



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN#20150731001**  
**Add Cu as Alternative Wire Base Metal for Selected Device(s)**  
**Change Notification / Sample Request**

Dear Customer:

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 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The proposed first ship date is indicated on page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

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

**PCN# 20150731001**  
**Attachment: 1**

**Products Affected:**

According to our records, there are the affected device(s) that you have purchased within the past twenty-four (24) months. Technical details of this Product Change follow on the next page(s).

| <b>PCN Number:</b>                                                                                                                                                                                                                                                                                                  | 20150731001                                                  |                                     | <b>PCN Date:</b>                                                                                                                                                                                                                               | 08/12/2015                      |                     |            |              |                 |             |            |              |     |                   |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------|------------|--------------|-----------------|-------------|------------|--------------|-----|-------------------|--------------|
| <b>Title:</b>                                                                                                                                                                                                                                                                                                       | Add Cu as Alternative Wire Base Metal for Selected Device(s) |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| <b>Customer Contact:</b>                                                                                                                                                                                                                                                                                            | <a href="#">PCN Manager</a>                                  | <b>Dept:</b>                        | Quality Services                                                                                                                                                                                                                               |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| <b>Proposed 1<sup>st</sup> Ship Date:</b>                                                                                                                                                                                                                                                                           | 11/12/2015                                                   |                                     | <b>Estimated Sample Availability:</b>                                                                                                                                                                                                          | Date provided at sample request |                     |            |              |                 |             |            |              |     |                   |              |
| <b>Change Type:</b>                                                                                                                                                                                                                                                                                                 |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                            | Assembly Site                                                | <input type="checkbox"/>            | Design                                                                                                                                                                                                                                         | <input type="checkbox"/>        | Wafer Bump Site     |            |              |                 |             |            |              |     |                   |              |
| <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                 | Assembly Process                                             | <input type="checkbox"/>            | Data Sheet                                                                                                                                                                                                                                     | <input type="checkbox"/>        | Wafer Bump Material |            |              |                 |             |            |              |     |                   |              |
| <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                 | Assembly Materials                                           | <input type="checkbox"/>            | Part number change                                                                                                                                                                                                                             | <input type="checkbox"/>        | Wafer Bump Process  |            |              |                 |             |            |              |     |                   |              |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                            | Mechanical Specification                                     | <input type="checkbox"/>            | Test Site                                                                                                                                                                                                                                      | <input type="checkbox"/>        | Wafer Fab Site      |            |              |                 |             |            |              |     |                   |              |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                            | Packing/Shipping/Labeling                                    | <input type="checkbox"/>            | Test Process                                                                                                                                                                                                                                   | <input type="checkbox"/>        | Wafer Fab Materials |            |              |                 |             |            |              |     |                   |              |
|                                                                                                                                                                                                                                                                                                                     |                                                              |                                     |                                                                                                                                                                                                                                                | <input type="checkbox"/>        | Wafer Fab Process   |            |              |                 |             |            |              |     |                   |              |
| <b>PCN Details</b>                                                                                                                                                                                                                                                                                                  |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| <b>Description of Change:</b>                                                                                                                                                                                                                                                                                       |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| Texas Instruments is pleased to announce the qualification of Cu as an additional bond wire option for selected devices listed in "Product affected" section below. Devices will remain in current assembly facilities and there will be no other piece part changes:                                               |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| <table border="1" style="width: 100%;"> <thead> <tr> <th>Pkg Family</th> <th>Current Wire</th> <th>Additional Wire</th> </tr> </thead> <tbody> <tr> <td>SOIC, VSSOP</td> <td>Au, 1.0mil</td> <td>Cu, 0.96 mil</td> </tr> <tr> <td>SOT</td> <td>Au, 0.9 / 1.0 mil</td> <td>Cu, 0.96 mil</td> </tr> </tbody> </table> |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     | Pkg Family | Current Wire | Additional Wire | SOIC, VSSOP | Au, 1.0mil | Cu, 0.96 mil | SOT | Au, 0.9 / 1.0 mil | Cu, 0.96 mil |
| Pkg Family                                                                                                                                                                                                                                                                                                          | Current Wire                                                 | Additional Wire                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| SOIC, VSSOP                                                                                                                                                                                                                                                                                                         | Au, 1.0mil                                                   | Cu, 0.96 mil                        |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| SOT                                                                                                                                                                                                                                                                                                                 | Au, 0.9 / 1.0 mil                                            | Cu, 0.96 mil                        |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| <b>Reason for Change:</b>                                                                                                                                                                                                                                                                                           |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| Continuity of supply.<br>1) To align with world technology trends and use wiring with enhanced mechanical and electrical properties<br>2) Maximize flexibility within our Assembly/Test production sites.<br>3) Cu is easier to obtain and stock                                                                    |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| <b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>                                                                                                                                                                                                                     |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| None                                                                                                                                                                                                                                                                                                                |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| <b>Anticipated impact on Material Declaration</b>                                                                                                                                                                                                                                                                   |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                            | No Impact to the Material Declaration                        | <input checked="" type="checkbox"/> | 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 from the <a href="#">TI ECO website</a> . |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| <b>Changes to product identification resulting from this PCN:</b>                                                                                                                                                                                                                                                   |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |
| None                                                                                                                                                                                                                                                                                                                |                                                              |                                     |                                                                                                                                                                                                                                                |                                 |                     |            |              |                 |             |            |              |     |                   |              |

