

| | | | | | |
|---|--|---|----------------------|---|---------------------|
| PCN Number: | 20230613001.2 | | PCN Date: | June 16, 2023 | |
| Title: | Qualification of TIPI as an alternate Assembly site for select devices | | | | |
| Customer Contact: | Change Management Team | | Dept: | Quality Services | |
| Proposed 1st Ship Date: | Dec 16, 2023 | Sample Requests accepted until: | Jul 16, 2023 | | |
| *Sample requests received after Jul 16, 2023 will not be supported. | | | | | |
| Change Type: | | | | | |
| <input checked="" type="checkbox"/> | Assembly Site | <input type="checkbox"/> | Design | <input type="checkbox"/> | Wafer Bump Material |
| <input type="checkbox"/> | Assembly Process | <input type="checkbox"/> | Data Sheet | <input type="checkbox"/> | Wafer Bump Process |
| <input type="checkbox"/> | Assembly Materials | <input type="checkbox"/> | Part number change | <input type="checkbox"/> | Wafer Fab Site |
| <input type="checkbox"/> | Mechanical Specification | <input type="checkbox"/> | Test Site | <input type="checkbox"/> | Wafer Fab Material |
| <input type="checkbox"/> | Packing/Shipping/Labeling | <input type="checkbox"/> | Test Process | <input type="checkbox"/> | Wafer Fab Process |
| PCN Details | | | | | |
| Description of Change: | | | | | |
| Texas Instruments Incorporated is announcing the qualification of TIPI as an additional Assembly site for select devices. There are no construction differences between the current and new sites. | | | | | |
| Reason for Change: | | | | | |
| Supply continuity | | | | | |
| Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative): | | | | | |
| None | | | | | |
| Impact on Environmental Ratings | | | | | |
| Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings. | | | | | |
| RoHS | | REACH | | Green Status | |
| <input checked="" type="checkbox"/> No Change | | <input checked="" type="checkbox"/> No Change | | <input checked="" type="checkbox"/> No Change | |
| IEC 62474 | | | | | |
| <input checked="" type="checkbox"/> No Change | | | | | |
| Changes to product identification resulting from this PCN: | | | | | |
| Assembly Site | Assembly Site Origin (22L) | Assembly Country Code (23L) | Assembly City | | |
| Anam | AMP | KOR | Gwangju | | |
| SCK | SCK | KOR | INCHEON | | |
| TIPI | PHI | PHL | Baguio City | | |
| Sample product shipping label (not actual product label) | | | | | |
| <p> TEXAS INSTRUMENTS MADE IN: Malaysia 2DC: 20: MSL '2 /260C/1 YEAR SEAL DT MSL 1 /235C/UNLIM 03/29/04 OPT: ITEM: 39 LBL: 5A (L)T0:1750 </p> <p> (1P) SN74LS07NSR (Q) 2000 (D) 0336 (31T) LOT: 3959047MLA (4W) TKY (1T) 7523483SI2 (P) (2P) REV: (V) 0033317 (20L) CSO: SHE (21L) CCO:USA (22L) ASO: MLA (23L) ACO: MYS </p> | | | | | |
| Product Affected: | | | | | |

| | | | |
|--------------------|-------------------|-------------------|------------------|
| AWR1243FBIGABLQ1 | AWR1642ABIGABLRQ1 | AWR2243ABGABLQ1 | AWR6843ABGABLQ1 |
| AWR1243FBIGABLRQ1 | AWR1642ABISABLQ1 | AWR2243ABGABLRQ1 | AWR6843ABGABLRQ1 |
| AWR1243FVBIGABLRQ1 | AWR1642ABISABLRQ1 | AWR2243APBGABLQ1 | AWR6843ABSABLQ1 |
| AWR1443FQIGABLQ1 | AWR1843ABGABLQ1 | AWR2243APBGABLRQ1 | AWR6843ABSABLRQ1 |
| AWR1443FQIGABLRQ1 | AWR1843ABGABLRQ1 | AWR2243AVBGABLRQ1 | AWR6843AQGABLQ1 |
| AWR1642ABBIGABLQ1 | AWR1843ABSABLQ1 | AWR6443ABGABLQ1 | AWR6843AQGABLRQ1 |
| AWR1642ABIGABLQ1 | AWR1843ABSABLRQ1 | AWR6443ABGABLRQ1 | |

