



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20140130001B**  
**Hybrid Au/Cu wire bond flow for NFBGA Shiva and Freon Devices**  
**Change Notification / Sample Request**

**Date:** 6/23/2014  
**To:** Newark/Farnell PCN

Dear Customer:

The purpose of Revision B is to communicate a design revision change to the Freon devices listed in the Product Affected Section of this document.

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 90 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager ([PCN\\_ww\\_admin\\_team@list.ti.com](mailto:PCN_ww_admin_team@list.ti.com)).

Sincerely,

PCN Team  
SC Business Services  
Phone: +1(214) 480-6037  
Fax: +1(214) 480-6659

**20140130001B**  
**Attachment: 1**

**Products Affected:**

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

| <b>DEVICE</b>     | <b>CUSTOMER PART NUMBER</b> |
|-------------------|-----------------------------|
| AM1808BZCE4       | null                        |
| AM1808BZWT3       | null                        |
| AM1808BZWT4       | null                        |
| AM1808BZWTD4      | null                        |
| OMAPL132BZWT2     | null                        |
| OMAPL138BZCE3     | null                        |
| OMAPL138BZWT3     | null                        |
| OMAPL138BZWTA3    | null                        |
| OMAPL138BZWTD4    | null                        |
| TMS320C6748BZWT4  | null                        |
| TMS320C6748BZWTA3 | null                        |
| TMS320C6748BZWTD4 | null                        |
| OMAPL138BZWT4     | null                        |

Technical details of this Product Change follow on the next page(s).

|                                                                                                                                                                                                                                                                                                                    |                                                               |                                            |                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|----------------------------------|
| <b>PCN Number:</b>                                                                                                                                                                                                                                                                                                 | 20140130001B                                                  | <b>PCN Date:</b>                           | 06/23/2014                       |
| <b>Title:</b>                                                                                                                                                                                                                                                                                                      | Hybrid Au/Cu wire bond flow for NFBGA Shiva and Freon Devices |                                            |                                  |
| <b>Customer Contact:</b>                                                                                                                                                                                                                                                                                           | <a href="#">PCN Manager</a>                                   | <b>Phone:</b>                              | +1(214)480-6037                  |
| <b>Dept:</b>                                                                                                                                                                                                                                                                                                       | Quality Services                                              |                                            |                                  |
| <b>Proposed 1<sup>st</sup> Ship Date:</b>                                                                                                                                                                                                                                                                          | 09/23/2014                                                    | <b>Estimated Sample Availability:</b>      | Date provided at sample request. |
| <b>Change Type:</b>                                                                                                                                                                                                                                                                                                |                                                               |                                            |                                  |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                           | Assembly Site                                                 | <input checked="" type="checkbox"/>        | Design                           |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                           | Assembly Process                                              | <input type="checkbox"/>                   | Data Sheet                       |
| <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                | Assembly Materials                                            | <input checked="" type="checkbox"/>        | Part number change               |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                           | Mechanical Specification                                      | <input type="checkbox"/>                   | Test Site                        |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                           | Packing/Shipping/Labeling                                     | <input type="checkbox"/>                   | Test Process                     |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                           |                                                               | <input type="checkbox"/>                   | Wafer Bump Site                  |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                           |                                                               | <input type="checkbox"/>                   | Wafer Bump Material              |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                           |                                                               | <input type="checkbox"/>                   | Wafer Bump Process               |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                           |                                                               | <input type="checkbox"/>                   | Wafer Fab Site                   |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                           |                                                               | <input type="checkbox"/>                   | Wafer Fab Materials              |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                           |                                                               | <input type="checkbox"/>                   | Wafer Fab Process                |
| <b>PCN Details</b>                                                                                                                                                                                                                                                                                                 |                                                               |                                            |                                  |
| <b>Description of Change:</b>                                                                                                                                                                                                                                                                                      |                                                               |                                            |                                  |
| <p>The purpose of Revision B is to communicate a design revision change and part number change for the Freon devices listed in the Product Affected Section of this document. Previous sample requests will be built with the new design revision and the new part number.</p>                                     |                                                               |                                            |                                  |
| <b>Design Change:</b>                                                                                                                                                                                                                                                                                              |                                                               |                                            |                                  |
| Description of Design Change                                                                                                                                                                                                                                                                                       |                                                               | Benefit of Change                          |                                  |
| Increased the range of the temperature compensation DAC.                                                                                                                                                                                                                                                           |                                                               | Improved USB performance over temperature. |                                  |
| <p>This is to Qualify a Hybrid Au/Cu wire bond flow for NFBGA Shiva and Freon Devices. See table below for reference:</p>                                                                                                                                                                                          |                                                               |                                            |                                  |
| Material Set                                                                                                                                                                                                                                                                                                       | From                                                          | To                                         |                                  |
| Wire diam (Mils)                                                                                                                                                                                                                                                                                                   | 0.8mil Au wire                                                | 0.8mil Au/Cu wire                          |                                  |
| <b>Reason for Change:</b>                                                                                                                                                                                                                                                                                          |                                                               |                                            |                                  |
| <p>Continuity of supply.</p> <ol style="list-style-type: none"> <li>1) To align with world technology trends and use wiring with enhanced mechanical and electrical properties</li> <li>2) Maximize flexibility within our Assembly/Test production sites.</li> <li>3) Cu is easier to obtain and stock</li> </ol> |                                                               |                                            |                                  |
| <b>Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):</b>                                                                                                                                                                                                                    |                                                               |                                            |                                  |
| None.                                                                                                                                                                                                                                                                                                              |                                                               |                                            |                                  |

