

|   |   |                                       |                                  |
|---|---|---------------------------------------|----------------------------------|
| <b>PCN Number:</b>                        | 20220329000.1   | <b>PCN Date:</b>                      | April 01, 2022                   |
| <b>Title:</b>                             | Qualification of TSMC-WF3 (Fab 3) as an additional Wafer Fab Site option for select devices |                                       |                                  |
| <b>Customer Contact:</b>                  | <a href="#">PCN Manager</a>   | <b>Dept:</b>                          | Quality Services                 |
| <b>Proposed 1<sup>st</sup> Ship Date:</b> | July 1, 2022  | <b>Estimated Sample Availability:</b> | Date provided at sample request. |
| <b>Change Type:</b>                       |   |                                       |                                  |
| <input type="checkbox"/>                  | Assembly Site   | <input type="checkbox"/>              | Assembly Process                 |
| <input type="checkbox"/>                  | Design  | <input type="checkbox"/>              | Assembly Materials               |
| <input type="checkbox"/>                  | Test Site   | <input type="checkbox"/>              | Electrical Specification         |
| <input type="checkbox"/>                  | Wafer Bump Site   | <input type="checkbox"/>              | Mechanical Specification         |
| <input type="checkbox"/>                  | Wafer Bump Material   | <input type="checkbox"/>              | Test Process                     |
| <input checked="" type="checkbox"/>       | Wafer Fab Site  | <input type="checkbox"/>              | Wafer Bump Process               |
| <input type="checkbox"/>                  | Wafer Fab Materials   | <input type="checkbox"/>              | Wafer Fab Process                |
| <input type="checkbox"/>                  | Part number change  |                                       |                                  |

### PCN Details

#### Description of Change:

Texas Instruments is pleased to announce the qualification of TSMC-WF3 (Fab 3) fabrication facility as an additional Wafer Fab source for the selected devices listed in the "Product Affected" section.

| Current Fab Site  |             |                | Additional Fab Site |             |                |
|-------------------|-------------|----------------|---------------------|-------------|----------------|
| Current Fab Site  | Process     | Wafer Diameter | New Fab Site        | Process     | Wafer Diameter |
| TSMC-WFT (Fab 11) | 0.18UM-TSMC | 200 mm         | TSMC-WF3 (Fab 3)    | 0.18UM-TSMC | 200 mm         |

Qual details are provided in the Qual Data Section.

#### Reason for Change:

Continuity of Supply

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

None

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

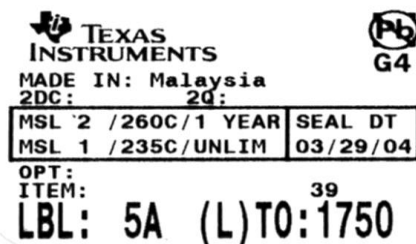
##### Current

| Chip Site         | Chip Site Origin (20L) | Chip Site Country Code (21L) | Chip Site City |
|-------------------|------------------------|------------------------------|----------------|
| TSMC-WFT (Fab 11) | T13                    | USA                          | Camas          |

##### New Fab Site

| Chip Site        | Chip Site Origin (20L) | Chip Site Country Code (21L) | Chip Site City |
|------------------|------------------------|------------------------------|----------------|
| TSMC-WF3 (Fab 3) | TS5                    | TWN                          | Hsinchu        |

Sample product shipping label (not actual product label)



(1P) SN74LS07NSR  
 (Q) 2000 (D) 0336  
 (31T) LOT: 3959047MLA  
 (4W) TKY (1T) 7523483S12  
 (P)  
 (2P) REV: (Y) 0033317  
 (20L) CS0: SHE (21L) CCO: USA  
 (22L) AS0: MLA (23L) ACO: MYS

**Product Affected:**

|               |               |              |              |
|---------------|---------------|--------------|--------------|
| UCD90160ARGCR | UCD90160NPFC  | UCD9090ARGZR | UCD9090ARGZT |
| UCD90160ARGCT | UCD90160NPFCR |              |              |

**Qualification Report**

Approve Date 26-Jan-2022

**Qualification Results**

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

| Type | Test Name / Condition         | Duration                 | Qual Device:<br>UCD90160NPFC | QBS Product<br>Reference:<br>UCD90160ARGC | QBS Product<br>Reference:<br>BQ600212GRGZ | QBS Product<br>Reference:<br>UCD90160RGC | QBS Product<br>Reference:<br>UCD9240PFC | QBS<br>Process/Package<br>Reference:<br>MSP430F6638IPZ | QBS Package<br>Reference:<br>UCD3138A64PFC | QBS Package<br>Reference:<br>VSP5500PFC<br>PG1.1 |
|------|-------------------------------|--------------------------|------------------------------|---|---|--|---|--|--|--|
| ED   | Electrical Characterization   | Per Datasheet Parameters | Pass                         | -   | Pass                                      | -  | -                                       | -  | Pass                                       | -  |
| HBM  | ESD - HBM                     | 4000 V                   | 1/3/0                        | -   | 1/3/0                                     | -  | -                                       | -  | -  | -  |
| CDM  | ESD - CDM                     | 1500 V                   | 1/3/0                        | -   | 1/3/0                                     | -  | -                                       | -  | -  | -  |
| HTOL | Life Test, 125C               | 1000 Hours               | -                            | -   | -   | -  | 1/77/0                                  | -  | -  | -  |
| HTOL | Life Test, 150C               | 300 Hours                | -                            | -   | -   | -  | -                                       | 3/231/0  | -  | -  |
| HTSL | High Temp. Storage Bake, 170C | 420 Hours                | -                            | -   | -   | -  | -                                       | 5/264/0  | 1/77/0                                     | 3/77/0   |
| LU   | Latch-up                      | (per JESD78)             | -                            | -   | 2/12/0                                    | -  | 1/6/0                                   | -  | -  | -  |
| TC   | Temperature Cycle, -65/150C   | 500 Cycles               | -                            | -   | -   | -  | 1/77/0                                  | 3/231/0  | 1/77/0                                     | 3/77/0   |
| HAST | Biased HAST, 130C/85%RH       | 96 Hours                 | -                            | -   | -   | -  | -                                       | -  | -  | 3/77/0   |
| AC   | Autoclave, 121C               | 96 Hours                 | -                            | -   | -   | -  | -                                       | -  | -  | 3/77/0   |

- QBS: Qual By Similarity

- Qual Device UCD90160NPFC 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

For questions regarding this notice, e-mails can be sent to the contact shown below, or you can contact your local Field Sales Representative.

| Location                  | E-Mail   |
|---------------------------|--|
| WW Change Management Team | <a href="mailto:PCN_ww_admin_team@list.ti.com">PCN_ww_admin_team@list.ti.com</a> |

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