| | | | |
|---|---|---|---|
| **PCN Number:** | 20201106000.1 | **PCN Date:** | Nov 6, 2020 |
| **Title:** | Qualification of Carsem Suzhou as an additional Assembly site for Select Devices | | |
| **Customer Contact:** | PCN Manager | **Dept:** | Quality Services |
| **Proposed 1st Ship Date:** | Feb 6, 2021 | **Estimated Sample Availability:** | Date provided at sample request |

**Change Type:**

| | | | | | |
|---|---|---|---|---|---|
| ☒ | Assembly Site | ☐ | Design | ☐ | Wafer Bump Site |
| ☒ | Assembly Process | ☐ | Data Sheet | ☐ | Wafer Bump Material |
| ☒ | Assembly Materials | ☐ | Part number change | ☐ | Wafer Bump Process |
| ☐ | Mechanical Specification | ☐ | Test Site | ☐ | Wafer Fab Site |
| ☐ | Packing/Shipping/Labeling | ☐ | Test Process | ☐ | Wafer Fab Materials |
| | | | | ☐ | Wafer Fab Process |

## PCN Details

**Description of Change:**

Texas Instruments is pleased to announce the qualification Carsem Suzhou as an additional assembly site for the list of devices below. Current assembly site and Material differences are as follows:

| | UTAC | CARZ |
|---|---|---|
| Lead finish | NiPdAu (Non-rough) | NiPdAuAg (Single Side Top Roughened) |
| Wire type | Au | Cu |
| Mount Compound | PZ0035 | 443156 |

**Reason for Change:**

Continuity of Supply

1) To align with world technology trends and use wiring with enhanced mechanical and electrical properties
2) Maximize flexibility within our Assembly/Test production sites.
3) Cu is easier to obtain and stock

**Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):**

None

**Anticipated impact on Material Declaration**

| | | | |
|---|---|---|---|
| ☐ | No Impact to the Material Declaration | ☒ | Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained at the site link below http://www.ti.com/quality/docs/materialcontentsearch.tsp |

**Changes to product identification resulting from this PCN:**

| Assembly Site | Assembly Site Origin (22L) | Assembly Country Code (23L) | Assembly City |
|---|---|---|---|
| UTAC | NSE | THA | Bangkok |
| **Carsem** | **CSZ** | **CHN** | **Jiangsu** |

Sample product shipping label (not actual product label)


**Product Affected:**

| | |
|---|---|
| AMC7834IRTQR | AMC7834IRTQT |

# Qualification Data

**Approve Date 15-Oct-2020**

## Qualification Results

**Data Displayed as: Number of lots / Total sample size / Total failed**

| Type | Test Name / Condition | Duration | Qual Device: AMC7834IRTQR | QBS Product Reference: AMC7834BIRTQ | QBS Product/Package Reference: AMC7834IRTQR | QBS Process Reference: ADS1232IPW | QBS Process Reference: ADS1259BIPW | QBS Process Reference: AMC7812SPAP |
|---|---|---|---|---|---|---|---|---|
| HTOL | Life Test, 150C | 300 Hours | - | - | 3/231/0 | 1/77/0 | 1/77/0 | 3/231/0 |
| HBM | ESD - HBM | 1000 V | - | - | - | - | - | 3/9/0 |
| HBM | ESD - HBM | 2000 V | - | - | - | 1/3/0 | 1/3/0 | - |
| HBM | ESD - HBM | 750 V | - | - | 1/3/0 | - | - | - |
| CDM | ESD - CDM | 250 V | - | 1/3/0 | 1/3/0 | - | - | - |
| CDM | ESD - CDM | 500 V | - | - | - | 1/3/0 | 1/3/0 | 3/9/0 |
| LU | Latch-up | Per JESD78 | - | 1/6/0 | 1/6/0 | 1/6/0 | 1/6/0 | 3/18/0 |
| ED | Electrical Characterization | Per Datasheet Parameters | Pass | Pass | Pass | Pass | Pass | Pass |
| HAST | Biased HAST, 130C/85%RH | 96 Hours | - | - | 3/231/0 | - | - | - |
| HTSL | High Temp Storage Bake 150C | 1000 Hours | 3/231/0 | - | - | - | - | - |
| HTSL | High Temp Storage Bake 170C | 420 Hours | - | - | 3/135/0 | 1/77/0 | 1/77/0 | 3/231/0 |
| TC | Temperature Cycle, -65/150C | 500 Cycles | 3/231/0 | - | 3/231/0 | 1/77/0 | - | 3/231/0 |
| UHAST | Unbiased HAST 130C/85%RH | 96 Hours | 3/231/0 | - | 3/231/0 | - | - | - |

- QBS: Qual By Similarity
- Qual Device AMC7834IRTQR is qualified at LEVEL3-260C
- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

**Green/Pb-free Status:**

Qualified Pb-Free(SMT) and Green

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