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

Die Rev designator will change as shown in the table and sample label below:

**New**

|                     |
|---------------------|
| <b>Die Rev [2P]</b> |
| <b>E</b>            |

**Sample Product Shipping Label** (not actual product label)

 **TEXAS  
INSTRUMENTS**

MADE IN: Malaysia  
2DC: 2Q:

|                    |          |
|--------------------|----------|
| MSL 2 /260C/1 YEAR | SEAL DT  |
| MSL 1 /235C/UNLIM  | 03/29/04 |

OPT:  
ITEM:

39  
**LBL: 5A (L)T0:1750**

  
G4



(1P) **SN74LS07NSR**  
(Q) **2000** (D) **0336**  
(31T) LOT: 3959047MLA  
(4W) TKY(1T) 7523483SI2  
(P)  
(2P) **REV:** (V) 0033317  
(20L) CS0: SHE (21L) CCO:USA  
(22L) AS0: MLA (23L) ACO: MYS

| <b>Product Affected:</b>   |                          |                            |                          |
|----------------------------|--------------------------|----------------------------|--------------------------|
| <b>Current Part Number</b> | <b>New Part Number</b>   | <b>Current Part Number</b> | <b>New Part Number</b>   |
| AM1802BZCED3               | <b>AM1802EZCED3</b>      | OMAPL132DZWTA2             | <b>OMAPL132EZWTA2</b>    |
| AM1802BZWTD3               | <b>AM1802EZWTD3</b>      | OMAPL132DZWTA2R            | <b>OMAPL132EZWTA2R</b>   |
| AM1806BZCE3                | <b>AM1806EZCE3</b>       | OMAPL132EZWTA2R            | No Part Number Change    |
| AM1806BZCE4                | <b>AM1806EZCE4</b>       | OMAPL138AZCEA3             | <b>OMAPL138EZCEA3</b>    |
| AM1806BZCEA3               | <b>AM1806EZCEA3</b>      | OMAPL138AZWT3              | <b>OMAPL138EZWT3</b>     |
| AM1806BZCED4               | <b>AM1806EZCED4</b>      | OMAPL138AZWT3SRT           | <b>OMAPL138EZWT3SRT</b>  |
| AM1806BZWT3                | <b>AM1806EZWT3</b>       | OMAPL138BZCE3              | <b>OMAPL138EZCE3</b>     |
| AM1806BZWT4                | <b>AM1806EZWT4</b>       | OMAPL138BZCE4              | <b>OMAPL138EZCE4</b>     |
| AM1806BZWTD4               | <b>AM1806EZWTD4</b>      | OMAPL138BZCEA3             | <b>OMAPL138EZCEA3</b>    |
| AM1808BZCE3                | <b>AM1808EZCE3</b>       | OMAPL138BZCEA3D            | <b>OMAPL138EZCEA3D</b>   |
| AM1808BZCE4                | <b>AM1808EZCE4</b>       | OMAPL138BZCEA3E            | <b>OMAPL138EZCEA3E</b>   |
| AM1808BZCEA3               | <b>AM1808EZCEA3</b>      | OMAPL138BZCEA3R            | <b>OMAPL138EZCEA3R</b>   |
| AM1808BZCED4               | <b>AM1808EZCED4</b>      | OMAPL138BZCED4             | <b>OMAPL138EZCED4</b>    |
| AM1808BZWT3                | <b>AM1808EZWT3</b>       | OMAPL138BZCED4E            | <b>OMAPL138EZCED4E</b>   |
| AM1808BZWT4                | <b>AM1808EZWT4</b>       | OMAPL138BZCEML             | <b>OMAPL138EZCEML</b>    |
| AM1808BZWTA3               | <b>AM1808EZWTA3</b>      | OMAPL138BZWT3              | <b>OMAPL138EZWT3</b>     |
