CuPd	CuPdAu
Die attach material	2288A	2288A
Molding compound material	CEL-9510HFL	CEL-9510HFL
Lead frame material	C7025	C7025
Lead Frame Paddle Size	240 x 240 mils	276 x 276 mils

**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 with 276 x 276 mils lead frame paddle size

**Change Implementation Status:**

In Progress

**Estimated Qualification Completion Date:**



April 2019

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:

	January 2019					-->	April 2019				
Workweek	01	02	03	04	05		14	15	16	17	18
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:

**January 09, 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\\_KSRA-05IBFM445\\_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.

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Affected Catalog Part Numbers (CPN)

ATSAM4C32CA-AU

ATSAM4C32CA-AUR



## **QUALIFICATION PLAN SUMMARY**

**PCN #: KSRA-05IBFM445**

**Date:  
December 06, 2018**

**Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for ATSAM4C32CA-AU and ATSAM4C32CA-AUR Atmel catalog part numbers (CPN) available in 100 LQFP package using 276 x 276 mils lead frame paddle size at ASE assembly site.**

**Purpose:** Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for ATSAM4C32CA-AU and ATSAM4C32CA-AUR Atmel catalog part numbers (CPN) available in 100 LQFP package using 276 x 276 mils lead frame paddle size at ASE assembly site.

**MP Code:** 639157H7XC01

**Part No.:** SAM4C32CA-AU

**BD No:** BD\_63915\_AZB\_15\_C\_1.0

**CCB No.:** 3616

**Package:**

**Type:** 100 LQFP

**Width or Size:** 14x14 mm

**Die Thickness:** 14 mils

**Die Size:** 4.971x5.343 mm

**Lead Frame:**

**Paddle Size:** 276x276 mils (7x7mm)

**LF Material:** Cu

**Part Number:** A07756-0

**Wire:**

**Material:** CuPdAu

**Die Attach Epoxy:**

**Part Number** 2288A

**Conductive:** Yes

**Mold Compound:** CEL-9510HFL

**Plating:** Plating Matte Sn with 1hr@150C annealing

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. 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		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 (Test method 2011)	10	0	3	30			100 WIRES PER QUAL
Wire Bond Shear - WBS	JESD22-B116	10	0	3	30			100 WIRES PER QUAL
Coplanarity	JESD22B108A/POD	5	0	3	15			All units
Physical Dimensions	Measure per JESD22 B100 and B108	10	3	3	30	0		
EXTERNAL VISUAL	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0		
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. Perform SAM analysis using the standard sample size. MSL3 260°C	275	5	3	840	0	15	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
uHAST	+130°C/85% RH for 96hrs Electrical test pre and post stress at +25°C	77	5	3	246	0	13	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Bias HAST	+130°C/85% RH for 96hrs. Electrical test pre and post stress at +25°C and +85°C	90	5	3	285	0	13	
HTSL (High Temp Storage Life)	JESD22A-103. +150°C for 1008 hours. Read points at 504 hours. Electrical test pre and post stress at +25°C and +85°C.	45	5	1	50	0	45	
Temp Cycle	-55°C to +125°C for 500 cycles Electrical test pre and post stress at +85°C.	90	5	3	285	0	30	