

Product Change Notice (PCN)

Subject: Alternate bond wire material of the listed Renesas PQFN packaged products

Publication Date: 5/30/2025

Effective Date: 8/28/2025

Revision Description:

Initial Release

Description of Change:

Alternate bond wire material from Gold to Copper wire of the listed Renesas PQFN packaged products assembled at the following assembly facilities :

- ASE Electronics (M) Sdn Bhd, Penang, Malaysia (ASEM)
- Carsem (M) Sdn. Bhd. (S-Site), Ipoh, Malaysia (CAS)
- UTAC Thai Ltd., Bangkok, Thailand (UTL)

Renesas Part #	Wire Material / MSL	Wire material / MSL	Remarks
Product as listed in Appendix A	ASEM, CAS and UTL Gold Wire / MSL 3	ASEM, CAS and UTL Copper Wire / MSL 3	*Copper wire was qualified production for Renesas *Wire material change from Gold to Copper

This notice is to inform you that Renesas will begin using Copper wire bond material for the listed Renesas PQFN (Power Quad Flat No Lead) packaged products. The Copper bond wire is an alternate to the Gold bond wire currently used for assembly of the listed products.

Reason for Change:

Copper wire is commonly used in Integrated Circuit (IC) with :

1. Superior thermal and electrical conductivity
2. Mechanical stability
3. Good reliability performance at elevated temperature.

Impact on fit, form, function, quality & reliability:

The assembly qualification plan is designed using JEDEC and other applicable industry standards to confirm there is no impact to form, fit, function or interchangeability of the product. A summary of the qualification result is included for reference. Please refer Appendix B,C and D. The remainder of the manufacturing operations (wafer fabrication, package level electrical test, etc) will continue to be processed to previously established manufacturing flow.

Products assembled with copper bond wire are classified and maintained as Moisture Sensitivity Level Three (MSL3). As such, the affected devices will be packed, labeled and shipped as MSL 3 upon implementation of the changes outlined in the PCN.

Product Identification:

Products affected by this change are identifiable via Renesas's internal traceability system. In addition, Copper product may also be identified by the assembly site code which marked on the devices. The site code for Copper wire product assembled at

#	Assembly Site	Site Code	Remarks
1	ASEM	N	For Copper wire products
2	CAS	X	For Copper wire products
3	UTL	T	For Copper wire products

Customers may expect to receive products assembled using gold bond wire or copper bond wire until the existing inventory is depleted or earlier with customer's approval.

Qualification status: Completed, See attached

Sample availability: 7/18/2025

Device material declaration: Available upon request

Sample is available July 18, 2025 onwards, and subject to availability. Customer may expect 1 – 2 months for sample replenishment.

Note:

1. Acknowledgement must be received by Renesas within 30 days or Renesas will consider the change as approved.
2. If timely acknowledgement is provided by Customer, then Customer shall have 90 days from the date of receipt of this PCN to make any objections to this PCN. If Customer fails to make objections to this PCN within 90 days of the receipt of the PCN then Renesas will consider the PCN changes as approved.
3. If customer cannot accept the PCN then customer must provide Renesas with a last time buy demand and purchase order.

For additional information regarding this notice, please contact your regional change coordinator (below)			
Americas: PCN-US@RENESAS.COM	Europe: PCN-EU@RENESAS.COM	Japan: PCN-JP@RENESAS.COM	Asia Pac: PCN-APAC@RENESAS.COM

Appendix A : - Affected device with wire material change from Gold to Copper

Affected Device List

RAA2209004GNP#HB0	RAA2214914S04GNP#HB0	RAA2257034GNP#HB0	ISL99380FRZ-TR5935
RAA2214904GNP#HB0	RAA2214914S06GNP#HB0	RAA2214944GNP#HB0	ISL99380FRZ-TR5953
RAA2214904GNP#HBA	RAA2214914S0DGNP#HB0	RAA2214964GNP#HB0	ISL99380FRZ-TR6071
RAA2214904GNP#HBB	ISL99360BFRZ-T	RAA2213204GNP#HB0	ISL99380FRZ-TS2773
RAA2214904S04GNP#HBB	ISL99360FRZ-T	RAA2213204R60GNP#HB0	ISL99380HRZ-TR5935
RAA2214904S04GNP#HB0	ISL99360FRZ-TR6071	RAA2213204S02GNP#HB0	ISL99390BFRZ-TR5935
RAA2214904S04GNP#HBA	ISL99360FRZ-TS2568	RAA2213204S05GNP#HB0	ISL99390FRZ-TR5935
RAA2214904S05GNP#HB0	ISL99360FRZ-TS2696	RAA2213204S09GNP#HB0	ISL99390FRZ-TR5948
RAA2214904S09GNP#HB0	ISL99360FRZ-TS2795	RAA221320RGNP#HB0	ISL99390FRZ-TR5953
RAA2214904S0DGNP#HB0	ISL99360HRZ-T	RAA2213404GNP#HB0	ISL99390FRZ-TR5992
RAA2214904S0EGNP#HB0	ISL99360HRZ-TS2709	RAA2213404R1YGNP#HB0	ISL99390FRZ-TR6071
RAA2214504GNP#HB0	RAA220075RGNP#HB0	RAA2213404R60GNP#HB0	ISL99390FRZ-TR6074
RAA2214504S04GNP#HB0	RAA220075RS0BGNP#HB0	RAA2213404S02GNP#HB0	ISL99390FRZ-TR6079
RAA2214504S02GNP#HB0	RAA2214934GNP#HB0	RAA2213404S05GNP#HB0	ISL99390FRZ-TS2773
RAA2214544GNP#HB0	RAA2214974GNP#HB0	RAA2213404S09GNP#HB0	ISL99390HRZ-TR5935
RAA2214914GNP#HB0	RAA2214974GNP#HBA	RAA221340RGNP#HB0	RAA2201054GNP#HB0
RAA2214914R60GNP#HB0	RAA2214974S02GNP#HBA	RAA2213504GNP#HB0	RAA2201054GNP#HB1
RAA2214914S02GNP#HB0	RAA2214504R6AGNP#HB0	ISL99380BFRZ-TR5935	< Blank >

