

## Product Change Notice (PCN)

**Subject:** Add ASEC Taiwan as Alternate Assembly Location for DFN-12 Package

**Publication Date:** 11/8/2022

**Effective Date:** 2/7/2023

**Revision Description:**

Initial Release

**Description of Change:**

This notification is to advise our customers that Renesas has successfully qualified ASEC, Taiwan as an alternate assembly location in addition to the current assembly location at UTL, Thailand. Presently, ASEC Taiwan is the qualified assembly location for Renesas and ASEC is ISO9001:2015 and IATF16949:2016 certified. The material sets of the current and the alternate assembly location are as shown in the below table.

There is no change in the assembly process flows at the alternate assembly. ASEC has the identical process control and comparable Critical To Quality control as compared to the current assembly at UTL. Both the assembly locations use saw singulation and the same Renesas package outline specification.

No change in moisture sensitive level, which is remain as MSL 1.

Material Sets	Existing Assembly UTL Thailand	Alternate Assembly ASEC Taiwan
Die Attach	8600	EN4900G
Bonding Wire	Copper wire	Copper wire
Mold Compound	GE-300LC2MA	EME-G700LA

**Affected Product List:** Refer Appendix B

**Reason for Change:**

The change is to create dual source to sustain business continuity.

**Impact on Fit, Form, Function, Quality & Reliability:**

The change is expect will have no impact on the form, fit, function, quality, reliability and environmental compliance of the products.

**Product Identification:**

Assembly lot# with prefix “U” denote UTL Thailand, prefix “RC” denote ASEC Taiwan.

**Qualification Status:** Completed and Passed qualification per AEC-Q100. Refer Appendix A.

**Sample Availability Date:** 17 weeks from sample booking date

**Device Material Declaration:** Available upon request

## 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 [idt-pcn@lm.renesas.com](mailto:idt-pcn@lm.renesas.com)



## Package Qualification Test Report DFN

**Packages Covered** DFN 12  
**Assembly Location** ASEC  
**Report Date** October 28, 2022

### Qual Vehicle Information

	Lot 1	Lot 2	Lot 3
<b>Package Type</b>	DFN 12	DFN 12	DFN 12
<b>Package Dimension</b>	4.00 x 3.00 x 0.90mm	4.00 x 3.00 x 0.90mm	4.00 x 3.00 x 0.90mm
<b>Lead Pitch</b>	0.5 mm	0.5 mm	0.5 mm
<b>Lead Frame Material</b>	C194	C194	C194
<b>Die Attach Material</b>	EN4900G	EN4900G	EN4900G
<b>Wire Bond Material</b>	PdCu	PdCu	PdCu
<b>Mold Compound Material</b>	G700LA	G700LA	G700LA
<b>Plating Finish</b>	100% Sn, Matte	100% Sn, Matte	100% Sn, Matte

### Qualification Test and Results (Reference AEC-Q100)

	Reference Spec / Conditions	Sample Size/Reject		
		DFN 12		
Stress Tests		Lot 1	Lot 2	Lot 3
High Temperature Storage Test	JESD22-A103 / 150 °C, 1000 hours	45/0	45/0	45/0
Temperature Humidity Bias* (HAST)	JESD22-A110 / 130 °C, 85% RH, Vccmax, 192 hours	77/0	77/0	77/0
Temperature Cycling*	JESD22-A104 / -55 °C to +125 °C, 2000 cycles	77/0	77/0	77/0
Moisture Sensitivity Level, MSL	IPC/JEDEC J-STD-20, MSL 1, 260 °C	25/0	25/0	-
Bond Pull Strength	Mil-STD-883, M2011, AEC-Q003. Cpk>1.67	5/0	5/0	5/0
Bond Shear Test	AEC-Q100-001, AEC-Q003. Cpk>1.67	5/0	5/0	5/0
Physical Dimension	JESD22-B100 (Per applicable Package Outline Drawing)	30/0	30/0	30/0
Solderability Test	J-STD-002D	15/0	-	-

\* Preconditioning sequence according to JESD22-A113 prior to stress test.

**Appendix B – Affected Product List**

P9149NRG2	P9149VWNRG2	P9149VWTNRG2	P9149WNRG28
P9149NRG28	P9149VWNRG28	P9149WNRG2	