**Product Affected:**

| Device               | Pkg Family | Device                   | Pkg Family |
|----------------------|------------|--------------------------|------------|
| EMB1478MR/NOPB       | SOIC       | LP2985AIM5X-2.5/NOPB     | SOT        |
| EMB1478MRE/NOPB      | SOIC       | LP2985AIM5X-2.6/NOPB     | SOT        |
| EMB1478MRX/NOPB      | SOIC       | LP2985AIM5X-2.7/NOPB     | SOT        |
| EMB1498MF/NOPB       | SOT        | LP2985AIM5X-2.8/NOPB     | SOT        |
| EMB1498MFE/NOPB      | SOT        | LP2985AIM5X-2.9/NOPB     | SOT        |
| EMB1498MFX/NOPB      | SOT        | LP2985AIM5X-3.0/NOPB     | SOT        |
| LM4040BIM7-2.0/NOPB  | SOT        | LP2985AIM5X-3.1/NOPB     | SOT        |
| LM4040BIM7-2.5       | SOT        | LP2985AIM5X-3.3          | SOT        |
| LM4040BIM7-2.5/NOPB  | SOT        | LP2985AIM5X-3.3/E7002217 | SOT        |
| LM4040BIM7-5.0/NOPB  | SOT        | LP2985AIM5X-3.3/NOPB     | SOT        |
| LM4040BIM7X-2.5/NOPB | SOT        | LP2985AIM5X-3.6/NOPB     | SOT        |
| LM4040CIM7-2.0/NOPB  | SOT        | LP2985AIM5X-3.8/NOPB     | SOT        |
| LM4040CIM7-2.5/NOPB  | SOT        | LP2985AIM5X-4.0/NOPB     | SOT        |
| LM4040CIM7X-2.5/NOPB | SOT        | LP2985AIM5X-4.5/NOPB     | SOT        |
| LM4040DIM7-2.0/NOPB  | SOT        | LP2985AIM5X-5.0          | SOT        |
| LM4040DIM7-2.5/NOPB  | SOT        | LP2985AIM5X-5.0/NOPB     | SOT        |
| LM4040DIM7-5.0       | SOT        | LP2985AIM5X-5.7/NOPB     | SOT        |
| LM4040DIM7-5.0/NOPB  | SOT        | LP2985AIM5X-6.1/NOPB     | SOT        |
| LM4040EIM7-2.0/NOPB  | SOT        | LP2985IM5-1.8            | SOT        |
| LM4041BIM7-1.2       | SOT        | LP2985IM5-1.8/NOPB       | SOT        |
| LM4041BIM7-1.2/NOPB  | SOT        | LP2985IM5-2.0            | SOT        |
| LM4041BIM7X-1.2/NOPB | SOT        | LP2985IM5-2.0/NOPB       | SOT        |
| LM4041CIM7-ADJ       | SOT        | LP2985IM5-2.5            | SOT        |
| LM4041CIM7-ADJ/NOPB  | SOT        | LP2985IM5-2.5/NOPB       | SOT        |
| LM4041CIM7X-1.2/NOPB | SOT        | LP2985IM5-2.7/NOPB       | SOT        |
| LM4041CIM7X-ADJ      | SOT        | LP2985IM5-2.8/NOPB       | SOT        |
| LM4041CIM7X-ADJ/NOPB | SOT        | LP2985IM5-2.9/NOPB       | SOT        |
| LM4041DIM7-1.2/NOPB  | SOT        | LP2985IM5-3.0/NOPB       | SOT        |
| LM4041DIM7-ADJ/NOPB  | SOT        | LP2985IM5-3.1/NOPB       | SOT        |
| LM4041DIM7X-1.2/NOPB | SOT        | LP2985IM5-3.2/NOPB       | SOT        |
| LM4041DIM7X-ADJ/NOPB | SOT        | LP2985IM5-3.3            | SOT        |
| LM4041EIM7-1.2/NOPB  | SOT        | LP2985IM5-3.3/NOPB       | SOT        |
| LM4041EIM7X-1.2/NOPB | SOT        | LP2985IM5-3.5/NOPB       | SOT        |
| LMH6601MG/NOPB       | SOT        | LP2985IM5-3.6            | SOT        |
| LMH6601MGX/NOPB      | SOT        | LP2985IM5-3.6/NOPB       | SOT        |
| LMH6657MG            | SOT        | LP2985IM5-3.8            | SOT        |
| LMH6657MG/NOPB       | SOT        | LP2985IM5-3.8/NOPB       | SOT        |
| LMH6657MGX/NOPB      | SOT        | LP2985IM5-4.0/NOPB       | SOT        |
| LMS33460MG           | SOT        | LP2985IM5-4.5/NOPB       | SOT        |
| LMS33460MG/NOPB      | SOT        | LP2985IM5-5.0            | SOT        |
| LMV301MG/NOPB        | SOT        | LP2985IM5-5.0/NOPB       | SOT        |
| LMV301MGX            | SOT        | LP2985IM5-5.7/NOPB       | SOT        |
| LMV301MGX/NOPB       | SOT        | LP2985IM5-6.1/NOPB       | SOT        |
| LMV321M7             | SOT        | LP2985IM5X-1.8/NOPB      | SOT        |
| LMV321M7/J7001897    | SOT        | LP2985IM5X-2.0/NOPB      | SOT        |
| LMV321M7X            | SOT        | LP2985IM5X-2.5/NOPB      | SOT        |
| LMV321M7X/J7001898   | SOT        | LP2985IM5X-2.7/NOPB      | SOT        |
| LMV321M7X/NOPB       | SOT        | LP2985IM5X-2.8/NOPB      | SOT        |
| LMV331M7             | SOT        | LP2985IM5X-2.9/NOPB      | SOT        |
| LMV331M7/NOPB        | SOT        | LP2985IM5X-3.0/NOPB      | SOT        |
| LMV331M7X            | SOT        | LP2985IM5X-3.1/NOPB      | SOT        |
| LMV331M7X/NOPB       | SOT        | LP2985IM5X-3.3/NOPB      | SOT        |
| LMV341MG/NOPB        | SOT        | LP2985IM5X-3.3/S5001421  | SOT        |
| LMV341MGX/NOPB       | SOT        | LP2985IM5X-3.6/NOPB      | SOT        |

