12500 TI Boulevard, MS 8640, Dallas, Texas 75243

# PCN# 20260309001.2
# Qualify New Assembly Material set for Selected Device(s)
# Change Notification / Sample Request

**Date:** March 09, 2026
**To:** MOUSER PCN

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.

Texas Instruments requires acknowledgement of receipt of this notification within 60 days of the date of this notice. Lack of acknowledgement of this notice within 60 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 60 days of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date 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 or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the change management team.

For sample requests or sample related questions, contact your local Field Sales Representative.

TI values customer engagement and feedback related to TI changes. Customers should contact TI if there are questions or concerns regarding a change notification.

Sincerely,

Change Management Team
SC Business Services

**20260309001.2**
**Change Notification / Sample Request**
**Attachments**

## Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records**,** you have recently purchased these devices**.** The corresponding customer part number is also listed, if available.

| DEVICE | CUSTOMER PART NUMBER |
|---|---|
| LP38691QSD-1.8/NOPB | NULL |
| LM5113QDPRRQ1 | NULL |
| DS90UB925QSQE/NOPB | DS90UB925QSQE/NOPB |
| DAC101C081QISD/NOPB | NULL |
| DS90UB940NTNKDTQ1 | NULL |
| LM2623QNHLTQ1 | NULL |
| LM2735YQSD/NOPB | LM2735YQSD/NOPB |
| DS90UB948TNKDRQ1 | NULL |
| LM5112Q1SD/NOPB | LM5112Q1SD/NOPB |
| LP38691QSD-5.0/NOPB | NULL |
| LP38693QSD-ADJ/NOPB | LP38693QSD-ADJ/NO |

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

| PCN Number: | 20260309001.2 | PCN Date: | March 09, 2026 |
|---|---|---|---|
| Title: | Qualify New Assembly Material set for Selected Device(s) | | |
| Customer Contact: | Change Management team | Dept: | Quality Services |
| Proposed 1st Ship Date: | September 05, 2026 | Sample requests accepted until: | May 08, 2026 |

***Sample requests received after** May 08, 2026 **will not be supported.**

**Change Type:**

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

## PCN Details

**Description of Change:**

Texas Instruments is pleased to announce the qualification of new assembly material set for devices listed in "Product affected" section below. Devices will remain in current assembly facility and piece part changes as follows

**Group 1**

| | Current | Proposed |
|---|---|---|
| Mold Compound | 4208625 | 4222198 |

**Group 2**

| | Current | Proposed |
|---|---|---|
| Wire diam/type | 1.0miil Au | 0.8mil Cu |
| Mold Compound | 4208625 | 4222198 |

**Group 3**

| | Current | Proposed |
|---|---|---|
| Wire diam/type | 1.3miil Au | 1.3mil Cu |
| Mold Compound | 4208625 | 4222198 |

**Reason for Change:**

Continuity of supply

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

Review the SDP for full evaluation of the change based on the customer use case.

**Impact on Environmental Ratings:**

Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.

| RoHS | REACH | Green Status | IEC 62474 |
|---|---|---|---|
| ☒ No Change | ☒ No Change | ☒ No Change | ☒ No Change |