| AM1808BZWTD4               | <b>AM1808EZWTD4</b>      | OMAPL138BZWT4              | <b>OMAPL138EZWT4</b>     |
| AM1808BZWTT3               | <b>AM1808EZWTT3</b>      | OMAPL138BZWTA3             | <b>OMAPL138EZWTA3</b>    |
| AM1810BZWTA3               | <b>AM1810EZWTA3</b>      | OMAPL138BZWTA3CS           | <b>OMAPL138EZWTA3CS</b>  |
| AM3505AZCN                 | Not Freon - no PN change | OMAPL138BZWTA3E            | <b>OMAPL138EZWTA3E</b>   |
| AM3505AZCNA                | Not Freon - no PN change | OMAPL138BZWTA3R            | <b>OMAPL138EZWTA3R</b>   |
| AM3505AZCNA3               | Not Freon - no PN change | OMAPL138BZWTA4             | <b>OMAPL138EZWTA4</b>    |
| AM3505AZCNC                | Not Freon - no PN change | OMAPL138BZWTD4             | <b>OMAPL138EZWTD4</b>    |
| AM3517AZCN                 | Not Freon - no PN change | OMAPL138BZWTD4E            | <b>OMAPL138EZWTD4E</b>   |
| AM3517AZCNA                | Not Freon - no PN change | OMAPL138BZWTRB             | <b>OMAPL138EZWTRB</b>    |
| AM3517AZCNA3               | Not Freon - no PN change | OMAPL138CZWTA3RW           | <b>OMAPL138EZWTA3RW</b>  |
| D840K002BZCE300            | <b>D840K002EZCE300</b>   | OMAPL138CZWTD4RW           | <b>OMAPL138EZWTD4RW</b>  |
| D840K002BZCE400            | <b>D840K002EZCE400</b>   | OMAPL138DZCEA3             | <b>OMAPL138EZCEA3</b>    |
| D840K002BZCE456            | <b>D840K002EZCE456</b>   | OMAPL138DZCEA3R            | <b>OMAPL138EZCEA3R</b>   |
| D840K002BZWT300            | <b>D840K002EZWT300</b>   | OMAPL138DZWTA3             | <b>OMAPL138EZWTA3</b>    |
| D840K002BZWT400            | <b>D840K002EZWT400</b>   | OMAPL138DZWTA3R            | <b>OMAPL138EZWTA3R</b>   |
| D840K002BZWT456            | <b>D840K002EZWT456</b>   | OMAPL138EZCEA3R            | No Part Number Change    |
| D840K012BZCE400            | <b>D840K012EZCE400</b>   | OMAPL138EZWTA3R            | No Part Number Change    |
| D840K012BZCE456            | <b>D840K012EZCE456</b>   | RZTHC6748                  | <b>TMS320C6748EZWT3</b>  |
| D840K012BZWT300            | <b>D840K012EZWT300</b>   | TMS320DM6437ZWTS6          | Not Freon - no PN change |
| D840K012BZWT400            | <b>D840K012EZWT400</b>   | TMS320C6742BZCE2           | <b>TMS320C6742EZCE2</b>  |
| D840K012BZWT456            | <b>D840K012EZWT456</b>   | TMS320C6742BZWT2           | <b>TMS320C6742EZWT2</b>  |
| D840K022BZCE456            | <b>D840K022EZCE456</b>   | TMS320C6742BZWTA2          | <b>TMS320C6742EZWTA2</b> |
| D840K022BZWT300            | <b>D840K022EZWT300</b>   | TMS320C6746AZWT3           | <b>TMS320C6746EZWT3</b>  |
| D840K022BZWT456            | <b>D840K022EZWT456</b>   | TMS320C6746BZCE3           | <b>TMS320C6746EZCE3</b>  |
| D850K002BZCE300            | <b>D850K002EZCE300</b>   | TMS320C6746BZCEA3          | <b>TMS320C6746EZCEA3</b> |