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|---------------------|-----|------------------------|-------|
| LMV551MG/NOPB       | SOT | LP2985IM5X-3.8/NOPB    | SOT   |
| LMV551MGX/NOPB      | SOT | LP2985IM5X-4.0/NOPB    | SOT   |
| LMV601MG/NOPB       | SOT | LP2985IM5X-4.5/NOPB    | SOT   |
| LMV601MGX/NOPB      | SOT | LP2985IM5X-5.0         | SOT   |
| LMV611MG/NOPB       | SOT | LP2985IM5X-5.0/NOPB    | SOT   |
| LMV611MGX/NOPB      | SOT | LP2985IM5X-5.7/NOPB    | SOT   |
| LMV641MG/NOPB       | SOT | LP2985IM5X-6.1/NOPB    | SOT   |
| LMV641MGE/NOPB      | SOT | LP2986AIM-3.0/NOPB     | SOIC  |
| LMV641MGX/NOPB      | SOT | LP2986AIM-3.3          | SOIC  |
| LMV651MG/NOPB       | SOT | LP2986AIM-3.3/NOPB     | SOIC  |
| LMV651MGX/NOPB      | SOT | LP2986AIM-5.0          | SOIC  |
| LMV7219M7           | SOT | LP2986AIM-5.0/NOPB     | SOIC  |
| LMV7219M7/NOPB      | SOT | LP2986AIMM-3.0/NOPB    | VSSOP |
| LMV7219M7X          | SOT | LP2986AIMM-3.3/NOPB    | VSSOP |
| LMV7219M7X/NOPB     | SOT | LP2986AIMM-5.0/NOPB    | VSSOP |
| LMV721M7            | SOT | LP2986AIMMX-3.0/NOPB   | VSSOP |
| LMV721M7/NOPB       | SOT | LP2986AIMMX-3.3/NOPB   | VSSOP |
| LMV721M7X/NOPB      | SOT | LP2986AIMMX-5.0/NOPB   | VSSOP |
| LMV7235M7           | SOT | LP2986AIMX-3.0/NOPB    | SOIC  |
| LMV7235M7/NOPB      | SOT | LP2986AIMX-3.3/NOPB    | SOIC  |
| LMV7235M7X/NOPB     | SOT | LP2986AIMX-5.0/NOPB    | SOIC  |
| LMV7239M7           | SOT | LP2986IM-3.0/NOPB      | SOIC  |
| LMV7239M7/E7001398  | SOT | LP2986IM-3.3           | SOIC  |
| LMV7239M7/HALF      | SOT | LP2986IM-3.3/NOPB      | SOIC  |
| LMV7239M7/MESN      | SOT | LP2986IM-5.0           | SOIC  |
| LMV7239M7/NOPB      | SOT | LP2986IM-5.0/NOPB      | SOIC  |
| LMV7239M7X          | SOT | LP2986IMM-3.0/NOPB     | VSSOP |
| LMV7239M7X/E7002743 | SOT | LP2986IMM-3.3          | VSSOP |
| LMV7239M7X/HALF     | SOT | LP2986IMM-3.3/NOPB     | VSSOP |
| LMV7239M7X/MESN     | SOT | LP2986IMM-5.0/NOPB     | VSSOP |
| LMV7239M7X/NOPB     | SOT | LP2986IMMX-3.0/NOPB    | VSSOP |
| LMV7271MG           | SOT | LP2986IMMX-3.3/NOPB    | VSSOP |
| LMV7271MG/NOPB      | SOT | LP2986IMMX-5.0/NOPB    | VSSOP |
| LMV7271MGX/NOPB     | SOT | LP2986IMX-3.0/NOPB     | SOIC  |
| LMV7275MG           | SOT | LP2986IMX-3.3/E7002697 | SOIC  |
| LMV7275MGX/EMSN     | SOT | LP2986IMX-3.3/NOPB     | SOIC  |
| LMV7275MGX/NOPB     | SOT | LP2986IMX-5.0          | SOIC  |
| LMV7291MG           | SOT | LP2986IMX-5.0/NAK2     | SOIC  |
| LMV7291MG/67        | SOT | LP2986IMX-5.0/NOPB     | SOIC  |
| LMV7291MG/NOPB      | SOT | LP2987AIMM-5.0/NOPB    | VSSOP |
| LMV7291MGX/NOPB     | SOT | LP2987AIMMX-5.0/NOPB   | VSSOP |
| LMV771MG            | SOT | LP2987AIMX-5.0/NOPB    | SOIC  |
| LMV771MG/HALF       | SOT | LP2987IM-3.0/NOPB      | SOIC  |
| LMV771MG/NOPB       | SOT | LP2987IM-3.3/NOPB      | SOIC  |
| LMV771MGX/NOPB      | SOT | LP2987IM-5.0           | SOIC  |
| LMV821M7            | SOT | LP2987IM-5.0/NOPB      | SOIC  |
| LMV821M7/NOPB       | SOT | LP2987IMM-3.3/NOPB     | VSSOP |
| LMV821M7X           | SOT | LP2987IMM-5.0/NOPB     | VSSOP |
| LMV821M7X/NOPB      | SOT | LP2987IMMX-3.3/NOPB    | VSSOP |
| LMV831MG/NOPB       | SOT | LP2987IMMX-5.0/NOPB    | VSSOP |
| LMV831MGE/NOPB      | SOT | LP2987IMX-3.0/NOPB     | SOIC  |
| LMV831MGX/NOPB      | SOT | LP2987IMX-5.0/NOPB     | SOIC  |
| LMV841MG/NOPB       | SOT | LP2988AIM-5.0          | SOIC  |
| LMV841MGX/NOPB      | SOT | LP2988AIM-5.0/NOPB     | SOIC  |
| LMV841MGX/S7002498  | SOT | LP2988AIMM-2.8/NOPB    | VSSOP |
| LMV851MG/NOPB       | SOT | LP2988AIMM-3.0/NOPB    | VSSOP |
| LMV851MGE/NOPB      | SOT | LP2988AIMM-3.3/NOPB    | VSSOP |
| LMV851MGX/NOPB      | SOT | LP2988AIMM-5.0/NOPB    | VSSOP |