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

None

**Group 1 Product Affected:**

| | | |
|---|---|---|
| DS90UA102TRHSJQ1 | DS90UB925QSQX/NOPB | DS90UR904QSQX/J7003069 |
| DS90UA102TRHSRQ1 | DS90UB940NTNKDRQ1 | DS90UR904QSQX/NOPB |
| DS90UA102TRHSTQ1 | DS90UB940NTNKDTQ1 | DS90UR905QSQ/E7002382 |
| DS90UB301ATRHSRQ1 | DS90UB940TNKDRQ1 | DS90UR905QSQ/NOPB |
| DS90UB301ATRHSTQ1 | DS90UB940TNKDTQ1 | DS90UR905QSQE/E7002382 |
| DS90UB301QSQ/NOPB | DS90UB948TNKDRQ1 | DS90UR905QSQE/NOPB |
| DS90UB301QSQE/NOPB | DS90UB948TNKDTQ1 | DS90UR905QSQX/E7002382 |
| DS90UB904QSQ/NOPB | DS90UH301QSQ/NOPB | DS90UR905QSQX/E7002600 |
| DS90UB904QSQE/J7003047 | DS90UH301QSQE/NOPB | DS90UR905QSQX/NOPB |
| DS90UB904QSQE/NOPB | DS90UH301QSQX/NOPB | DS90UR908QSQ/NOPB |
| DS90UB904QSQX/NOPB | DS90UH925QSQ/E7002397 | DS90UR908QSQE/NOPB |
| DS90UB904QSQX/S7002783 | DS90UH925QSQ/NOPB | DS90UR908QSQX/NOPB |
| DS90UB914ATRHSJQ1 | DS90UH925QSQE/E7002397 | DS99R124AQSQ/NOPB |
| DS90UB914ATRHSRQ1 | DS90UH925QSQE/NOPB | DS99R124AQSQE/NOPB |
| DS90UB914ATRHSTQ1 | DS90UH925QSQX/E7002397 | DS99R124AQSQX/NOPB |
| DS90UB914QSQ/NOPB | DS90UH925QSQX/NOPB | DS99R124QSQ/E7002678 |
| DS90UB914QSQE/NOPB | DS90UH940NTNKDRQ1 | DS99R124QSQ/NOPB |
| DS90UB914QSQX/NOPB | DS90UH940NTNKDTQ1 | DS99R124QSQE/NOPB |
| DS90UB921TRHSRQ1 | DS90UH940TNKDRQ1 | DS99R124QSQX/NOPB |
| DS90UB921TRHSTQ1 | DS90UH940TNKDTQ1 | LM25119PSQ/NOPB |
| DS90UB925QSQ/E7002826 | DS90UH948TNKDRQ1 | LM25119PSQE/NOPB |
| DS90UB925QSQ/NOPB | DS90UH948TNKDTQ1 | LM25119PSQX/NOPB |
| DS90UB925QSQE/E7002826 | DS90UR904QSQ/NOPB | LM25119QPSQ/NOPB |
| DS90UB925QSQE/NOPB | DS90UR904QSQE/J7003050 | LM25119QPSQX/NOPB |
| DS90UB925QSQX/E7002826 | DS90UR904QSQE/NOPB | |

## Group 2 Product Affected:

| | | |
|---|---|---|
| DAC101C081QISD/NOPB | DS90UR907QSQE/NOPB | EMB1433QSQ/NOPB |
| DAC101C081QISDX/NOPB | DS90UR907QSQX/E7003100 | EMB1433QSQE/NOPB |
| DS90UH925ATRHSJQ1 | DS90UR907QSQX/NOPB | EMB1433QSQX/NOPB |
| DS90UH925ATRHSRQ1 | DS99R421QSQX/J7003070 | LM2734ZQSDE/NOPB |
| DS90UH925ATRHSTQ1 | DS99R421QSQX/NOPB | LMH6722QSD/NOPB |
| DS90UR907QSQ/E7003100 | EMB1432QSQ/NOPB | LMH6722QSDX/NOPB |
| DS90UR907QSQ/NOPB | EMB1432QSQE/NOPB | |
| DS90UR907QSQE/E7003100 | EMB1432QSQX/NOPB | |

## Group 3 Product Affected:

| | | |
|---|---|---|
| LM2623QNHLRQ1 | LP38691QSD-3.3/NOPB | LP38693QSD-ADJ/NOPB |
| LM2623QNHLTQ1 | LP38691QSD-5.0/NOPB | LP38693QSDX-1.8/NOPB |
| LM26480QSQ-AA/NOPB | LP38691QSD-ADJ/NOPB | LP38693QSDX-2.5/NOPB |
| LM26480QSQ-CF/NOPB | LP38691QSDX-1.8/NOPB | LP38693QSDX-3.3/NOPB |
| LM26480QSQX-8D/NOPB | LP38691QSDX-2.5/NOPB | LP38693QSDX-5.0/NOPB |
| LM26480QSQX-AA/NOPB | LP38691QSDX-3.3/NOPB | LP38693QSDX-ADJ/NOPB |
| LM2735YQSD/NOPB | LP38691QSDX-5.0/E7002802 | LP8728QSQE-A/NOPB |
| LM2735YQSDX/NOPB | LP38691QSDX-5.0/NOPB | LP8728QSQX-A/NOPB |
| LM5112Q1SD/NOPB | LP38691QSDX-ADJ/NOPB | LP8728QSQX-B/NOPB |

| | | |
|---|---|---|
| LM5112Q1SDX/NOPB | LP38693QSD-1.8/NOPB | LP8728QSQX-C/NOPB |
| LM5113QDPRRQ1 | LP38693QSD-2.5/NOPB | LP8728QSQX-D/NOPB |
| LP38691QSD-1.8/NOPB | LP38693QSD-3.3/NOPB | SN386901NGGRQ1 |
| LP38691QSD-2.5/NOPB | LP38693QSD-5.0/NOPB | SN386918NGGRQ1 |

