QUALIFICATION REPORT SUMMARY

PCN #: BLAS-09HUWA393

Date:
February 26, 2026

Qualification of palladium-coated copper with gold flash (CuPdAu) as a new bond wire material for selected ATXMEGA128xx, ATXMEGA192xx, ATXMEGA256xx, ATXMEGA32xx, ATXMEGA384xx, and ATXMEGA64xx device families available in 64L and 100L TQFP (14x14x1mm) packages at the MMT assembly site. The AT90CAN128-16AU, AT90CAN128-16AUR, AT90USB1286-AU, AT90USB1286-AUR, AT90USB1287-AU, AT90USB1287-AUR, AT90USB646-AU, AT90USB646-AUR, AT90USB647-AU, AT90USB647-AUR, ATMEGA1280-16AU, ATMEGA1280-16AU-HCM, ATMEGA1280-16AUR, ATMEGA1280V-8AU, ATMEGA1280V-8AUR, ATMEGA1281-16AU, ATMEGA1281-16AUR, ATMEGA1281V-8AU, ATMEGA1281V-8AUR, ATMEGA2560-16AU, ATMEGA2560-16AU-HCM, ATMEGA2560-16AUR, ATMEGA2560V-8AU, ATMEGA2560V-8AUR, ATMEGA2561-16AU, ATMEGA2561-16AUR, ATMEGA2561V-8AU, ATMEGA2561V-8AUR, ATMEGA640-16AU, ATMEGA640-16AUR, ATMEGA640-16AURA0, ATMEGA640V-8AU and ATMEGA640V-8AUR catalog part numbers (CPN) available in 64L and 100L TQFP (14x14x1mm) package assembled at MMT site will qualify by similarity (QBS).

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CCB #: 7411 and 8131

Misc.	Assembly site	MMT
	BD Number	BD-004085/01
	MP Code (MPC)	355E37E5XC03
	Part Number (CPN)	ATMEGA2560-16AU
	MSL information	MSL-1
	Assembly Shipping Media (T/R, Tube/Tray)	Tray
	Base Quantity Multiple (BQM)	90
	Reliability Site	MTAI
Lead-Frame	Paddle size	280x280 mils
	Material	C7025
	DAP Surface Prep	Bare Cu
	Treatment	None
	Process	Stamp
	Lead-lock *(Locking Hole, Half Etched, Dimple, etc. If none, please put No or N/A)*	No
	Part Number	10110015
	Lead Plating	Matte Tin
	Strip Size	250.0x70.0mm
	Strip Density	30 pads/strip
Bond Wire	Material	CuPdAu
Die Attach	Part Number	QMI519
	Conductive	Yes
MC	Part Number	G700HA
PKG	Package Type	TQFP
	Pin/Ball Count	100
	PKG width/size	14x14x1mm

MICROCHIP

Package Qualification Report

Manufacturing Information:

Assembly Lot No.	Wafer Lot No.
MMT-254800100.000	MCSO525233784.200#24,25
MMT-254800101.000	MCSO525233784.200#22,23
MMT-254800102.000	MCSO525233784.200#20,21

☒ **Pass** ☐ **Fail** ☐ ____________________

35.9K wafer in 100L TQFP (E5X) with CuPdAu wire at MMT is qualified Moisture/ Reflow Sensitivity Classification Level 1 at 260°C ref low temperature per IPC/JEDEC J-STD-020E standard 1. No delamination observed. HAST, UHAST, TCT and HTSL Passed.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform Reliability Tests MSL-1 @ 260C	**Electrical Test :** +85°C, +25°C	JESD22-A113,	693(0)			Good Devices
	External Visual Inspection System: Luxo Lamp	JIP/ IPC/JEDE	693(0)	0/693	Pass	
	Bake 150°C, 24 hrs System: HERAEUS		693(0)			
	Moisture Soak 85°C/85%RH Moisture Soak 168hrs. System: Climats Excal 5423-HE		693(0)			
	Reflow 3x Convection-Reflow 260°C max System: Mancorp CR.5000F		693(0)	0/693		
	Electrical Test : +85°C, +25°C		693(0)	0/693	Pass	
Temp Cycle	**Stress Condition:** (Standard) -65°C to +150°C, 500 Cycles System: VOTSCH VT 7012 S2	JESD22-A104	231(0)			Parts had been pre-conditioned at 260°C
	Electrical Test: +85°C		231(0)	0/231	Pass	
	Bond Strength: Wire Pull Bond Shear		15(0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	231(0)			Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C		231(0)	0/231	Pass	
BIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A110	231(0)			Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C, +85°C		231(0)	0/231	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 500 hrs System: HERAEUS **Electrical Test :** +85°C, +25°C	JESD22-A103	150 (0) 150 (0)	0/150	Pass	
Bond Strength Data Assembly	Wire Pull 1 lot, 35 wires from 5 units min	M2011.8 MIL-STD-883	35(0) Wires	0/35	Pass	
Bond Strength Data Assembly	Bond Shear 1 lot, 35 bonds from 5 units min	M2011.8 MIL-STD-883	35(0) bonds	0/35	Pass	