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|-------------------------|-----|-------------------------|-------|
| LMV861MG/NOPB           | SOT | LP2988AIMMX-3.0/NOPB    | VSSOP |
| LMV861MGE/NOPB          | SOT | LP2988AIMMX-3.3/NOPB    | VSSOP |
| LMV861MGX/NOPB          | SOT | LP2988AIMMX-5.0/NOPB    | VSSOP |
| LMV861MGX/S7002538      | SOT | LP2988AIMX-3.3/NOPB     | SOIC  |
| LMV931MG                | SOT | LP2988IM-5.0/NOPB       | SOIC  |
| LMV931MG/J7002117       | SOT | LP2988IMM-2.8/NOPB      | VSSOP |
| LMV931MG/NOPB           | SOT | LP2988IMM-3.0/NOPB      | VSSOP |
| LMV931MGX/J7001669      | SOT | LP2988IMM-3.3/NOPB      | VSSOP |
| LMV931MGX/J7002116      | SOT | LP2988IMM-5.0           | VSSOP |
| LMV931MGX/MESN          | SOT | LP2988IMM-5.0/NOPB      | VSSOP |
| LMV931MGX/NOPB          | SOT | LP2988IMMX-3.0/NOPB     | VSSOP |
| LMV981MG                | SOT | LP2988IMMX-3.3/NOPB     | VSSOP |
| LMV981MG/NOPB           | SOT | LP2988IMMX-5.0/NOPB     | VSSOP |
| LMV981MGX/NOPB          | SOT | LP2988IMX-5.0/NOPB      | SOIC  |
| LP2980AIM5-2.5          | SOT | LP2989AIM-1.8           | SOIC  |
| LP2980AIM5-2.5/NOPB     | SOT | LP2989AIM-1.8/NOPB      | SOIC  |
| LP2980AIM5-2.5/S7002303 | SOT | LP2989AIM-2.5           | SOIC  |
| LP2980AIM5-3.0          | SOT | LP2989AIM-2.5/NOPB      | SOIC  |
| LP2980AIM5-3.0/NOPB     | SOT | LP2989AIM-3.0/NOPB      | SOIC  |
| LP2980AIM5-3.3          | SOT | LP2989AIM-3.3/NOPB      | SOIC  |
| LP2980AIM5-3.3/NOPB     | SOT | LP2989AIM-5.0           | SOIC  |
| LP2980AIM5-3.3/S7002302 | SOT | LP2989AIM-5.0/NOPB      | SOIC  |
| LP2980AIM5-4.7/NOPB     | SOT | LP2989AIMM-2.5/J7001931 | VSSOP |
| LP2980AIM5-5.0          | SOT | LP2989AIMM-2.5/NOPB     | VSSOP |
| LP2980AIM5-5.0/NOPB     | SOT | LP2989AIMM-3.0/NOPB     | VSSOP |
| LP2980AIM5X-2.5         | SOT | LP2989AIMM-3.3/NOPB     | VSSOP |
| LP2980AIM5X-2.5/NOPB    | SOT | LP2989AIMM-5.0/NOPB     | VSSOP |
| LP2980AIM5X-3.0         | SOT | LP2989AIMMX-2.5/NOPB    | VSSOP |
| LP2980AIM5X-3.0/NOPB    | SOT | LP2989AIMMX-3.0/NOPB    | VSSOP |
| LP2980AIM5X-3.3         | SOT | LP2989AIMMX-3.3/NOPB    | VSSOP |
| LP2980AIM5X-3.3/NOPB    | SOT | LP2989AIMMX-5.0         | VSSOP |
| LP2980AIM5X-4.7         | SOT | LP2989AIMMX-5.0/NOPB    | VSSOP |
| LP2980AIM5X-4.7/NOPB    | SOT | LP2989AIMX-1.8/NOPB     | SOIC  |
| LP2980AIM5X-5.0         | SOT | LP2989AIMX-2.5/E7002218 | SOIC  |
| LP2980AIM5X-5.0/NOPB    | SOT | LP2989AIMX-2.5/NOPB     | SOIC  |
| LP2980IM5-2.5/NOPB      | SOT | LP2989AIMX-3.0/NOPB     | SOIC  |
| LP2980IM5-3.0           | SOT | LP2989AIMX-3.3/NOPB     | SOIC  |
| LP2980IM5-3.0/NOPB      | SOT | LP2989AIMX-5.0/NOPB     | SOIC  |
| LP2980IM5-3.3           | SOT | LP2989IM-1.8            | SOIC  |
| LP2980IM5-3.3/NOPB      | SOT | LP2989IM-1.8/NOPB       | SOIC  |
| LP2980IM5-3.8/NOPB      | SOT | LP2989IM-2.5            | SOIC  |
| LP2980IM5-4.7/NOPB      | SOT | LP2989IM-2.5/NOPB       | SOIC  |
| LP2980IM5-5.0           | SOT | LP2989IM-3.0/NOPB       | SOIC  |
| LP2980IM5-5.0/NOPB      | SOT | LP2989IM-3.3            | SOIC  |
| LP2980IM5-ADJ           | SOT | LP2989IM-3.3/NOPB       | SOIC  |
| LP2980IM5-ADJ/NOPB      | SOT | LP2989IM-5.0            | SOIC  |
| LP2980IM5X-2.5/NOPB     | SOT | LP2989IM-5.0/NOPB       | SOIC  |
| LP2980IM5X-3.0          | SOT | LP2989IMM-2.8/NOPB      | VSSOP |
| LP2980IM5X-3.0/NOPB     | SOT | LP2989IMM-3.0/NOPB      | VSSOP |
| LP2980IM5X-3.3          | SOT | LP2989IMM-3.3/NOPB      | VSSOP |
| LP2980IM5X-3.3/NOPB     | SOT | LP2989IMM-5.0           | VSSOP |
| LP2980IM5X-4.7/NOPB     | SOT | LP2989IMM-5.0/NOPB      | VSSOP |
| LP2980IM5X-5.0          | SOT | LP2989IMMX-2.8/NOPB     | VSSOP |
| LP2980IM5X-5.0/J5000350 | SOT | LP2989IMMX-3.0/NOPB     | VSSOP |
| LP2980IM5X-5.0/J7001473 | SOT | LP2989IMMX-3.3/NOPB     | VSSOP |
| LP2980IM5X-5.0/NOPB     | SOT | LP2989IMMX-5.0          | VSSOP |
| LP2980IM5X-ADJ          | SOT | LP2989IMMX-5.0/NOPB     | VSSOP |
| LP2980IM5X-ADJ/J7001048 | SOT | LP2989IMX-1.8/NOPB      | SOIC  |