# Qualification Report

## Automotive Qualification Summary

(As per AEC-Q100 Rev. J and JEDEC Guidelines)
Qualification of UniBOM set for QFN packages (Automotive)
Approve Date 15-DECEMBER -2025

## Product Attributes

| Attributes | Qual Device: LM25119QPSQ/NOPB | Qual Device: LM26420Q1XSQ/NOPB | Qual Device: DS90UH948TNKDRQ1 | Qual Device: LM5109BQNGTRQ1 | QBS Package Reference: DS90UH928QSQ/S4 |
|---|---|---|---|---|---|
| Automotive Grade Level | Grade 1 | Grade 1 | Grade 2 | Grade 1 | Grade 2 |
| Operating Temp Range (C) | -40 to 125 | -40 to 125 | -40 to 105 | -40 to 125 | -40 to 105 |
| Product Function | Interface | Interface | Interface | Interface | Interface |
| Wafer Fab Supplier | MAINEFAB | MAINEFAB | MAINEFAB | MAINEFAB | FR-BIP-1 |
| Assembly Site | TIEMA | TIEMA | TIEMA | TIEMA | TIEMA |
| Package Group | QFN | QFN | QFN | QFN | QFN |
| Package Designator | RTV | RUM | NKD | NGT | RHS |
| Pin Count | 32 | 16 | 64 | 8 | 48 |

QBS: Qual By Similarity, also known as Generic Data
Qual Device LM25119QPSQ/NOPB is qualified at MSL1 260C
Qual Device LM26420Q1XSQ/NOPB is qualified at MSL3 260C
Qual Device DS90UH948TNKDRQ1 is qualified at MSL3 260C
Qual Device LM5109BQNGTRQ1 is qualified at MSL1 260C

## Qualification Results

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

| Type | # | Test Spec | Min Lot Qty | SS / Lot | Test Name | Condition | Duration | Qual Device: LM25119QPSQ/NOPB | Qual Device: LM26420Q1XSQ/NOPB | Qual Device: DS90UH948TNKDRQ1 | Qual Device: LM5109BQNGTRQ1 | QBS Package Reference: DS90UH928QSQ/S4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Test Group A - Accelerated Environment Stress Tests | | | | | | | | | | | | |
| PC | A1 | JEDEC J-STD-020 JESD22-A113 | 3 | 77 | Preconditioning | MSL1 260C | - | 3/0/0 | - | - | - | - |
| PC | A1 | JEDEC J-STD-020 JESD22-A113 | 3 | 77 | Preconditioning | MSL3 260C | - | - | 3/0/0 | 3/0/0 | - | 3/0/0 |
| HAST | A2 | JEDEC JESD22-A110 | 3 | 77 | Biased HAST | 130C/85%RH | 96 Hours | 3/231/0 | - | - | - | 3/231/0 |
| AC/UHAST | A3 | JEDEC JESD22-A102/JEDEC JESD22-A118 | 3 | 77 | Unbiased HAST | 130C/85%RH | 96 Hours | 3/231/0 | 3/231/0 | - | - | 3/231/0 |
| TC | A4 | JEDEC JESD22-A104 and Appendix 3 | 3 | 77 | Temperature Cycle | -55C/125C | 1000 Cycles | - | - | - | - | 3/231/0 |
| TC | A4 | JEDEC JESD22-A104 and Appendix 3 | 3 | 77 | Temperature Cycle | -65C/150C | 500 Cycles | - | - | 3/231/0 | - | - |
| TC-BP | A4 | MIL-STD883 Method 2011 | 1 | 5 | Post Temp Cycle Bond Pull | - | - | - | - | - | - | 3/15/0 |
| HTSL | A6 | JEDEC JESD22-A103 | 1 | 45 | High Temperature Storage Life | 175C | 500 Hours | 3/135/0 | 3/135/0 | - | - | - |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Test Group B - Accelerated Lifetime Simulation Tests** | | | | | | | | | | | | |
| HTOL | B1 | JEDEC JESD22-A108 | 3 | 77 | Life Test | 125C | 1000 Hours | - | - | - | 3/231/0 | 3/231/0 |
| **Test Group C - Package Assembly Integrity Tests** | | | | | | | | | | | | |
| WBS | C1 | AEC Q100-001 | 1 | 30 | Wire Bond Shear | Minimum of 5 devices, 30 wires Cpk>1.67 | Wires | 3/90/0 | 3/90/0 | 3/90/0 | - | 3/90/0 |
| WBP | C2 | MIL-STD883 Method 2011 | 1 | 30 | Wire Bond Pull | Minimum of 5 devices, 30 wires Cpk>1.67 | Wires | 3/90/0 | 3/90/0 | 3/90/0 | - | 3/90/0 |
| SD | C3 | JEDEC J-STD-002 | 1 | 15 | PB-Free Solderability | >95% Lead Coverage | - | - | - | - | - | 1/15/0 |
| PD | C4 | JEDEC JESD22-B100 and B108 | 3 | 10 | Physical Dimensions | Cpk>1.67 | - | 3/30/0 | 3/30/0 | 3/30/0 | - | 3/30/0 |
| **Test Group D - Die Fabrication Reliability Tests** | | | | | | | | | | | | |
| EM | D1 | JESD61 | - | - | Electromigration | - | - | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements |
| TDDB | D2 | JESD35 | - | - | Time Dependent Dielectric Breakdown | - | - | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements |
| HCI | D3 | JESD60 & 28 | - | - | Hot Carrier Injection | - | - | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements |
| BTI | D4 | - | - | - | Bias Temperature Instability | - | - | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements |
| SM | D5 | - | - | - | Stress Migration | - | - | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements | Completed Per Process Technology Requirements |
| **Test Group E - Electrical Verification Tests** | | | | | | | | | | | | |
| ESD | E2 | AEC Q100-002 | 1 | 3 | ESD HBM | - | 2000 Volts | - | - | - | - | 1/3/0 |
| ESD | E3 | AEC Q100-011 | 1 | 3 | ESD CDM | - | 500 Volts | - | - | - | - | 1/3/0 |
| LU | E4 | AEC Q100-004 | 1 | 3 | Latch-Up | Per AEC Q100-004 | - | - | - | - | - | 1/6/0[1] |
| ED | E5 | AEC Q100-009 | 3 | 30 | Electrical Distributions | Cpk>1.67 Room, hot, and cold | - | 3/90/0 | 3/90/0 | 3/90/0 | - | 3/90/0 |

Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles
**Ambient Operating Temperature by Automotive Grade Level:**
Grade 0 (or E): -40C to +150C
Grade 1 (or Q): -40C to +125C
Grade 2 (or T): -40C to +105C
Grade 3 (or I) : -40C to +85C
**E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):**
Room/Hot/Cold : HTOL, ED
Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
Room : AC/uHAST
Quality and Environmental data is available at TI's external Web site: http://www.ti.com/
TI Qualification ID: R-CHG-2310-014
[1]-Failure already closed in QFLL as per attachments.

# Qualification Report

## Automotive Qualification Summary

(As per AEC and JEDEC Guidelines)

## Q006 QFN at TIEM

Approve Date 15-DECEMBER -2025

## Product Attributes

| Attributes | Qual Device: LM25119QPSQ/NOPB | Qual Device: LM26420Q1XSQ/NOPB | Qual Device: DS90UH948TNKDRQ1 | Qual Device: LM5109BQNGTRQ1 | QBS Package Reference: DS90UH928QSQ/S4 |
|---|---|---|---|---|---|
| **Automotive Grade Level** | Grade 1 | Grade 1 | Grade 2 | Grade 1 | Grade 2 |
| **Operating Temp Range (C)** | -40 to 125 | -40 to 125 | -40 to 105 | -40 to 125 | -40 to 105 |
| **Product Function** | Interface | Interface | Interface | Interface | Interface |
| **Wafer Fab Supplier** | MAINEFAB | MAINEFAB | MAINEFAB | MAINEFAB | FR-BIP-1 |
| **Assembly Site** | TIEMA | TIEMA | TIEMA | TIEMA | TIEMA |
| **Package Group** | QFN | QFN | QFN | QFN | QFN |
| **Package Designator** | RTV | RUM | NKD | NGT | RHS |
| **Pin Count** | 32 | 16 | 64 | 8 | 48 |

