# Product Change Notification: MFOL-08KSAS331

## Date:

06-Oct-2026

## Product Category:

32-Bit Microcontrollers

## Notification Subject:

CCB 7564 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) as a new bond wire material for selected ATSAMC20G15A, ATSAMC20G16A, ATSAMC20G17A, ATSAMC20G18A, ATSAMC21G15A, ATSAMC21G16A, ATSAMC21G17A, ATSAMC21G18A, ATSAMD20G14, ATSAMD20G15, ATSAMD20G16, ATSAMD20G17, ATSAMD20G18, ATSAMD21G15, ATSAMD21G16x, ATSAMD21G17x, ATSAMD21G18, ATSAML21G16B, ATSAML21G17B and ATSAML21G18B device families available in 48L VQFN (7x7x0.9mm) package at MP3A assembly site.

## Affected CPNs:

**MFOL-08KSAS331_Affected_CPN_10062026.pdf**
**MFOL-08KSAS331_Affected_CPN_10062026.csv**

**PCN Status:** Final 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) as a new bond wire material for selected ATSAMC20G15A, ATSAMC20G16A, ATSAMC20G17A, ATSAMC20G18A, ATSAMC21G15A, ATSAMC21G16A, ATSAMC21G17A, ATSAMC21G18A, ATSAMD20G14, ATSAMD20G15, ATSAMD20G16, ATSAMD20G17, ATSAMD20G18, ATSAMD21G15, ATSAMD21G16x, ATSAMD21G17x, ATSAMD21G18, ATSAML21G16B, ATSAML21G17B and ATSAML21G18B device families available in 48L VQFN (7x7x0.9mm) package at MP3A assembly site.

**Pre and Post Summary Changes**:

| | Pre Change | Post Change |
|---|---|---|

| | | |
|---|---|---|
| **Assembly Site** | Microchip Technology Inc. (MPHIL-3) (MP3A) | Microchip Technology Inc. (MPHIL-3) (MP3A) |
| **Wire Material** | Au | CuPdAu |
| **Die Attach Material** | 3280 (PFAS) | 3280NP (PFAS Free) |
| **Molding Compound Material** | G700LTD | G700LTD |
| **Lead-Frame Material** | C194 | C194 |

**Impacts to Datasheet:** None

**Change Impact:** None

**Reason for Change:** To improve manufacturability by qualifying palladium coated copper with gold flash (CuPdAu) as a new bond wire material.

**Change Implementation Status:** In Progress

**Estimated First Ship Date:** 31 October 2025 (date code: 2544)

**Note Below EFSD:** Note: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

**Timetable Summary**:

| | **May 2025** | | | | | > | **October 2025** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Work Week** | 18 | 19 | 20 | 21 | 22 | | 40 | 41 | 42 | 43 | 44 |
| **Initial PCN Issue Date** | | | x | | | | | | | | |
| **Qual Report Availability** | | | | | | | | x | | | |
| **Final PCN Issue Date** | | | | | | | | x | | | |
| **Estimated Implementation Date** | | | | | | | | | | | x |

**Method to Identify Change:** Traceability Code

**Qualification Report:** Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.

**Revision History:** May 16, 2025: Issued initial notification.
October 12, 2025: Issued final notification. Attached the Qualification Report. Provided estimated first ship date is to be on October 31, 2025.
October 6, 2026: Reissued Final Notification to update the Qual Report.

**Note:** The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable product.

## Attachments:

**PCN_MFOL-08KSAS331_Qual_Report.pdf**

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

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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):