|                          |     |                        |      |
|--------------------------|-----|------------------------|------|
| LP2980IM5X-ADJ/NOPB      | SOT | LP2989IMX-2.5/NOPB     | SOIC |
| LP2980IM5X-ADJ/S7002499  | SOT | LP2989IMX-3.0/NOPB     | SOIC |
| LP2981AIM5-2.5           | SOT | LP2989IMX-3.3          | SOIC |
| LP2981AIM5-2.5/NOPB      | SOT | LP2989IMX-3.3/NOPB     | SOIC |
| LP2981AIM5-3.0/NOPB      | SOT | LP2989IMX-5.0/NOPB     | SOIC |
| LP2981AIM5-3.3           | SOT | LP2992AIM5-1.5/NOPB    | SOT  |
| LP2981AIM5-3.3/NOPB      | SOT | LP2992AIM5-1.8         | SOT  |
| LP2981AIM5-3.6           | SOT | LP2992AIM5-1.8/NOPB    | SOT  |
| LP2981AIM5-3.6/NOPB      | SOT | LP2992AIM5-2.5         | SOT  |
| LP2981AIM5-5.0           | SOT | LP2992AIM5-2.5/NOPB    | SOT  |
| LP2981AIM5-5.0/NOPB      | SOT | LP2992AIM5-3.3         | SOT  |
| LP2981AIM5X-3.0/NOPB     | SOT | LP2992AIM5-3.3/NOPB    | SOT  |
| LP2981AIM5X-3.3          | SOT | LP2992AIM5-5.0         | SOT  |
| LP2981AIM5X-3.3/E5000750 | SOT | LP2992AIM5-5.0/NOPB    | SOT  |
| LP2981AIM5X-3.3/NOPB     | SOT | LP2992AIM5X-1.5/NOPB   | SOT  |
| LP2981AIM5X-3.6/NOPB     | SOT | LP2992AIM5X-1.8        | SOT  |
| LP2981AIM5X-5.0/NOPB     | SOT | LP2992AIM5X-1.8/NOPB   | SOT  |
| LP2981IM5-2.5            | SOT | LP2992AIM5X-2.5/NOPB   | SOT  |
| LP2981IM5-2.5/NOPB       | SOT | LP2992AIM5X-3.3/NOPB   | SOT  |
| LP2981IM5-3.0/NOPB       | SOT | LP2992AIM5X-5.0/NOPB   | SOT  |
| LP2981IM5-3.3            | SOT | LP2992IM5-1.5/NOPB     | SOT  |
| LP2981IM5-3.3/NOPB       | SOT | LP2992IM5-1.8          | SOT  |
| LP2981IM5-3.6/NOPB       | SOT | LP2992IM5-1.8/NOPB     | SOT  |
| LP2981IM5-5.0            | SOT | LP2992IM5-2.5          | SOT  |
| LP2981IM5-5.0/NOPB       | SOT | LP2992IM5-2.5/NOPB     | SOT  |
| LP2981IM5X-3.0/NOPB      | SOT | LP2992IM5-3.0          | SOT  |
| LP2981IM5X-3.3           | SOT | LP2992IM5-3.0/NOPB     | SOT  |
| LP2981IM5X-3.3/NOPB      | SOT | LP2992IM5-3.3          | SOT  |
| LP2981IM5X-3.6/NOPB      | SOT | LP2992IM5-3.3/NOPB     | SOT  |
| LP2981IM5X-5.0           | SOT | LP2992IM5-5.0          | SOT  |
| LP2981IM5X-5.0/NOPB      | SOT | LP2992IM5-5.0/NOPB     | SOT  |
| LP2982AIM5-3.0/NOPB      | SOT | LP2992IM5X-1.5/NOPB    | SOT  |
| LP2982AIM5-3.3           | SOT | LP2992IM5X-1.8/NOPB    | SOT  |
| LP2982AIM5-3.3/NOPB      | SOT | LP2992IM5X-2.5         | SOT  |
| LP2982AIM5-5.0           | SOT | LP2992IM5X-2.5/NOPB    | SOT  |
| LP2982AIM5-5.0/NOPB      | SOT | LP2992IM5X-3.3/NOPB    | SOT  |
| LP2982AIM5X-3.0/NOPB     | SOT | LP2992IM5X-5.0/NOPB    | SOT  |
| LP2982AIM5X-3.3/NOPB     | SOT | LP3878MR-ADJ           | SOIC |
| LP2982AIM5X-5.0/NOPB     | SOT | LP3878MR-ADJ/NOPB      | SOIC |
| LP2982AIM5X-5.0/S7003010 | SOT | LP3878MRX-ADJ/J7002929 | SOIC |
| LP2982IM5-3.0/NOPB       | SOT | LP3878MRX-ADJ/NOPB     | SOIC |
| LP2982IM5-3.3/NOPB       | SOT | LP3879MR-1.0/NOPB      | SOIC |
| LP2982IM5-5.0/NOPB       | SOT | LP3879MR-1.2           | SOIC |
| LP2982IM5X-3.0/NOPB      | SOT | LP3879MR-1.2/NOPB      | SOIC |
| LP2982IM5X-3.3/NOPB      | SOT | LP3879MRX-1.0/NOPB     | SOIC |
| LP2982IM5X-5.0/NOPB      | SOT | LP3879MRX-1.2/NOPB     | SOIC |
| LP2983AIM5-1.0/NOPB      | SOT | LP5951MG-1.3/NOPB      | SOT  |
| LP2983AIM5-1.2/NOPB      | SOT | LP5951MG-1.5           | SOT  |
| LP2983AIM5X-1.0/NOPB     | SOT | LP5951MG-1.5/NOPB      | SOT  |
| LP2983AIM5X-1.2/NOPB     | SOT | LP5951MG-1.8/NOPB      | SOT  |
| LP2983IM5-1.0/NOPB       | SOT | LP5951MG-2.0/NOPB      | SOT  |
| LP2983IM5-1.2            | SOT | LP5951MG-2.5/NOPB      | SOT  |
| LP2983IM5-1.2/NOPB       | SOT | LP5951MG-2.8/NOPB      | SOT  |
| LP2983IM5X-1.0/NOPB      | SOT | LP5951MG-3.0/NOPB      | SOT  |
| LP2983IM5X-1.2/NOPB      | SOT | LP5951MG-3.3/NOPB      | SOT  |
| LP2985AIM5-1.5/NOPB      | SOT | LP5951MG-3.7/NOPB      | SOT  |
| LP2985AIM5-1.8/NOPB      | SOT | LP5951MGX-1.3/NOPB     | SOT  |
| LP2985AIM5-2.0/NOPB      | SOT | LP5951MGX-1.5/NOPB     | SOT  |