|                 |                         |                    |                           |
|-----------------|-------------------------|--------------------|---------------------------|
| D850K002BZCE400 | <b>D850K002EZCE400</b>  | TMS320C6746BZCED4  | <b>TMS320C6746EZCED4</b>  |
| D850K002BZCE456 | <b>D850K002EZCE456</b>  | TMS320C6746BZWT3   | <b>TMS320C6746EZWT3</b>   |
| D850K002BZWT300 | <b>D850K002EZWT300</b>  | TMS320C6746BZWT3CS | <b>TMS320C6746EZWT3CS</b> |
| D850K002BZWT400 | <b>D850K002EZWT400</b>  | TMS320C6746BZWT4   | <b>TMS320C6746EZWT4</b>   |
| D850K002BZWT456 | <b>D850K002EZWT456</b>  | TMS320C6746BZWTA3  | <b>TMS320C6746EZWTA3</b>  |
| D850K012BZCE300 | <b>D850K012EZCE300</b>  | TMS320C6746BZWTD4  | <b>TMS320C6746EZWTD4</b>  |
| D850K012BZCE400 | <b>D850K012EZCE400</b>  | TMS320C6748AZCE3   | <b>TMS320C6748EZCE3</b>   |
| D850K012BZCE456 | <b>D850K012EZCE456</b>  | TMS320C6748AZWT3   | <b>TMS320C6748EZWT3</b>   |
| D850K012BZWT300 | <b>D850K012EZWT300</b>  | TMS320C6748BZCE3   | <b>TMS320C6748EZCE3</b>   |
| D850K012BZWT400 | <b>D850K012EZWT400</b>  | TMS320C6748BZCE4   | <b>TMS320C6748EZCE4</b>   |
| D850K012BZWT456 | <b>D850K012EZWT456</b>  | TMS320C6748BZCEA3  | <b>TMS320C6748EZCEA3</b>  |
| D850K018BZWT400 | <b>D850K018EZWT400</b>  | TMS320C6748BZCEA3E | <b>TMS320C6748EZCEA3E</b> |
| D850K022BZCE300 | <b>D850K022EZCE300</b>  | TMS320C6748BZCED4  | <b>TMS320C6748EZCED4</b>  |
| D850K022BZCE400 | <b>D850K022EZCE400</b>  | TMS320C6748BZCED4E | <b>TMS320C6748EZCED4E</b> |
| D850K022BZCE456 | <b>D850K022EZCE456</b>  | TMS320C6748BZWT3   | <b>TMS320C6748EZWT3</b>   |
| D850K022BZWT300 | <b>D850K022EZWT300</b>  | TMS320C6748BZWT3CS | <b>TMS320C6748EZWT3CS</b> |
| D850K022BZWT400 | <b>D850K022EZWT400</b>  | TMS320C6748BZWT4   | <b>TMS320C6748EZWT4</b>   |
| D850K022BZWT456 | <b>D850K022EZWT456</b>  | TMS320C6748BZWTA3  | <b>TMS320C6748EZWTA3</b>  |
| DCHGC6748       | <b>TMS320C6748EZWT3</b> | TMS320C6748BZWTA3E | <b>TMS320C6748EZWTA3E</b> |
| M1OMAPL138DZCE  | <b>M1OMAPL138EZCE</b>   | TMS320C6748BZWTD4  | <b>TMS320C6748EZWTD4</b>  |
| M1OMAPL138DZCER | <b>M1OMAPL138EZCER</b>  | TMS320C6748BZWTD4E | <b>TMS320C6748EZWTD4E</b> |
| M1OMAPL138EZCER | No Part Number Change   | TNETV138BINZWT4    | <b>TNETV138EINZWT4</b>    |
| M1OMAPL138ZCE   | <b>M1OMAPL138EZCE</b>   | XAM1808BZCE4       | <b>AM1808EZCE4</b>        |
| M1OMAPL138ZCER  | <b>M1OMAPL138EZCER</b>  | XOMAPL138BZCE      | <b>OMAPL138EZCE3</b>      |
| OMAPL132BZWT2   | <b>OMAPL132EZWT2</b>    | XOMAPL138EZCEA3R   | <b>OMAPL138EZCEA3R</b>    |
| OMAPL132BZWTA2  | <b>OMAPL132EZWTA2</b>   | XOMAPL138EZWTA3    | <b>OMAPL138EZWTA3</b>     |
| OMAPL132BZWTA2E | <b>OMAPL132EZWTA2E</b>  | XOMAPL138EZWTA3R   | <b>OMAPL138EZWTA3R</b>    |
| OMAPL132BZWTA2R | <b>OMAPL132EZWTA2R</b>  |                    |                           |

