

| PCN Number: | 20230522002.1 | | PCN Date: | May 24, 2023 | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-------------------------------------|--|-------------------------------------|--------------------------|------------------|-------|-----|---------------------|--|-------------------------|------------------|-------------|----------------|---------------------|----------|----------------|----------------|---------|---------------|---------|---------------|---------|---------------|---------|---------|-------|-------|---------------|
| Title: | Qualification of RFAB as an additional Fab site option and new Assembly site (MLA) for select devices | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Customer Contact: | PCN Manager | | Dept: | Quality Services | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proposed 1st Ship Date: | Aug 24, 2023 | | Sample requests accepted until: | Jun 24, 2023* | | | | | | | | | | | | | | | | | | | | | | | | | |
| *Sample requests received after Jun 24, 2023 will not be supported. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Change Type: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Assembly Site | <input checked="" type="checkbox"/> | Assembly Process | <input checked="" type="checkbox"/> | Assembly Materials | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Design | <input type="checkbox"/> | Electrical Specification | <input type="checkbox"/> | Mechanical Specification | | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Test Site | <input type="checkbox"/> | Packing/Shipping/Labeling | <input type="checkbox"/> | Test Process | | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Wafer Bump Site | <input type="checkbox"/> | Wafer Bump Material | <input type="checkbox"/> | Wafer Bump Process | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Wafer Fab Site | <input checked="" type="checkbox"/> | Wafer Fab Materials | <input checked="" type="checkbox"/> | Wafer Fab Process | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <input type="checkbox"/> | Part number change | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PCN Details | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Description of Change: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Texas Instruments is pleased to announce the qualification of its RFAB fabrication facility as an additional Wafer Fab option in addition to new Assembly site for the devices listed in the "Product Affected" section. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="3">Current Fab Site</th> <th colspan="3">Additional Fab site</th> </tr> <tr> <th>Current Fab Site</th> <th>Process</th> <th>Wafer Diameter</th> <th>Additional Fab site</th> <th>Process</th> <th>Wafer Diameter</th> </tr> </thead> <tbody> <tr> <td>GFAB6/8</td> <td rowspan="2">P2CMOS</td> <td>150/200mm</td> <td rowspan="2">RFAB</td> <td rowspan="2">LBC9</td> <td rowspan="2">300mm</td> </tr> <tr> <td>DFAB</td> <td>200mm</td> </tr> </tbody> </table> | | | | | | Current Fab Site | | | Additional Fab site | | | Current Fab Site | Process | Wafer Diameter | Additional Fab site | Process | Wafer Diameter | GFAB6/8 | P2CMOS | 150/200mm | RFAB | LBC9 | 300mm | DFAB | 200mm | | | | |
| Current Fab Site | | | Additional Fab site | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Current Fab Site | Process | Wafer Diameter | Additional Fab site | Process | Wafer Diameter | | | | | | | | | | | | | | | | | | | | | | | | |
| GFAB6/8 | P2CMOS | 150/200mm | RFAB | LBC9 | 300mm | | | | | | | | | | | | | | | | | | | | | | | | |
| DFAB | | 200mm | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Construction differences and AT site options are as follows: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th></th> <th>TIEMA</th> <th>AP1</th> <th>MLA</th> </tr> </thead> <tbody> <tr> <td>Bond wire composition, diameter diameter</td> <td>Cu, 0.96 or Au, 0.9 mil</td> <td>Au, 1.0 mil</td> <td>Cu, 0.8 mil</td> </tr> <tr> <td>Lead Finish</td> <td>Matte Sn</td> <td>Matte Sn</td> <td>NiPdAui</td> </tr> <tr> <td>Mount Compound</td> <td>4213245</td> <td>SID#101375281</td> <td>4147858</td> </tr> <tr> <td>Mold Compound</td> <td>8095179</td> <td>SID#101380756</td> <td>4211880</td> </tr> <tr> <td>Marking</td> <td>NS-D8</td> <td>NS-D8</td> <td>8D-TI-PIN1DOT</td> </tr> </tbody> </table> | | | | | | | TIEMA | AP1 | MLA | Bond wire composition, diameter diameter | Cu, 0.96 or Au, 0.9 mil | Au, 1.0 mil | Cu, 0.8 mil | Lead Finish | Matte Sn | Matte Sn | NiPdAui | Mount Compound | 4213245 | SID#101375281 | 4147858 | Mold Compound | 8095179 | SID#101380756 | 4211880 | Marking | NS-D8 | NS-D8 | 8D-TI-PIN1DOT |
| | TIEMA | AP1 | MLA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bond wire composition, diameter diameter | Cu, 0.96 or Au, 0.9 mil | Au, 1.0 mil | Cu, 0.8 mil | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lead Finish | Matte Sn | Matte Sn | NiPdAui | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mount Compound | 4213245 | SID#101375281 | 4147858 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mold Compound | 8095179 | SID#101380756 | 4211880 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Marking | NS-D8 | NS-D8 | 8D-TI-PIN1DOT | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reason for Change: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| These changes are part of our multiyear plan to transition products from our 150-millimeter factories to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative): | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| None | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Impact on Environmental Ratings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| RoHS | REACH | Green Status | IEC 62474 |
|---|---|---|---|
| <input checked="" type="checkbox"/> No Change | <input checked="" type="checkbox"/> No Change | <input checked="" type="checkbox"/> No Change | <input checked="" type="checkbox"/> No Change |