|                          |     |                    |     |
|--------------------------|-----|--------------------|-----|
| LP2985AIM5-2.5/NOPB      | SOT | LP5951MGX-1.8/NOPB | SOT |
| LP2985AIM5-2.7/NOPB      | SOT | LP5951MGX-2.0/NOPB | SOT |
| LP2985AIM5-2.8           | SOT | LP5951MGX-2.5/NOPB | SOT |
| LP2985AIM5-2.8/NOPB      | SOT | LP5951MGX-2.8/NOPB | SOT |
| LP2985AIM5-2.9/NOPB      | SOT | LP5951MGX-3.0/NOPB | SOT |
| LP2985AIM5-3.0           | SOT | LP5951MGX-3.3/NOPB | SOT |
| LP2985AIM5-3.0/NOPB      | SOT | LP5951MGX-3.7/NOPB | SOT |
| LP2985AIM5-3.1/NOPB      | SOT | LPV321M7           | SOT |
| LP2985AIM5-3.3           | SOT | LPV321M7/NOPB      | SOT |
| LP2985AIM5-3.3/NOPB      | SOT | LPV321M7X          | SOT |
| LP2985AIM5-3.6           | SOT | LPV321M7X/NOPB     | SOT |
| LP2985AIM5-3.6/NOPB      | SOT | LPV511MG/NOPB      | SOT |
| LP2985AIM5-3.8/NOPB      | SOT | LPV511MGX/NOPB     | SOT |
| LP2985AIM5-4.0/NOPB      | SOT | LPV521MG/NOPB      | SOT |
| LP2985AIM5-4.5/NOPB      | SOT | LPV521MGE/NOPB     | SOT |
| LP2985AIM5-5.0           | SOT | LPV521MGX/NOPB     | SOT |
| LP2985AIM5-5.0/NOPB      | SOT | LPV7215MG/NOPB     | SOT |
| LP2985AIM5-5.7/NOPB      | SOT | LPV7215MGX/NOPB    | SOT |
| LP2985AIM5-6.1/NOPB      | SOT | LPV7217MG/NOPB     | SOT |
| LP2985AIM5X-1.8/E7002823 | SOT | LPV7217MGX/NOPB    | SOT |
| LP2985AIM5X-1.8/NOPB     | SOT | SM73308MG/NOPB     | SOT |
| LP2985AIM5X-2.0/NOPB     | SOT | SM73308MGE/NOPB    | SOT |
| LP2985AIM5X-2.5          | SOT | SM73308MGX/NOPB    | SOT |
| LP2985AIM5X-2.5/E7002216 | SOT |                    |     |

## Qualification Report

### Qualification of 0.96 mils Cu wires on SC70 (DCK 5 and 6 Pin) Package at TIEMA

| Attributes          | Qual Device:<br>LMV7275MG/NOPB | Supporting QBS:<br>LM4041AIM3-1.2 (TL) | Supporting QBS:<br>LM4041AIM3-1.2 (TL) | Supporting QBS:<br>LM3420AM5-8.4 (TL) |
|---------------------|--------------------------------|----------------------------------------|----------------------------------------|---------------------------------------|
| Assembly Site       | TIEM-MALACCA                   | TIEM-MALACCA                           | TIEM-MALACCA                           | TIEM-MALACCA                          |
| Package Family      | SC70                           | SOT23                                  | SOT23                                  | SOT23                                 |
| Flammability Rating | UL 94 V-0                      | UL 94 V-0                              | UL 94 V-0                              | UL 94 V-0                             |
| Wafer Fab Site      | MFAB                           | GFAB                                   | GFAB                                   | GFAB                                  |
| Wafer Fab Process   | CMOS7                          | LFAST                                  | LFAST                                  | LFAST                                 |

- QBS: Qual By Similarity
- Qual Device LMV7275MG/NOPB is qualified at LEVEL1-260CG

### Qualification Results

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

| Type | Test Name / Condition        | Duration    | Qual Device:<br>LMV7275MG/NOPB | Supporting QBS:<br>LM4041AIM3-1.2 (TL) | Supporting QBS:<br>LM4041AIM3-1.2 (TL) |
|------|------------------------------|-------------|--------------------------------|----------------------------------------|----------------------------------------|
| HAST | Biased HAST, 130C/85%RH      | 96 Hours    | -                              | 3/120/0                                | 3/119/0                                |
| HAST | Biased HAST, 130C/85%RH      | 192 Hours   | -                              | 3/120/0                                |                                        |
| AC   | Autoclave 121C               | 96 Hours    | -                              | 3/240/0                                | -                                      |
| TC   | Temperature Cycle, -65/150C  | 500 Cycles  | 1/80/0                         | -                                      | -                                      |
| TC   | Temperature Cycle, -65/150C  | 1000 Cycles | -                              | 3/240/0                                | -                                      |
| HTSL | High Temp Storage Bake 150C  | 500 Hours   | 1/80/0                         | 2/160/0                                | 1/79/0                                 |
| HTSL | High Temp Storage Bake 150C  | 1000 Hours  | 0/80                           | 2/160/0                                | 1/79/0                                 |
| MQ   | Manufacturability (Assembly) |             | 1/pass                         | 1/pass                                 | 1/pass                                 |

