

Product Change Notice (PCN)

Subject: Add Alternate Bumping Location on WLCSP-40

Publication Date: 7/29/2020

Effective Date: 10/29/2020

Revision Description:

Initial Release

Description of Change:

Renesas is adding HuaTian, China 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 | Alternate |
|----------------------------------|---|--|
| Material Sets | SFA - SFA Semicon, Korea | HTC – HuaTian, China |
| RDL (μm) | TiW / Cu / Cu (0.1 / 0.15 / 5.5 ± 1.5) | Ti / Cu / Cu (0.1 / 0.3 / 5.5±1.5) |
| UBM (μm) | Ti / Cu / Ni / Au (0.1 / 0.15 / 2 ± 0.5 / 0.5) | Ti / Cu / Cu / Ni / SnAg (0.1/0.3/5/2±0.5 / 4) |
| 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 |
| Solder Ball Material (Bump) | SAC105 | SAC105 |
| Solder Ball Diameter (mm) | 0.268 ± 0.025 (268 ± 25μm) | 0.268 ± 0.025 (268 ± 25μm) |

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 “HT” denote HuaTian, China.

Qualification Status: Completed. Refer Appendix A
Sample Availability Date: Available on request
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

Appendix A - Qualification Results

Affected Package: WLCSP-40

Qual Vehicle: WLCSP-79

Qual Vehicle Material:

| | | | |
|----------------------------------|---|--------------------------------|----------------------------------|
| RDL (μm) | Ti / Cu / Cu (0.1 / 0.3 / 5.5±1.5) | Back Side Coating | Lintech LC2850 Thickness 25μm |
| UBM (μm) | Ti / Cu / Cu / Ni / SnAg (0.1/0.3/5/2±0.5 / 4) | Solder Ball Material (Bump) | SAC105 |
| Polymide/ Passivation 1 and 2 | Polymide HD4100 Thickness 7 ± 2μm | Solder Ball Diameter (mm) | 0.268 ± 0.025 (268 ± 25μm) |

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 | 0/10 | 0/10 | 0/10 |

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

Appendix B – Affected Product List

| | | | |
|--------------|---------------|---------------|---------------|
| P9222-0AZGI | P9222-R2AZGI | P9222-R5AZGI | P9222S-1AZGI |
| P9222-0AZGI8 | P9222-R2AZGI8 | P9222-R5AZGI8 | P9222S-1AZGI8 |
| P9222-1AZGI | P9222-R3AZGI | P9222-RAZGI | P9222-S2AZGI |
| P9222-1AZGI8 | P9222-R3AZGI8 | P9222-RAZGI8 | P9222-S2AZGI8 |
| P9222-2AZGI | P9222-R4AZGI | P9222-REAZGI | |
| P9222-2AZGI8 | P9222-R4AZGI8 | P9222-REAZGI8 | |