**FREON C021.M - PG2.3 (Revision E Qualification)**  
**Approved 03/12/2014**

Product Attributes

| Attributes             | Qual Device:<br>AM1808BZCE4_PG2.3 | Qual Device:<br>OMAPL138BZWTQ3_PG2.3 | Qual Device:<br>TMS320C6748BZWTA3E_PG2.1 |
|------------------------|-----------------------------------|--------------------------------------|------------------------------------------|
| Operating Temp Range   | -40C to 105C                      | -40C to 105C                         | -40C to 105C                             |
| Automotive Grade Level | Major Change                      | Major Change                         | Major Change                             |
| Wafer Fab Site         | UMC FAB12I                        | UMC FAB12I                           | UMC FAB12I                               |
| Die Revision           | E                                 | E                                    | C                                        |
| Assembly Site          | PHI                               | PHI                                  | PHI                                      |
| Package Type           | BGA                               | BGA                                  | BGA                                      |
| Package Designator     | ZCE                               | ZWT                                  | ZWT                                      |
| Ball/Lead Count        | 361                               | 361                                  | 361                                      |

- QBS: Qual By Similarity
- Qual Device AM1808BZCE4\_PG2.3 is qualified at LEVEL3-260C
- Qual Device OMAPL138BZWTQ3\_PG2.3 is qualified at LEVEL3-260C
- Qual Device TMS320C6748BZWT3E\_PG2.1 is qualified at LEVEL3-260C

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

| Type                                                      | #  | Test Name / Condition                       | Duration                        | Qual Device:<br>AM1808BZCE4_PG2.3 | Qual Device:<br>OMAPL138BZWTQ3_PG2.3 | Qual Device:<br>TMS320C6748BZWT3E_PG2.1                                    |
|-----------------------------------------------------------|----|---------------------------------------------|---------------------------------|-----------------------------------|--------------------------------------|----------------------------------------------------------------------------|
| <b>Test Group A - Accelerated Environment Stress Test</b> |    |                                             |                                 |                                   |                                      |                                                                            |
| PC                                                        | A1 | Preconditioning                             | Level3-260C                     | -                                 | -                                    | Performed on <u>ALL</u> SMD devices prior to THB/HAST, AC/UHST, TC and PTC |
| THB                                                       | A2 | Biased Temperature and Humidity, 85C/85%RH  | 1000 hours                      | -                                 | -                                    | 3/78/0                                                                     |
| UHAST                                                     | A3 | Unbiased HAST 110C/85%RH                    | 264 hours                       | -                                 | -                                    | 3/231/0                                                                    |
| TC                                                        | A4 | Temperature Cycle, -55/125C                 | 1000 cycles                     | -                                 | -                                    | 3/231/0                                                                    |
| HTSL                                                      | A6 | High Temp Storage Bake 150C                 | 1000 hours                      | -                                 | -                                    | 3/231/0                                                                    |
| <b>Test Group C - Package Assembly Integrity Tests</b>    |    |                                             |                                 |                                   |                                      |                                                                            |
| WBS                                                       | C1 | Wire Bond Shear (Ppk > 1.67 and Cpk > 1.33) | 30 Bonds / 5 Parts Minimum      | -                                 | -                                    | 3 / Pass                                                                   |
| WBP                                                       | C2 | Wire Bond Pull (Ppk > 1.67 and Cpk > 1.33)  | 30 Bonds / 5 Parts Minimum      | -                                 | -                                    | 3 / Pass                                                                   |
| <b>Test Group E - Electrical Verification</b>             |    |                                             |                                 |                                   |                                      |                                                                            |
| CDM                                                       | E3 | ESD - CDM (JEDEC)                           | +/-250V                         | 1/3/0                             | -                                    | -                                                                          |
| CDM                                                       | E3 | ESD - CDM (JEDEC)                           | +/-500V                         | 1/3/0                             | -                                    | -                                                                          |
| CDM                                                       | E3 | ESD - CDM (JEDEC)                           | +/-750V                         | 1/3/0                             | -                                    | -                                                                          |
| CDM                                                       | E3 | ESD - CDM - Q100                            | +/-750V (corner BGA)            | -                                 | 1/3/0                                | -                                                                          |
| CDM                                                       | E3 | ESD - CDM - Q100                            | +/-250V                         | -                                 | 1/3/0                                | -                                                                          |
| CDM                                                       | E3 | ESD - CDM - Q100                            | +/-500V                         | -                                 | 1/3/0                                | -                                                                          |
| ED                                                        | E5 | Electrical Characterization.                | PLL frequency shift eval on ATE | 1 / Pass                          | -                                    | -                                                                          |