- 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

## Qualification Report

### 0.96 mil Cu wire qual for SOT23 Packages

#### Product Attributes

| Attributes          | Qual Device:<br>LM4041AIM3-1.2 | Qual Device:<br>LP3985IM5X-5.0 | Qual Device:<br>LMC7101AIM5NOPB | Qual Device:<br>LM431CCM3NOPB |
|---------------------|--------------------------------|--------------------------------|---------------------------------|-------------------------------|
| Assembly Site       | TIEMA                          | TIEMA                          | TIEMA                           | TIEMA                         |
| Package Family      | SOT                            | SOT                            | SOT                             | SOT                           |
| Flammability Rating | UL 94 V-0                      | UL 94 V-0                      | UL 94 V-0                       | UL 94 V-0                     |
| Wafer Fab Supplier  | GFAB                           | MFAB                           | GFAB                            | GFAB                          |
| Wafer Fab Process   | BPLFAST-1                      | CMOS7                          | P2CMOS                          | SLM                           |

#### Qualification Results

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

| Type | Test Name / Condition                                      | Duration                                                                                                                        | Qual Device:<br>LM4041AIM3-1.2 | Qual Device:<br>LP3985IM5X-5.0 | Qual Device:<br>LMC7101AIM5NOPB | Qual Device:<br>LM431CCM3NOPB |
|------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|---------------------------------|-------------------------------|
| PC   | PreCon Level 1                                             | Level 1-<br>260C                                                                                                                | 3/693/0                        | 3/462/0                        | 3/693/0                         | 3/462/0                       |
| HAST | Biased HAST,<br>130C/85%RH                                 | 96/hrs.<br>@130C                                                                                                                | 3/231/0                        | -                              | 3/231/0                         | -                             |
| AC   | Autoclave 121C                                             | 96HRS                                                                                                                           | 3/231/0                        | 3/231/0                        | 3/231/0                         | 3/231/0                       |
| TC   | Temperature<br>Cycle, -65/150C                             | TMCL500X                                                                                                                        | 3/231/0                        | 3/231/0                        | 3/231/0                         | 3/231/0                       |
| HTSL | High Temp<br>Storage Bake<br>150C                          | 1000 hrs.<br>@150C                                                                                                              | 1/77/0                         | -                              | 1/77/0                          | 1/77/0                        |
| MQ   | Manufacturability<br>(Assembly)                            | (per mfg.<br>Site<br>specification)                                                                                             | Pass                           | Pass                           | Pass                            | Pass                          |
| DPA  | Destructive<br>Physical<br>Analysis Post<br>500 Temp Cycle | x-section<br>and de<br>process to<br>examine<br>assembly<br>robustness,<br>Check for<br>stich bond<br>and bond<br>pad integrity | 3/15/0                         | 3/15/0                         | 3/15/0                          | 3/15/0                        |
| YLD  | FTY and Bin<br>Summary                                     | Compare<br>against<br>baseline                                                                                                  | Pass                           | Pass                           | Pass                            | Pass                          |

## Qualification Report

### 0.96 mil Cu wire qual for SOIC Packages

#### Product Attributes

| Attributes          | Qual Device:<br>DS90CP22MXA1CL | Qual Device:<br>LMV324MX | Qual Device:<br>LP2995MXNOPB | Qual Device:<br>LMC6482AIM/NOPB |
|---------------------|--------------------------------|--------------------------|------------------------------|---------------------------------|
| Assembly Site       | TIEMA                          | TIEMA                    | TIEMA                        | TIEMA                           |
| Package Family      | SOIC                           | SOIC                     | SOIC                         | SOIC                            |
| Flammability Rating | UL 94 V-0                      | UL 94 V-0                | UL 94 V-0                    | UL 94 V-0                       |
| Wafer Fab Supplier  | MFAB                           | MFAB                     | MFAB                         | GFAB                            |
| Wafer Fab Process   | CMOS7                          | CS80                     | CS65                         | P2CMOS                          |

#### Qualification Results

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

| Type | Test Name /<br>Condition                                   | Duration                                                                                                                        | Qual Device:<br>DS90CP22MXA1CL | Qual Device:<br>LMV324MX | Qual Device:<br>LP2995MXNOPB | Qual Device:<br>LMC6482AIM/NOPB |
|------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------|------------------------------|---------------------------------|
| PC   | PreCon Level 1                                             | Level 1-<br>260C                                                                                                                | 3/462/0                        | -                        | 3/462/0                      | 3/693/0                         |
| HAST | Biased HAST,<br>130C/85%RH                                 | 96/hrs.<br>@130C                                                                                                                | -                              | -                        | -                            | 3/231/0                         |
| AC   | Autoclave 121C                                             | 96HRS                                                                                                                           | 3/231/0                        | -                        | 3/231/0                      | 3/231/0                         |
| TC   | Temperature<br>Cycle, -65/150C                             | TMCL500X                                                                                                                        | 3/231/0                        | -                        | 3/231/0                      | 3/231/0                         |
| HTSL | High Temp<br>Storage Bake<br>150C                          | 1000 hrs.<br>@150C                                                                                                              | -                              | -                        | -                            | 1/77/0                          |
| MQ   | Manufacturability<br>(Assembly)                            | (per mfg.<br>Site<br>specification)                                                                                             | -                              | Pass                     | Pass                         | Pass                            |
| DPA  | Destructive<br>Physical<br>Analysis Post<br>500 Temp Cycle | x-section<br>and de<br>process to<br>examine<br>assembly<br>robustness,<br>Check for<br>stich bond<br>and bond<br>pad integrity | 3/15/0                         | -                        | 3/15/0                       | 3/15/0                          |
| YLD  | FTY and Bin<br>Summary                                     | Compare<br>against<br>baseline                                                                                                  | -                              | Pass                     | Pass                         | Pass                            |

