

## Product Advisory (PA)

**Subject:** Add Additional Manufacturing Locations for DDR5 Temp Sensor in WLCSP6

**Publication Date:** 4/30/2021

**Effective Date:** 5/10/2021

**Revision Description:**

Initial Release

### Description of Change:

Renesas is adding alternate manufacturing locations for these products to allow manufacturing flexibility and dual source. The alternate locations, CRSS and SFA are the current Renesas qualified manufacturing locations.

There will be no change in the moisture sensitive level.

| Manufacturing Locations | Pre Bump Sort Location | Assembly /Bump Location | Post Bump Sort Location | Backend Location |
|-------------------------|------------------------|-------------------------|-------------------------|------------------|
| Current                 | REPG, Malaysia         | SFA, Korea              | REPG, Malaysia          | ASEM, Malaysia   |
| Alternate               | CRSS, Malaysia         | SFA, Korea              | SFA, Korea              | SFA, Korea       |

**Affected Product List:** TS5111-Z2AHRI, TS5111-Z2AHRI8, TS5111-Z1AHRI, TS5111-Z1AHRI8, TS5111-Z0AHRI, TS5111-Z0AHRI8

### Reason for Change:

To provide manufacturing flexibility and dual source.

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

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

### Product Identification:

Traceable of manufacturing locations through assembly lot#.

**Qualification Status:** Refer Appendix A. Electrical correlation report available on request.

**Sample Availability Date:** 4/30/2021

**Device Material Declaration:** Available upon request.

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

## Product Qualification Report

Date: 4/27/2021

|                                 |         |                     |              |
|---------------------------------|---------|---------------------|--------------|
| <b>Product : TS5111-Z2AHR18</b> |         |                     |              |
| Fab Base:                       | AP865T  | Process Technology: | CM018G, 1P5M |
| Package Types:                  | WLCSP 6 | Fab Location:       | TSMC         |
|                                 |         | Assembly Location:  | SFA - Korea  |
|                                 |         | Backend Location:   | SFA - Korea  |

| Test Description                | Conditions                              | Sample Size | Results (rej/SS)              | Comments                |
|---------------------------------|-----------------------------------------|-------------|-------------------------------|-------------------------|
| High Temperature Operating Life | JESD22-A108, Ta 125°C, Vccmax, 1000 hrs | 77          | 0/77 x 3 lots                 | Passed                  |
| Early Life Failure Rate         | JESD22-A108, Ta 125°C, Vccmax, 48 hrs   | 1000        | 0/1000 x 3 lots               | Passed                  |
| ESD: Human Body Model           | JESD22-A114 (JS-001) Classification     | 3           | 0/3, x3 lots                  | 2000V Class 2           |
| ESD: Charged Device Model       | JESD22-C101 Classification              | 3           | 0/3, x3 lots                  | 500V Class C2           |
| ESD: Machine Model              | JESD22-A115                             | 3           | 0/3, x 3 lots                 | 200V                    |
| Latch-Up                        | JESD78                                  | 6           | 0/6, x 3 lots                 | T <sub>A</sub> at 125°C |
| Electrical Characterization     | Datasheet                               | 10          | Results reported in Datasheet | Completed               |

## Package Qualification Data

|               |         |                     |               |
|---------------|---------|---------------------|---------------|
| Fab Base:     | AP865T  | Process Technology: | CM018G, 1P5M, |
| Package Type: | WLCSP 6 | Fab Location:       | TSMC          |
|               |         | Assembly Location:  | SFA – Korea   |

| Test Description                                                                    | Conditions                                                   | Sample Size | Results (rej/SS) | Comments    |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------|------------------|-------------|
| Temperature Cycling <sup>1</sup>                                                    | JESD22-A104, -55°C to +125°C, 1000 cycles                    | 77          | 0/77, x3 lots    | Passed      |
| Unbiased Highly Accelerated Temperature and Humidity stress (Unbiased) <sup>1</sup> | JESD22-A118, +130°C, 85% R.H., 96 hrs                        | 77          | 0/77, x3 lots    | Passed      |
| Highly Accelerated Temperature and Humidity stress (Biased) <sup>1</sup>            | JESD22-A110, +130°C, 85% R.H., V <sub>CCmax</sub> , 96 hrs   | 77          | 0/77, x3 lots    | Passed      |
| High Temperature Storage Life                                                       | JESD22-A103, +150°C, 1000 hrs                                | 77          | 0/77, x3 lots    | Passed      |
| Physical Dimension                                                                  | JESD22-B100 (Per applicable Renesas Package Outline Drawing) | 30          | 0/30, x 3 lots   | Pass        |
| Moisture Classification                                                             | J-STD-020                                                    | 77          | 0/77, x 3 lots   | MSL1, 260°C |

**Note:**

1. With preconditioning per JESD22-A113, MSL1 (260°C)