Product Change Notice (PCN)

Subject: MSL reclassification and Alternate assembly facility of the listed Renesas SCQFN packaged products
Publication Date: 08/03/2022
Effective Date: 1/30/2023

Revision Description:
Initial Release

Description of Change:
Alternate assembly facility of the listed Renesas SCQFN packaged products

- *UTAC Thai Ltd., Bangkok, Thailand (UTL)*

List of changes :
This notice is to inform you that Renesas will begin using alternate assembly site and standardize MSL. Below summarizes the details of changes :

1. Moisture Sensitive Level (MSL) reclassified from MSL 1 and 2 to MSL 3 as part of packing standardization for listed Renesas SCQFN listed in Appendix A, Table 1. Listed devices will be shipped and labelled as MSL 3 with dry packing.

2. Renesas Electronics America Inc. will begin to use UTL as alternate assembly facility of Step Cut Quad Flat No Lead (SCQFN) product with Copper (Cu) Wire. Affected devices are listed in Appendix A, Table 2.

Summary :

Table #	Details	From (existing)	To be (new)	Reason
Table 1	MSL reclassification	1,2 (no dry pack)	3 (with dry pack)	Packing Standardization
Table 2	Assembly Site	CAM	CAM and UTL	Adding UTL as alternate assembly site to improve manufacturability
Table 2	Wire Material	Gold (Au) wire from CAM	Gold (Au) wire from CAM Copper (Cu) wire from UTL	Both Au and Cu wire materials are commonly used in Integrated Circuit (IC) with : 1. Superior thermal and electrical conductivity. 2. Mechanical stability 3. Good reliability performance at elevated temperature.

Note :
CAM – Carsem Ipoh, Malaysia
UTL - UTAC Thai Ltd., Bangkok, Thailand

Reason for Change:
Adding assembly site will expand current capabilities and capacities to optimize Renesas's ability to meet customer's delivery requirements. UTL is ISO9001:2015 and IATF 16949:2016 certified.

Impact on fit, form, function, quality & reliability:
The assembly qualification plan is designed using JEDEC , AEC and other applicable industry standards to confirm there is no impact to form, fit, function or interchangeability of the product. The remainder of the manufacturing operations (wafer fabrication, package level electrical test, etc) will continue to be processed to previously established manufacturing flow.

Product Identification:
Product affected by this change is identifiable via Renesas's internal traceability system. In addition, product assembled at CAM and UTL may also be identified by the assembly site code (country of assembly) when marked on the devices. The site code for product assembled at

#	Assembly Site	Site Code
1	CAM	G
2	UTL	T

Qualification status: Completed
Sample availability: 10/10/2022
Device material declaration: Available upon request

Disclaimer for sample orders :
Due to the limited shelf life and availability of raw materials and capacity, samples are made upon sample request. Samples will be available from October 10, 2022 onwards subject to availability. Customers can expect 1 – 3 months for sample delivery. If interested, contact Renesas Sales to determine if samples are available for your product of interest. Customer to which we cannot offer samples will be able to continue to receive our products with the current production flow.

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.*

Questions or requests pertaining to this change notice, including additional data or samples, must be sent to Renesas within 30 days of the publication date.

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 : MSL Reclassification

Table 1 : MSL reclassification from MSL1, 2 to MSL 3

Affected Device List	From (existing)	To be (new)
RAA2710504R13HNP#HA0	MSL 1	MSL 3
RAA2710504R1EHNP#HA0	MSL 1	MSL 3
RAA279971E3HNP#AA0	MSL 2	MSL 3

Table 2 : Add assembly site (UTL) and Wire Material

Affected Device List	From (Wire Material)	To be (Wire Material)
ISL78083ARZ	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)
ISL78083ARZ-T	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)
ISL78083ARZ-T7A	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)
ISL78083ARZ-TR5869	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)
ISL78083ARZR5869	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)
RAA2710504R13HNP#HA0	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)
RAA2710504R1EHNP#HA0	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)
RAA279971D3HNP#AA0	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)
RAA279971E3HNP#AA0	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)
RAA279971E3HNP#HA0	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)
RAA279972C3HNP#AA0	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)
RAA279972C3HNP#HA0	CAM (Au Wire)	CAM (Au Wire) , UTL (Cu Wire)

Appendix B : Reliability Test Result

Test Description	Condition	RAA271082A4HNP#AA0 24 Lead, 4mm x 4mm SCQFN
Early Life Failure Rate (ELFR) **+125°C**	48 hours	N=2400 Acc=0
Hot Temperature Operating Life (HTOL) **+125°C**	1000 hours	N=240 Acc=0 L3 Pb-Free
Moisture Sensitivity Classification	Level 3	N=66 Acc=0 L3 Pb-Free
Biased High Accelerated Stress Test (bHAST) **+130°C / 85% RH**	192 hours	N=251 Acc=0 L3 Pb-Free
Unbias High Accelerated Stress Test (uHAST) **+130°C / 85% RH**	96 hours	N=240 Acc=0 L3 Pb-Free
Hot Temperature Storage (HTS) **+200°C**	1300 hours	N=90 Acc=0
Hot Temperature Storage (HTS) **+150°C**	2000 hours	N=155 Acc=0
Temperature Cycling Test (TCT) **-65°C / +150°C**	1000 cycles	N=238 Acc=0 L3 Pb-Free

Qualified by Extension (QBE)