TI Information
Selective Disclosure

Automotive New Product Qualification Summary
(As per AEC-Q100 and JEDEC Guidelines)

Radar ABL Package - Additional Assembly Source - TIPI (TI Philippines)
Approve Date 25-MAY -2023

Product Attributes

| Attributes | Qual Device: AWR1843ABL |
|--------------------------|--|
| Operating Temp Range (C) | -40 to 140C TJ |
| Product Function | Radar Processor |
| Wafer Fab Supplier | UMC-F12 |
| Assembly Site | PHI |
| Package Group | FCBGA |
| Package Designator | ABL |
| Pin Count | 161 |

- QBS: (Qualification By Similarity) - [AWR1243, 1642, 2243, 6843, 6443, and 1443](#) products are QBS to [AWR1843](#).
- Qualification Device AWR1843ABL is qualified at MSL3 260C

Qualification Results

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

| Type | # | Test Spec | Min Lot Qty | SS / Lot | Test Name | Condition | Duration | Qual Device: AWR1843 |
|---|----|-------------------------------------|-------------|----------|--------------------------------------|------------------------------|-------------|----------------------|
| Test Group A - Accelerated Environment Stress Tests | | | | | | | | |
| PC | A1 | JEDEC J-STD-020 JESD22-A113 | 3 | 77 | Preconditioning | MSL3 260C | 1 Step | 3/873/0 |
| HAST | A2 | JEDEC JESD22-A110 | 3 | 77 | Temperature Humidity Bias | 85C/85%RH | 1000 Hours | 3/231/0 |
| AC/UHAST | A3 | JEDEC JESD22-A102/JEDEC JESD22-A118 | 3 | 77 | Unbiased HAST | 110C/85%RH | 264 Hours | 3/231/0 |
| TC | A4 | JEDEC JESD22-A104 and Appendix 3 | 3 | 77 | Temperature Cycle | -55C/150C | 1000 Cycles | 3/231/0 |
| PTC | A5 | JEDEC JESD22-A105 | 1 | 45 | PTC | -40/125C | 1000 Cycles | 1/45/0 |
| HTSL | A6 | JEDEC JESD22-A103 | 1 | 45 | High Temperature Storage Life | 150C | 1000 Hours | 3/78/0 |
| Test Group B - Accelerated Lifetime Simulation Tests | | | | | | | | |
| HTOL | B1 | JEDEC JESD22-A108 | 3 | 77 | Life Test | 140C Tj | 1000 Hours | 3/231/0 |
| ELFR | B2 | AEC Q100-008 | 3 | 800 | Early Life Failure Rate | 140C Tj | 48 Hours | 3/2400/0 |
| Test Group C - Package Assembly Integrity Tests | | | | | | | | |
| PD | C4 | JEDEC JESD22-B100 and B108 | 3 | 10 | Physical Dimensions | Cpk>1.67 | - | 3/30/0 |
| SBS | C5 | AEC-Q003 | 3 | 10 | Solder Ball Shear | Cpk>1.67 | | 3/30/0 |
| Test Group E - Electrical Verification Tests | | | | | | | | |
| ED | E5 | AEC Q100-009 | 3 | 30 | Electrical Distributions | Cpk>1.67 Room, hot, and cold | - | 3/90/0 |
| Additional Tests | | | | | | | | |
| BLR | T1 | - | 1 | 32 | Board Level Reliability - Temp Cycle | -40C/125C | 1000 Cycles | 1/32/0 |

- 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

Ambient Operating Temperature by Automotive Grade Level:

- Grade 0 (or E): -40C to +150C
- Grade 1 (or Q): -40C to +125C
- Grade 2 (or T): -40C to +105C
- Grade 3 (or I) : -40C to +85C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):

- Room/Hot/Cold : HTOL, ED
- Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
- Room : AC/uHAST

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

TI Qualification ID: R-CHG-2111-034

Affected ZVEI IDs: SEM-PA-18

For questions regarding this notice, e-mails can be sent to the Change Management team or your local Field Sales Representative.

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