ATSAML21G18B-MNT-SLL

ATSAML21G17B-MNT-SLL

ATSAML21G16B-MUT

ATSAML21G17B-MUT

ATSAML21G18B-MUT

ATSAML21G18B-MUT-SLL

ATSAMC21G18A-MUTN01

ATSAMC21G17A-MUTS2

ATSAMC21G18A-MUT

ATSAMC21G18A-MNT

ATSAMC21G16A-MNTS2

ATSAMC20G17A-MUT

ATSAMC20G18A-MUT

ATSAMD20G17A-MUT

ATSAMD20G16A-MUT

ATSAMD20G15A-MUT

ATSAMD20G14A-MUT

ATSAMD20G18A-MUT

ATSAMD20G18A-MNT

ATSAMD20G15A-MNT

ATSAMD20G16A-MU

ATSAMD20G17A-MU

ATSAMD20G18A-MU

ATSAMD20G15A-MU

ATSAMD20G14A-MU

ATSAMD20G14A-MN

ATSAMD20G15A-MN

ATSAMD20G16A-MN

ATSAMD20G17A-MN

ATSAMD20G18A-MN

ATSAMD20G16A-MNT

ATSAMD20G17A-MNT

ATSAMD20G14A-MNT

ATSAMD21G17L-MF

ATSAMD20G14A-MUTA2

ATSAMD20G15A-MUTA2

ATSAMD20G16A-MUTA2

ATSAMD20G17A-MUTA2

ATSAMD20G18A-MUTA2

ATSAMD21G16B-MU

ATSAMD21G15B-MU

ATSAMD20G18A-MUA2

ATSAMD20G14A-MUA2

ATSAMD20G15A-MUA2

ATSAMD20G16A-MUA2

ATSAMD20G17A-MUA2

ATSAMD21G17A-MFT

ATSAMD21G18A-MFT

ATSAMD21G15B-MF

ATSAMD21G16B-MF

ATSAMD21G17D-MF

ATSAMD21G17A-MF

ATSAMD21G18A-MF

ATSAMD21G18A-MU

ATSAMD21G17A-MU

ATSAMD21G17A-MUA1

ATSAMD21G18A-MUA1

ATSAMD21G17A-MUT

ATSAMD21G17A-MUTA1

ATSAMD21G18A-MUTA1

ATSAMD21G18A-MUTN01

ATSAMD21G16B-MUT

ATSAMD21G15B-MUT

ATSAMD21G16L-MUT

ATSAMD21G15B-MFT

ATSAMD21G16B-MFT

ATSAMD21G16L-MNT

ATSAMD21G16L-MNTA7

ATSAMD21G16L-MNTP01

ATSAMD21G16L-MUTN01

ATSAMD21G17A-MUTA0

ATSAMD21G18A-MUT

ATSAMD21G17D-MFT

ATSAMD21G17L-MFT

ATSAMD21G17D-MUTN01

ATSAMC20G15A-MUT

ATSAMC20G16A-MUT

ATSAMC21G15A-MUT

ATSAMC21G16A-MUT

ATSAMC21G17A-MUT

ATSAMC20G15A-MNT

ATSAMC20G16A-MNT

ATSAMC20G17A-MNT

ATSAMC20G18A-MNT

ATSAMC21G15A-MNT

ATSAMC21G16A-MNT

ATSAMC21G17A-MNT

ATSAMC20G17A-MUTS2

ATSAMC21G18A-MUT64

ATSAMC21G17A-MU

ATSAMD21G18A-MU-SLL

ATSAMD20G16B-MU

ATSAMD20G15B-MU

ATSAMD20G14B-MU

ATSAMD20G16B-MN

ATSAMD20G14B-MN

ATSAMD20G15B-MN

ATSAMD20G16B-MNT

ATSAMD20G14B-MNT

ATSAMD20G15B-MNT

ATSAMD20G16B-MUT

ATSAMD20G14B-MUT

ATSAMD20G15B-MUT

ATSAMD21G17L-MNT

ATSAMD21G17L-MUT

ATSAMD21G17D-MU

ATSAMD21G17D-MUT

ATSAMD21G17L-MU

ATSAMD21G17L-MN

ATSAML21G16B-MNT

ATSAML21G17B-MNT

ATSAML21G18B-MNT



# Qualification Report Summary

## RELIABILITY LABORATORY

## PCN #: MFOL-08KSAS331

**Date**

**September 19, 2025**

**Qualification of palladium coated copper with gold flash (CuPdAu) as a new bond wire material for selected ATSAMC20G15A, ATSAMC20G16A, ATSAMC20G17A, ATSAMC20G18A, ATSAMC21G15A, ATSAMC21G16A, ATSAMC21G17A, ATSAMC21G18A, ATSAMD20G14, ATSAMD20G15, ATSAMD20G16, ATSAMD20G17, ATSAMD20G18, ATSAMD21G15, ATSAMD21G16x, ATSAMD21G17x, ATSAMD21G18, ATSAML21G16B, ATSAML21G17B and ATSAML21G18B device families available in 48L VQFN (7x7x0.9mm) package at MP3A assembly site.**

# PACKAGE QUALIFICATION REPORT

**Purpose:**

Qualification of palladium coated copper with gold flash (CuPdAu) as a new bond wire material for selected ATSAMC20G15A, ATSAMC20G16A, ATSAMC20G17A, ATSAMC20G18A, ATSAMC21G15A, ATSAMC21G16A, ATSAMC21G17A, ATSAMC21G18A, ATSAMD20G14, ATSAMD20G15, ATSAMD20G16, ATSAMD20G17, ATSAMD20G18, ATSAMD21G15, ATSAMD21G16x, ATSAMD21G17x, ATSAMD21G18, ATSAML21G16B, ATSAML21G17B and ATSAML21G18B device families available in 48L VQFN (7x7x0.9mm) package at MP3A assembly site.

| | |
|---|---|
| **MP CODE:** | 661P27T3BC01 |
| **Part No.:** | ATSAMC21G17A-MU |
| **Bonding No.:** | BD-003182 |
| **CCB No.:** | 7564 |

## Lead Frame

| | |
|---|---|
| **Paddle Size:** | 217x217 mils |
| **Material:** | C194 |
| **DAP Surface Prep:** | Bare Cu |
| **Process:** | Etched |
| **Lead Lock:** | Yes |
| **Part Number:** | 10104803 |
| **Lead Plating:** | Matte Tin |