| Additional Tests |                                   |                               |          |          |   |
|------------------|-----------------------------------|-------------------------------|----------|----------|---|
| MQ               | Manufacturability (Assembly)      | (per mfg. Site specification) | 1 / Pass | -        | - |
| MQ               | Manufacturability (Auto Assembly) | (per automotive requirements) | -        | 1 / Pass | - |

**A1 (PC): Preconditioning:**

Performed for THB, Biased HAST, AC, uHAST & TC samples, as applicable.

**Ambient Operating Temperature by Automotive Grade Level:**

Grade 0 (or A): -40°C to +150°C  
Grade 1 (or Q): -40°C to +125°C  
Grade 2 (or T): -40°C to +105°C  
Grade 3 (or I) : -40°C to +85°C  
Grade 4 (or C): -40°C to +70°C

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

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

**Green/Pb-free Status:**

Qualified Pb-Free(SMT) and Green

| <b>Qualification Data</b>                                                                                                                                                                               |                               |                  |               |       |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------|---------------|-------|--|
| This qualification has been specifically developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications. |                               |                  |               |       |  |
| <b>Qual Vehicle 1: AM3517ZCN (MSL 3-260C)</b>                                                                                                                                                           |                               |                  |               |       |  |
| <b>Package Construction Details</b>                                                                                                                                                                     |                               |                  |               |       |  |
| Assembly Site:                                                                                                                                                                                          | TI-PHI                        | Mold Compound:   | 4205283       |       |  |
| # Pins-Designator, Family:                                                                                                                                                                              | 491-ZCN, BGA                  | Mount Compound:  | 4205412       |       |  |
| Solder Ball composition                                                                                                                                                                                 | SnAgCu                        | Bond Wire:       | 0.80Mil Au/Cu |       |  |
| <b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> <b>Test Results</b>                                                                                             |                               |                  |               |       |  |
| Reliability Test                                                                                                                                                                                        | Conditions                    | Sample Size/Fail |               |       |  |
|                                                                                                                                                                                                         |                               | Lot#1            | Lot#2         | Lot#3 |  |
| ** Biased HAST                                                                                                                                                                                          | 130C/85%RH (264 HRS)          | 77/0             | 77/0          | 77/0  |  |
| **Unbiased HAST                                                                                                                                                                                         | 130C/85%RH (192 HRS)          | 77/0             | 77/0          | 77/0  |  |
| **T/C                                                                                                                                                                                                   | -55C/+125C (1000 Cyc)         | 77/0             | 77/0          | 77/0  |  |
| **High Temp Storage Bake                                                                                                                                                                                | 150C (1000 Hrs)               | 20/0             | 20/0          | 20/0  |  |
| ESD CDM                                                                                                                                                                                                 | +/- 250V                      | 3/0              | 3/0           | 3/0   |  |
| Manufacturability                                                                                                                                                                                       | (per mfg. Site specification) | Pass             | -             | -     |  |
| Notes    **- Preconditioning sequence: Level 3-260C.                                                                                                                                                    |                               |                  |               |       |  |



