

## Product Change Notice (PCN)

**Subject:** Add Alternate Bumping Location on WLCSP-40

**Publication Date:** 3/1/2022

**Effective Date:** 6/1/2022

**Revision Description:**

Initial Release

**Description of Change:**

Renesas is adding Amkor, Taiwan as an alternate bumping location on package WLCSP-40.

The current location is at SFA, Korea.

The material sets of the current and the alternate location are as shown in the below table.

	Existing Bump	Alternate Bump
Material Sets	SFA - SFA Semicon, Korea	ATT – Amkor, Taiwan
RDL (μm)	TiW / Cu / Cu (0.1 / 0.15 / 5.5 ± 1.5)	TiW / Cu / Cu (0.1 / 0.15 / 5.5 ± 1.5)
UBM (μm)	Ti / Cu / Ni / Au (0.1 / 0.15 / 2 ± 0.5 / 0.5)	Ti / Cu / Ni / Au (0.1 / 0.15 / 2 ± 0.5 / 0.5)
Polymide/ Passivation 1 and 2	Polymide HD4100 Thickness 7 ± 2μm	Polymide HD4100 Thickness 7 ± 2μm
Back Side Coating	Lintech LC2850 Thickness 25μm	Lintech LC2850 Thickness 25μm
PI 1 / PI 2 (μm)	35 ± 6 / 210 ± 6	35 ± 6 / 210 ± 6
Bump Height (μm)	194 ± 25	194 ± 25
Solder Ball Material	SAC105	SAC105
Solder Ball Diameter (μm)	268 ± 25	268 ± 25

**Affected Product List:** Refer Appendix B

**Reason for Change:**

Supply continuity and flexibility.

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

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

**Product Identification:**

Assembly lot# with prefix "AT" denotes Amkor, Taiwan.

**Qualification Status:** Completed. Refer Appendix A

**Sample Availability Date:** 4/8/2022

**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)**

**Appendix A - Qualification Results**

**Affected Package:** WLCSP-40

**Qual Vehicle:** WLCSP-40

**Qual Plan & Results:** Tests are in accordance with JEDEC47 recommended tests.

Test Descriptions	Test Method	Test Results (Rej/SS)		
		Lot 1	Lot 2	Lot 3
* Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0/25	0/25	0/25
* HAST - unbiased (130°C/85% RH, 96 Hrs)	JESD22-A118	0/25	0/25	0/25
High Temperature Storage Bake (150°C, 1000 Hrs)	JESD22-A103	0/25	0/25	0/25
Solder Ball Shear Test	JESD22-B117	0/5	0/5	0/5
Physical Dimensions	JESD22-B100	0/30	0/30	0/30
Moisture Sensitivity Level, MSL	J-STD-20 / MSL 1, 260°C	0/25	0/25	0/25

*\*Tests were subjected to Preconditioning per JESD22-A113 prior to stress test*

**Appendix B – Affected Product List**

P9222-0AZGI	P9222-R6AZGI	P9222-RAZGI8/H	P9222-REAZGI8
P9222-0AZGI8	P9222-R6AZGI8	P9222-RE1AZGI	P9222S-0AZGI
P9222-R10AZGI	P9222-R7AZGI	P9222-RE1AZGI8	P9222S-0AZGI8
P9222-R10AZGI8	P9222-R7AZGI8	P9222-RE2AZGI	P9222S-1AZGI
P9222-R11AZGI	P9222-R8AZGI	P9222-RE2AZGI8	P9222S-1AZGI8
P9222-R11AZGI8	P9222-R8AZGI8	P9222-RE3AZGI	P9222S-2AZGI
P9222-R4AZGI	P9222-R9AZGI	P9222-RE3AZGI8	P9222S-2AZGI8
P9222-R4AZGI8	P9222-R9AZGI8	P9222-RE4AZGI	
P9222-R5AZGI	P9222-RAZGI	P9222-RE4AZGI8	
P9222-R5AZGI8	P9222-RAZGI8	P9222-REAZGI	