## Qualification Report

### 0.96 mil Cu wire qual for VSSOP & TSSOP Packages

#### Product Attributes

| Attributes          | Qual Device:<br>LMV852MMX | Qual Device:<br>LMC6482IMM | Qual Device:<br>LM93C1MT | Qual Device:<br>LM5642MHX |
|---------------------|---------------------------|----------------------------|--------------------------|---------------------------|
| Assembly Site       | TIEMA                     | TIEMA                      | TIEMA                    | TIEMA                     |
| Package Family      | VSSOP                     | VSSOP                      | TSSOP                    | TSSOP                     |
| Flammability Rating | UL 94 V-0                 | UL 94 V-0                  | UL 94 V-0                | UL 94 V-0                 |
| Wafer Fab Supplier  | MFAB                      | GFAB                       | MFAB                     | MFAB                      |
| Wafer Fab Process   | CMOS7                     | P2CMOS                     | CMOS7                    | ABCD150                   |

#### Qualification Results

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

| Type | Test Name /<br>Condition                                   | Duration                                                                                                                        | Qual Device:<br>LMV852MMX | Qual Device:<br>LMC6482IMM | Qual Device:<br>LM93C1MT | Qual Device:<br>LM5642MHX |
|------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------|--------------------------|---------------------------|
| PC   | PreCon Level 1                                             | Level 1-<br>260C                                                                                                                | 3/462/0                   | 3/462/0                    | -                        | 3/231/0                   |
| PC   | PreCon Level 2                                             | Level 2-<br>260C                                                                                                                | -                         | -                          | 3/693/0                  | -                         |
| HAST | Biased HAST,<br>130C/85%RH                                 | 96/hrs.<br>@130C                                                                                                                | -                         | -                          | 3/231/0                  | -                         |
| AC   | Autoclave 121C                                             | 96HRS                                                                                                                           | 3/231/0                   | 3/231/0                    | 3/231/0                  | -                         |
| TC   | Temperature<br>Cycle, -65/150C                             | TMCL500X                                                                                                                        | 3/231/0                   | 3/231/0                    | 3/231/0                  | 3/231/0                   |
| HTSL | High Temp<br>Storage Bake<br>150C                          | 1000 hrs.<br>@150C                                                                                                              | -                         | -                          | 1/77/0                   | -                         |
| MQ   | Manufacturability<br>(Assembly)                            | (per mfg.<br>Site<br>specification)                                                                                             | Pass                      | Pass                       | -                        | -                         |
| DPA  | Destructive<br>Physical<br>Analysis Post<br>500 Temp Cycle | x-section<br>and de<br>process to<br>examine<br>assembly<br>robustness,<br>Check for<br>stich bond<br>and bond<br>pad integrity | 3/15/0                    | 3/15/0                     | -                        | 3/15/0                    |
| YLD  | FTY and Bin<br>Summary                                     | Compare<br>against<br>baseline                                                                                                  | Pass                      | Pass                       | -                        | -                         |

## Qualification Report

### 0.96 mil Cu wire qual for TSSOP Packages

#### Product Attributes

| Attributes          | Qual Device:<br>LMH0346MH | Qual Device:<br>LM5037MT | Qual Device:<br>LM3657MH/NOPB | Qual Device:<br>SCANSTA111MTX |
|---------------------|---------------------------|--------------------------|-------------------------------|-------------------------------|
| Assembly Site       | TIEMA                     | TIEMA                    | TIEMA                         | TIEMA                         |
| Package Family      | TSSOP                     | TSSOP                    | TSSOP                         | TSSOP                         |
| Flammability Rating | UL 94 V-0                 | UL 94 V-0                | UL 94 V-0                     | UL 94 V-0                     |
| Wafer Fab Supplier  | MFAB                      | GFAB                     | MFAB                          | MFAB                          |
| Wafer Fab Process   | BICMOS8B+                 | ABCD150                  | CMOS7                         | CMOS7                         |

#### Qualification Results

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

| Type | Test Name /<br>Condition                                   | Duration                                                                                                                        | Qual Device:<br>LMH0346MH | Qual Device:<br>LM5037MT | Qual Device:<br>LM3657MH/NOPB | Qual Device:<br>SCANSTA111MTX |
|------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------|-------------------------------|-------------------------------|
| PC   | PreCon Level 1                                             | Level 1-<br>260C                                                                                                                | -                         | 3/693/0                  | 3/462/0                       | -                             |
| PC   | PreCon Level 2                                             | Level 2-<br>260C                                                                                                                | -                         | -                        | -                             | 3/462/0                       |
| PC   | PreCon Level 3                                             | Level 3-<br>260C                                                                                                                | 3/231/0                   | -                        | -                             | -                             |
| THBT | THBT<br>85C, 85%RH                                         | 1000/hrs.<br>@85C                                                                                                               | -                         | 3/231/0                  | -                             | -                             |
| AC   | Autoclave 121C                                             | 96HRS                                                                                                                           | -                         | 3/231/0                  | 3/231/0                       | 3/231/0                       |
| TC   | Temperature<br>Cycle, -65/150C                             | TMCL500X                                                                                                                        | 3/231/0                   | 3/231/0                  | 3/231/0                       | 3/231/0                       |
| HTSL | High Temp<br>Storage Bake<br>150C                          | 1000 hrs.<br>@150C                                                                                                              | -                         | 1/77/0                   | -                             | -                             |
| MQ   | Manufacturability<br>(Assembly)                            | (per mfg.<br>Site<br>specification)                                                                                             | Pass                      | Pass                     | Pass                          | Pass                          |
| DPA  | Destructive<br>Physical<br>Analysis Post<br>500 Temp Cycle | x-section<br>and de<br>process to<br>examine<br>assembly<br>robustness,<br>Check for<br>stich bond<br>and bond<br>pad integrity | 3/15/0                    | 3/15/0                   | 3/15/0                        | 3/15/0                        |
| YLD  | FTY and Bin<br>Summary                                     | Compare<br>against<br>baseline                                                                                                  | Pass                      | Pass                     | Pass                          | Pass                          |

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
  - 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 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>       |