| Qual Vehicle 2: AM1808BZCE4 (MSL 3-260C)                                                             |                               |                  |                  |       |
|------------------------------------------------------------------------------------------------------|-------------------------------|------------------|------------------|-------|
| Package Construction Details                                                                         |                               |                  |                  |       |
| Assembly Site:                                                                                       | TI-PHI                        | Mold Compound:   | 4208515          |       |
| # Pins-Designator, Family:                                                                           | 361-ZCE, BGA                  | Mount Compound:  | 4205412          |       |
| Solder Ball composition                                                                              | SnAgCu                        | Bond Wire:       | 0.80Mil Au/Cu    |       |
| <b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results |                               |                  |                  |       |
| Reliability Test                                                                                     | Conditions                    |                  | Sample Size/Fail |       |
| ESD CDM                                                                                              | +/- 250V; +/- 500v; +/- 750V  |                  | 3/0              |       |
| Manufacturability                                                                                    | (per mfg. Site specification) |                  | Pass             |       |
| Qual Vehicle 3: OMAPL138BZWTQ3 (MSL 3-260C)                                                          |                               |                  |                  |       |
| Package Construction Details                                                                         |                               |                  |                  |       |
| Assembly Site:                                                                                       | TI-PHI                        | Mold Compound:   | 4208515          |       |
| # Pins-Designator, Family:                                                                           | 361-ZWT, BGA                  | Mount Compound:  | 4205412          |       |
| Solder Ball composition                                                                              | SnAgCu                        | Bond Wire:       | 0.80Mil Au/Cu    |       |
| <b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results |                               |                  |                  |       |
| Reliability Test                                                                                     | Conditions                    |                  | Sample Size/Fail |       |
| ESD CDM                                                                                              | +/- 250V; +/- 500v; +/- 750V  |                  | 3/0              |       |
| Manufacturability                                                                                    | (per mfg. Site specification) |                  | Pass             |       |
| Qual Vehicle 4: TMS320C6748BZWTA3E (MSL 3-260C)                                                      |                               |                  |                  |       |
| Package Construction Details                                                                         |                               |                  |                  |       |
| Assembly Site:                                                                                       | TI-PHI                        | Mold Compound:   | 4208515          |       |
| # Pins-Designator, Family:                                                                           | 361-ZWT, BGA                  | Mount Compound:  | 4205412          |       |
| Solder Ball composition                                                                              | SnAgCu                        | Bond Wire:       | 0.80Mil Au/Cu    |       |
| <b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results |                               |                  |                  |       |
| Reliability Test                                                                                     | Conditions                    | Sample Size/Fail |                  |       |
|                                                                                                      |                               | Lot#1            | Lot#2            | Lot#3 |
| ** Biased Temp and Humidity                                                                          | 85C/85%RH (1000 Hrs)          | 26/0             | 26/0             | 26/0  |
| **Unbiased HAST                                                                                      | 110C/85%RH (264 Hrs)          | 77/0             | 77/0             | 77/0  |
| **T/C                                                                                                | -55C/+125C (1000 Cyc)         | 77/0             | 77/0             | 77/0  |
| **High Temp Storage Bake                                                                             | 150C (1000 Hrs)               | 77/0             | 77/0             | 77/0  |
| Notes   **- Preconditioning sequence: Level 3-260C.                                                  |                               |                  |                  |       |

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

| Location     | E-Mail                                                                             |
|--------------|------------------------------------------------------------------------------------|
| USA          | <a href="mailto:PCNAmericasContact@list.ti.com">PCNAmericasContact@list.ti.com</a> |
| Europe       | <a href="mailto:PCNEuropeContact@list.ti.com">PCNEuropeContact@list.ti.com</a>     |
| Asia Pacific | <a href="mailto:PCNAsiaContact@list.ti.com">PCNAsiaContact@list.ti.com</a>         |
| Japan        | <a href="mailto:PCNJapanContact@list.ti.com">PCNJapanContact@list.ti.com</a>       |