Appendix B : ASEM Qualification result

Test Description	Condition	RAA2214904GNP#HBO 32 Lead, 4mm x 6mm x 1.0mm PQFN package	RAA2214914GNP#HBO PQFN package 39 Lead, 5mm x 6mm x 0.75mm PQFN package
High Temperature Operating Life (HTOL) +125°C ;	1000 hours	N = 240 Acc = 0	N = 240 Acc = 0
Temperature Humidity Bias (THB) +85°C ; 85% RH	850 hours		
Biased Highly Accelerated Stress Test (bHAST) +130°C ; 85% RH +110°C ; 85% RH	96 hours	N = 79 Acc = 0 L3	N = 80 Acc = 0 L3
	264 hours	N = 160 Acc = 0 L3	N = 160 Acc = 0 L3
Unbiased Highly Accelerated Stress Test (uHAST) +130°C ; 85% RH	96 hours	N = 240 Acc = 0 L3	N = 240 Acc = 0 L3
Hot Temperature Storage (HTS) +150°C	1000 hours	N = 240 Acc = 0	N = 240 Acc = 0
	2000 hours		
Moisture Sensitive Level (MSL) +30 °C ; 60% RH	Level 3	N=66 Acc = 0 L3	N=66 Acc = 0 L3
Temperature Cycle (TCT) -40°C / +125 °C	1000 cycles	N=240 Acc = 0 L3	N=240 Acc = 0 L3
	2000 cycles		

	PASS
	Not Applicable (NA)

Appendix C : CAS Qualification result

Test Description	Condition	ISL99390BFRZ-TR5935 39 Lead 5mm x 6mm x 0.75mm PQFN package
High Temperature Operating Life (HTOL) +125°C ;	1000 hours	N = 80 Acc = 0
Temperature Humidity Bias (THB) +85°C ; 85% RH	850 hours	N = 238 Acc = 0 L3
Biased Highly Accelerated Stress Test (bHAST) +130°C ; 85% RH +110°C ; 85% RH	96 hours	
	264 hours	
Unbiased Highly Accelerated Stress Test (uHAST) +130°C ; 85% RH	96 hours	N = 240 Acc = 0 L3
Hot Temperature Storage (HTS) +150°C	1000 hours	N = 240 Acc = 0
	2000 hours	
Moisture Sensitive Level (MSL) +30 °C ; 60% RH	Level 3	N=66 Acc = 0 L3
Temperature Cycle (TCT) -40°C / +125 °C	1000 cycles	N=240 Acc = 0 L3
	2000 cycles	

PASS

Not Applicable (NA)

Appendix D : UTL Qualification result

Test Description	Condition	RAA2213204S05GNP#HB0 25 Lead, 4mm x 5mm x0.75mm PQFN package	RAA2214904GNP#HB0 32 Lead, 4mm x 6mm x 1.0mm PQFN package
High Temperature Operating Life (HTOL) +125°C ;	1000 hours	N = 240 Acc = 0	N = 240 Acc = 0
Temperature Humidity Bias (THB) +85°C ; 85% RH	850 hours		
Biased Highly Accelerated Stress Test (bHAST) +130°C ; 85% RH	96 hours	N = 240 Acc = 0 L3	N = 240 Acc = 0 L3
+110°C ; 85% RH	264 hours		
Unbiased Highly Accelerated Stress Test (uHAST) +130°C ; 85% RH	96 hours	N = 240 Acc = 0 L3	N = 240 Acc = 0 L3
Hot Temperature Storage (HTS) +150°C	1000 hours		
	2000 hours	N=240 Acc = 0	N=240 Acc = 0
Moisture Sensitive Level (MSL) +30°C ; 60% RH	Level 3	N=66 Acc = 0 L3	N=66 Acc = 0 L3
Temperature Cycle (TCT) -40°C / +125°C	1000 cycles		
	2000 cycles	N=239 Acc = 0 L3	N=240 Acc = 0 L3

PASS

Not Applicable (NA)