## Qualification Results

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

| Type | # | Test Spec | Min Lot Qty | SS / Lot | Test Name | Condition | Duration | Qual Device: LM25119QPSQ/NOPB | Qual Device: LM26420Q1XSQ/NOPB | Qual Device: DS90UH948TNKDRQ1 | Qual Device: LM5109BQNGTRQ1 | QBS Reference: DS90UH928QSQ/S4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Test Group A - Accelerated Environment Stress Tests** | | | | | | | | | | | | |
| PC | A1 | JEDEC J-STD-020 JESD22-A113 | 3 | 77 | Preconditioning | MSL1 260C | - | 3/0/0 | - | - | - | - |
| PC | A1 | JEDEC J-STD-020 JESD22-A113 | 3 | 77 | Preconditioning | MSL3 260C | - | - | 3/0/0 | 3/0/0 | - | 3/0/0 |
| PC | A1.1 | - | 3 | 22 | SAM Precon Pre | Review for delamination | - | 3/66/0 | 3/66/0 | 3/66/0 | - | 3/66/0 |
| PC | A1.2 | - | 3 | 22 | SAM Precon Post | Review for delamination | - | 3/66/0 | 3/66/0 | 3/66/0 | - | 3/66/0 |
| HAST | A2.1 | JEDEC JESD22-A110 | 3 | 77 | Biased HAST | 130C/85%RH | 96 Hours | 3/231/0 | - | - | - | 3/231/0 |
| HAST | A2.1.2 | - | 3 | 1 | Cross Section, post bHAST, 1X | Post stress cross section | Completed | 3/3/0 | - | - | - | 3/3/0 |
| HAST | A2.1.3 | - | 3 | 3 | Wire Bond Shear, post bHAST, 1X | Post stress | - | 2/6/0 | - | - | - | 3/9/0 |
| HAST | A2.1.4 | - | 3 | 3 | Bond Pull over Stitch, post bHAST, 1X | Post stress | - | 3/9/0 | - | - | - | 3/9/0 |
| HAST | A2.1.5 | - | 3 | 3 | Bond Pull over Ball, post bHAST, 1X | Post stress | - | 3/9/0 | - | - | - | 3/9/0 |
| HAST | A2.2 | JEDEC JESD22-A110 | 3 | 70 | Biased HAST | 130C/85%RH | 192 Hours | 3/231/0 | - | - | - | 3/231/0 |
| HAST | A2.2.1 | - | 3 | 22 | SAM Analysis, post bHAST 2X | Review for delamination | Completed | 3/66/0 | - | - | - | 3/66/0 |
| HAST | A2.2.2 | - | 3 | 1 | Cross Section, post bHAST, 2X | Post stress cross section | Completed | 3/3/0 | - | - | - | 3/3/0 |
| HAST | A2.2.3 | - | 3 | 3 | Wire Bond Shear, post bHAST, 2X | Post stress | - | 3/9/0 | - | - | - | 3/9/0 |
| HAST | A2.2.4 | - | 3 | 3 | Bond Pull over Stitch, post bHAST, 2X | Post stress | - | 3/9/0 | - | - | - | 3/9/0 |
| HAST | A2.2.5 | - | 3 | 3 | Bond Pull over Ball, post bHAST, 2X | Post stress | - | 3/9/0 | - | - | - | 3/9/0 |
| TC | A4.1 | JEDEC JESD22-A104 and Appendix 3 | 3 | 77 | Temperature Cycle | -55C/125C | 1000 Cycles | - | - | - | - | 3/231/0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TC | A4.1 | JEDEC JESD22-A104 and Appendix 3 | 3 | 77 | Temperature Cycle | -65C/150C | 500 Cycles | - | - | 3/231/0 | - | - |
| TC | A4.1.1 | - | 3 | 22 | SAM Analysis, post TC 1X | Review for delamination | Completed | - | - | 3/66/0 | - | 3/66/0 |
| TC | A4.1.2 | - | 3 | 1 | Cross Section, post TC, 1X | Post stress cross section | Completed | 3/3/0 | 3/3/0 | 3/3/0 | - | 3/3/0 |
| TC | A4.1.3 | - | 3 | 3 | Wire Bond Shear, post TC, 1X | Post stress | - | 3/9/0 | 3/9/0 | 3/9/0 | - | 3/9/0 |
| TC | A4.1.4 | - | 3 | 3 | Bond Pull over Stitch, post TC, 1X | Post stress | - | 3/9/0 | 3/9/0 | 3/9/0 | - | 3/9/0 |
| TC | A4.1.5 | - | 3 | 3 | Bond Pull over Ball, post TC, 1X | Post stress | - | 3/9/0 | 3/9/0 | 3/9/0 | - | 3/9/0 |
| TC | A4.2 | JEDEC JESD22-A104 and Appendix 3 | 3 | 70 | Temperature Cycle | -55C/125C | 2000 Cycles | - | - | - | - | 3/231/0 |
| TC | A4.2 | JEDEC JESD22-A104 and Appendix 3 | 3 | 70 | Temperature Cycle | -65C/150C | 1000 Cycles | 3/231/0 | 3/231/0 | 3/231/0 | - | - |
| TC | A4.2.1 | - | 3 | 22 | SAM Analysis, post TC, 2X | Review for delamination | Completed | 3/66/0 | 3/66/0 | 3/66/0 | - | 3/66/0 |
| TC | A4.2.2 | - | 3 | 1 | Cross Section, post TC, 2X | Post stress cross section | Completed | 3/3/0 | 3/3/0 | 3/3/0 | - | 3/3/0 |
| TC | A4.2.3 | - | 3 | 3 | Wire Bond Shear, post TC, 2X | Post stress | - | 3/9/0 | 3/9/0 | 3/9/0 | - | 3/9/0 |
| TC | A4.2.4 | - | 3 | 3 | Bond Pull over Stitch, post TC, 2X | Post stress | - | 3/9/0 | 3/9/0 | 3/9/0 | - | 3/9/0 |
| TC | A4.2.5 | - | 3 | 3 | Bond Pull over Ball, post TC, 2X | Post stress | - | 3/9/0 | 3/9/0 | 3/9/0 | - | 3/9/0 |
| HTSL | A6.1 | JEDEC JESD22-A103 | 3 | 45 | High Temperature Storage Life | 175C | 500 Hours | 3/135/0 | 3/135/0 | - | - | - |
| HTSL | A6.1.1 | - | 3 | 1 | Cross Section, post HTSL, 1X | Post stress cross section | Completed | 3/3/0 | 3/3/0 | - | - | 3/3/0 |
| HTSL | A6.2 | JEDEC JESD22-A103 | 3 | 44 | High Temperature Storage Life | 175C | 1000 Hours | 3/135/0 | 3/135/0 | - | - | - |
| HTSL | A6.2.1 | - | 3 | 1 | Cross Section, post HTSL, 2X | Post stress cross section | Completed | 3/3/0 | 3/3/0 | - | - | 3/3/0 |
| **Test Group C - Package Assembly Integrity Tests** | | | | | | | | | | | | |
| WBS | C1 | AEC Q100-001 | 1 | 30 | Wire Bond Shear | Minimum of 5 devices, 30 wires Cpk>1.67 | Wires | 3/90/0 | 3/90/0 | 3/90/0 | - | 3/90/0 |
| WBP | C2 | MIL-STD883 Method 2011 | 1 | 30 | Wire Bond Pull | Minimum of 5 devices, 30 wires Cpk>1.67 | Wires | 3/90/0 | 3/90/0 | 3/90/0 | - | 3/90/0 |