## Bond Wire

| | |
|---|---|
| **Wire:** | CuPdAu wire |

## Die Attach Material

| | |
|---|---|
| **Epoxy:** | 3280NP |
| **Conductive:** | Yes |

## Mold Compound

| | |
|---|---|
| **Mold Compound:** | G700LTD |

## Package

| | |
|---|---|
| **Type:** | VQFN |
| **Package Size:** | 7x7x0.9mm |

## Manufacturing Information

| Assembly Lot No. |
|---|
| MP3A260900043.000 |
| MP3A260900001.000 |
| MP3A260900002.000 |

Result: **Pass**

## Conclusion:

66K product in 48L VQFN 7x7 (T3B) using CuPdAu wire at MP3A was conducted at MPHL reliability lab and pass qualification requirement. This package is qualified Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard.

# PACKAGE QUALIFICATION REPORT

| Test Number (Reference) | Test Condition | Standard/ Method | Qty. (Acc.) | Def/SS. | Result | Remarks |
|---|---|---|---|---|---|---|
| **Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)** | **Electrical Test:** 25°C, 90°C<br>**System:** M1_PV_512/MT9510<br>Bake 150°C, 24 hrs System: HERAEUS<br>85°C/85%RH Moisture Soak 168hrs.<br>**System:** Climats Excal 5423-HE<br>3x Convection-Reflow 265°C max<br>**System:** Mancorp CR.5000F<br>(IPC/JEDEC J-STD-020E) | IPC/JEDEC | 45 units per lot | Lot 1 0/45<br>Lot 2 0/45<br>Lot 3 0/45 | Pass<br>Pass<br>Pass | |
| **Precondition Prior Perform Reliability Tests (at MSL Level 1)** | **Electrical Test:** 25°C, 90°C<br>**System:** M1_PV_512/MT9510<br>Bake 150°C, 24 hrs System: HERAEUS<br>85°C/85%RH Moisture Soak 192hrs.<br>**System:** Climats Excal 5423-HE<br>3x Convection-Reflow 260°C max<br>**System:** Mancorp CR.5000F<br>**Electrical Test:** 25°C, 90°C<br>**System:** M1_PV_512/MT9510<br>All units before HAST, UHAST, TCT were submitted to this MSL1 preconditioning | JESD22-A113 | 231 units per lot | Lot 1 0/270 Lot 2 0/270 Lot 3 0/269 | Pass<br>Pass<br>Pass | |
| **Temperature Cycle** | **Stress Condition:** (Standard) -65°C to +150°C, 500 cycles<br>**System:** Votsch VTS27012<br>**Electrical Test:** 25°C, 90°C<br>**System:** M1_PV_512/MT9510 | JESD22-A104 | 77 units per lot | Lot 1 0/90<br>Lot 2 0/90<br>Lot 3 0/90 | Pass<br>Pass<br>Pass | |
| **Bond Strength (Wire Pull)** | Wire Pull (>3.0g) | | 5 units from 1 lot | Lot 1 0/5 | Pass | 30 bonds |
| **HAST** | **Stress Condition:** (Standard) + 130°C, 85%RH, 96 hrs., 5.5V<br>**System:** HIRAYAMA HASTEST PC-422R8<br>**Electrical Test:** 25°C, 90°C<br>**System:** M1_PV_512/MT9510 | JESD22-A118 | 77 units per lot | Lot 1 0/80<br>Lot 2 0/80<br>Lot 3 0/80 | Pass<br>Pass<br>Pass | |

# PACKAGE QUALIFICATION REPORT

| Test Number (Reference) | Test Condition | Standard/ Method | Qty. (Acc.) | Def/SS. | Result | Remarks |
|---|---|---|---|---|---|---|
| **UHAST** | **Stress Condition:** (Standard) + 130°C, 85%RH, 96hrs. NO BIAS<br>**System:** HIRAYAMA HASTEST PC-422R8<br>**Electrical Test:** 25°C<br>**System:** M1_PV_512/MT9510 | JESD22-A118 | 77 units per lot | Lot 1 0/90<br>Lot 2 0/90<br>Lot 3 0/89 | Pass<br>Pass<br>Pass | |
| **HTSL 175°C** | **Stress Condition:**<br>Bake 175°C, 504 hrs.<br>**System:** HERAEUS<br>**Electrical Test:** 25°C, 90°C<br>**System:** M1_PV_512/MT9510 | JESD22-A103 | 45 units | Lot 1 0/49<br>Lot 2 0/50<br>Lot 3 0/50 | Pass<br>Pass<br>Pass | |
| **0h Mechanical** | **Bond Strength:**<br>Wire Pull (>2.5gms) | | 30 wires per test | Lot 1 0/30 readings | Pass | WP: 30 readings |
| **Assembly data** | Bond Shear (>15 gms) | | 30 wires per test | Lot 1 0/30 readings | Pass | BS: 30 readings |