| PCN Number:   |   |          | 20230905001.1 |              |                                      |                       |         |                              |        | PCN Date: |             |            | September<br>06, 2023 |  |
|---|---|----------|---------------|--------------|--------------------------------------|-----------------------|---------|------------------------------|--------|-----------|-------------|------------|-----------------------|--|
| Title   | Title: Qualification of CDAT as an alternate Assembly site for select devices                                     |          |               |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| Cust  | Customer Contact: Change Management Team Dept: Quality Services   |          |               |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| Proposed 1 <sup>st</sup> Ship Date:   |   |          |               | Dec 4,       | Dec 4, 2023                          |                       |         | Sample Reques<br>accepted un |        |           |             |            |                       |  |
| *Saı  | *Sample requests received after Oct 5, 2023 will not be supported.  |          |               |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| Change Type:  |   |          |               |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| $\boxtimes$   | Assen   | nbly Sit | e             |              |                                      | Desig                 | n       |                              |        |           | Waf         | fer Bun    | np Material           |  |
| X   | ✓ Assembly Process ☐ Data Sheet ☐ Wafer Bump Procest   ✓ Assembly Materials ☐ Part number change ☐ Wafer Fab Site |          |               |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| $\boxtimes$   | ☐ Mechanical Specification ☐ T   ☐ Packing/Shipping/Labeling ☐ T  |          |               |              |                                      |                       |         | r change                     |        | <u> </u>  |             |            |                       |  |
|   |   |          | •             |              | Щ                                    | Test Site Wafer Fab I |         |                              |        |           |             |            |                       |  |
| Ш   | Packing/Shipping/Labeling   |          |               |              |                                      |                       | Process |                              |        |           |             |            |                       |  |
|   |   |          |               |              |                                      | PCN                   | l Det   | <u>ails</u>                  |        |           |             |            |                       |  |
| Des   | criptio   | n of Cl  | nange:        |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| Texas Instruments Incorporated is announcing the qualification of CDAT as an additional Assembly site for set of devices listed below. Construction differences are as follows:               |   |          |               |              |                                      |                       |         |                              |        |           |             |            |                       |  |
|   |   |          |               |              |                                      |                       |         | UTL3                         | JTL3   |           | CDAT        |            |                       |  |
|   |   | Mount    | Compo         | ound         |                                      |                       | 9       | SID#PZ0076                   | 5      |           | 420         | 07123      |                       |  |
|   |   | Bond     | wire co       | mposition, d | liameter                             |                       |         | Au, 0.8 mil                  | Cu     |           |             | 0.8 mil    |                       |  |
|   |   |          |               |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| Reas  | son fo  | r Chan   | ge:           |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| Supp  | oly con   | tinuity  |               |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| Anti  | cipate  | d impa   | act on I      | Form, Fit,   | Fun                                  | ction,                | Quali   | ty or Relia                  | bility | / (p      | ositi       | ve / n     | egative):             |  |
| None  | 9   |          |               |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| Imp   | act on  | Enviro   | onmen         | tal 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  |                       |  |
| $\boxtimes$   | No Cha  | inge     |               | No Cha       | ☑ No Change                          |                       |         | ☑ No Change                  |        |           | ☑ No Change |            | nange                 |  |
|   |   |          |               |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| Cha   | Changes to product identification resulting from this PCN:  |          |               |              |                                      |                       |         |                              |        |           |             |            |                       |  |
| Assembly Site O (22L)   |   |          |               | Orig         | Origin Assembly Country Coc<br>(23L) |                       |         |                              | de     |           | Ass         | embly City |                       |  |
|   | UTL1  |          |               | NSE          |                                      |                       |         | THA                          |        |           |             | E          | Bangkok               |  |
| CDAT  |   |          |               | CDA          |                                      |                       |         | CHN                          |        |           |             | Chengdu    |                       |  |
| Sam   | nle pro   | duct cl  | ninning       | lahel (not   | act                                  | ual pro               | duct l  | ahel)                        |        |           |             |            |                       |  |

TEXAS INSTRUMENTS

MADE IN: Malaysia 2DC: 20:

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

OPT: ITEM:

LBL: 5A (L)TO:3750



(1P) SN74LS07NSR (a) 2000 (D) 0336 (31T)LOT: 3959047MLA (4W) TKY(1T) 7523483SI2 (2P) REV:

(2P) REV: (V) 0033317 (20L) CSO: SHE (21L) CCO:USA (22L) ASO: MLA (23L) ACO: MYS

**Product Affected:** 

| TMAG5231A1CQDMRR | TMAG5231B1DQDMRR | TMAG5231C1GQDMRR | TMAG5231H1DQDMRR |
|------------------|------------------|------------------|------------------|
| TMAG5231A2DQDMRR | TMAG5231C1DQDMRR |                  |                  |

## Qualification Report

## TMAG5231 DMR CDAT Approve Date 06-June-2023

Qualification Results

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

| Туре  | #  | Test Name                           | Condition  | Duration      | Qual Device:<br>TMAG5231A2DQDMRR | Qual Device:<br>TMAG5231C1GQDMRR | Qual Device:<br>TMAG5231H1DQDMRR | Qual Device:<br>TMAG5231A1CQDMRR | Qual Device:<br>TMAG5231B1DQDMRR | Qual Device:<br>TMAG5231C1DQDMRR |
|-------|----|-------------------------------------|--|---------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| HAST  | A2 | Biased HAST                         | 130C/85%RH   | 96<br>Hours   | -                                | -                                | 1/77/0                           | -                                | -                                | -                                |
| UHAST | АЗ | Unbiased HAST                       | 130C/85%RH   | 96<br>Hours   | -                                | -                                | 1/77/0                           | -                                | -                                | -                                |
| тс    | A4 | Temperature<br>Cycle                | -65C/150C  | 500<br>Cycles | -                                | -                                | 1/77/0                           | -                                | -                                | -                                |
| HTSL  | A6 | High<br>Temperature<br>Storage Life | 150C   | 1000<br>Hours | -                                | -                                | 1/77/0                           | -                                | -                                | -                                |
| SD    | СЗ | PB-Free<br>Solderability            | Precondition<br>w.155C Dry<br>Bake (4 hrs<br>+/- 15<br>minutes); PB-<br>Free Solder; | -             | -                                | -                                | 1/22/0                           | -                                | -                                | -                                |
| ESD   | E2 | ESD CDM                             |  | 250<br>Volts  | -                                | -                                | 1/3/0                            | -                                | -                                |                                  |
| CHAR  | E5 | Electrical<br>Characterization      | Per<br>Datasheet<br>Parameters   | -             | 1/30/0                           | 1/30/0                           | 1/30                             | 1/30/0                           | 1/30/0                           | 1/30/0                           |

- OBS: Qual By Similarity
- Qual Device TMAG5231A2DQDMRR is qualified at MSL1 260C
- Qual Device TMAG5231C1GQDMRR is qualified at MSL1 260C
- Qual Device TMAG5231H1DQDMRR is qualified at MSL1 260C Oual Device TMAG5231A1CODMRR is qualified at MSL1 260C
- Qual Device TMAG5231B1DQDMRR is qualified at MSL1 260C
- . Qual Device TMAG5231C1DQDMRR 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 Tl's external Web site: http://www.ti.com/

TI Qualification ID: R-CHG-2111-058

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

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