QBS: Qual By Similarity, also known as Generic Data
Qual Device LM25119QPSQ/NOPB is qualified at MSL1 260C
Qual Device LM26420Q1XSQ/NOPB is qualified at MSL3 260C
Qual Device DS90UH948TNKDRQ1 is qualified at MSL3 260C
Qual Device LM5109BQNGTRQ1 is qualified at MSL1 260C
Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles
Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40C to +150C
Grade 1 (or Q): -40C to +125C
Grade 2 (or T): -40C to +105C
Grade 3 (or I) : -40C to +85C
E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):
Room/Hot/Cold : HTOL, ED
Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
Room : AC/uHAST
Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

ZVEI ID: SEM-PA-11 SEM-PA-08

In performing change qualifications, Texas Instruments follows integrated circuit industry standards in performing defect mechanism analysis and failure mechanism-based accelerated environmental testing to ensure wafer fab process, assembly process and product quality and reliability. As encouraged by these standards, TI uses both product-specific and generic (family) data in qualifying its changes. For devices to be categorized as a 'product qualification family' for generic data purposes, they must share similar product, wafer fab process and assembly process elements. The applicability of generic data (also known at TI as Qualification by Similarity (QBS)) is determined by the Reliability Engineering function following these industry standards. Generic data is shown in the qualification report in columns titled "QBS Process" (for wafer fab process), "QBS Package" (for assembly process) and "QBS Product" (for product family).

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