Changes to product identification resulting from this PCN:

Fab Site Information:

| Chip Site | Chip Site Origin Code (20L) | Chip Site Country Code (21L) | Chip Site City |
|-------------|-----------------------------|------------------------------|-------------------|
| DFAB | DLN | USA | Dallas |
| GFAB6 | GF6 | GBR | Greenock |
| GFAB8 | GF8 | GBR | Greenock |
| RFAB | RFB | USA | Richardson |

| Assembly Site | Assembly Site Origin (22L) | Assembly Country Code (23L) | Assembly City |
|---------------|----------------------------|-----------------------------|-------------------------|
| AP1 | AKR | PHL | Cupang, Muntinlupa City |
| TIEMA | CU6 | MYS | Melaka |
| MLA | MLA | MYS | Kuala Lumpur |


Die Rev:


Current


New

| Die Rev [2P] | Die Rev [2P] |
|--------------|--------------|
| C | C |

Sample product shipping label (not actual product label):


TEXAS INSTRUMENTS
MADE IN: Malaysia
2DC: 20:


G4



(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483SI2
(P)
(2P) REV: (V) 0033317
(20L) CS0: SHE (21L) CC0:USA
(22L) AS0: MLA (23L) AC0: MYS

MSL 2 /260C/1 YEAR SEAL DT
MSL 1 /235C/UNLIM 03/29/04
OPT:
ITEM: 39
LBL: 5A (L)T0:1750

Product Affected:

| | | | |
|------------------|------------------|------------------|------------------|
| LMC6762AIMX/NOPB | LMC6762BIMX/NOPB | LMC6772AIMX/NOPB | LMC6772BIMX/NOPB |
|------------------|------------------|------------------|------------------|

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

| Type | # | Test Name | Condition | Duration | Qual Device: LMC6762AIMX/NOPB | Qual Device: LMC6772AIMX/NOPB | QBS Reference: SN74HCS74QPWRQ1 | QBS Reference: OPA2991QDRQ1 |
|-------|----|-------------------------------|------------------------------------|------------|----------------------------------|----------------------------------|-----------------------------------|--------------------------------|
| HAST | A2 | Biased HAST | 130C/85%RH | 96 Hours | 1/77/0 | - | - | 3/231/0 |
| UHAST | A3 | Unbiased HAST | 130C/85%RH | 96 Hours | 1/77/0 | - | - | 3/231/0 |
| TC | A4 | Temperature Cycle | -65C/150C | 500 Cycles | 1/77/0 | - | - | 3/231/0 |
| HTSL | A6 | High Temperature Storage Life | 150C | 1000 Hours | - | - | - | 3/135/0 |
| HTSL | A6 | High Temperature Storage Life | 175C | 500 Hours | 1/77/0 | - | - | - |
| HTOL | B1 | Life Test | 125C | 1000 Hours | - | - | 3/231/0 | - |
| HTOL | B1 | Life Test | 150C | 300 Hours | 1/77/0 | - | - | - |
| ELFR | B2 | Early Life Failure Rate | 125C | 48 Hours | - | - | 3/2400/0 | - |
| ESD | E2 | ESD CDM | - | 500 Volts | 1/3/0 | 1/3/0 | - | - |
| ESD | E2 | ESD HBM | - | 2000 Volts | 1/3/0 | 1/3/0 | - | - |
| LU | E4 | Latch-Up | Per JESD78 | - | 1/6/0 | 1/6/0 | - | - |
| LU | E4 | Latch-Up | Per JESD78 | - | 1/6/0 | 1/6/0 | - | - |
| CHAR | E5 | Electrical Distributions | Cpk>1.67 Room, hot, and cold | - | 3/90/0 | - | - | - |

- QBS: Qual By Similarity

- Qual Device LMC6762AIMX/NOPB is qualified at MSL1 260C
- Qual Device LMC6772AIMX/NOPB 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

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

TI Qualification ID: R-CHG-2302-035

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

| Location | E-Mail |
|---------------------------|--|
| WW Change Management Team | PCN_ww_admin_team@list.ti.com |

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