| PCN Number:                                      |  | 20151214003 |                 |                          | PCN Da                         | ate:                | 12/17/2015               |                                  |                    |              |
|--|--|-------------|-----------------|--------------------------|--------------------------------|---------------------|--------------------------|----------------------------------|--------------------|--------------|
| <b>Title:</b> Qualification of process technical |  |             |                 |                          | s an addition                  | al wafer fab site o | ption                    | for selec                        | t devi             | ices in LBC5 |
| <b>Customer Contact:</b>                         |  |             | PCN Manager Dep |                          |                                | Dept                | :                        | Quality Services                 |                    |              |
| Proposed 1 <sup>st</sup> Ship Date               |  |             | : (             | 03/1                     | Estimated Sample Availability: |                     |                          | Date provided at sample request. |                    |              |
| Change Type:                                     |  |             |                 |                          |                                |                     |                          |                                  |                    |              |
| Assembly Site                                    |  | bly Site    |                 |                          | Assembly Process               |                     |                          | Asse                             | Assembly Materials |              |
| Design   |  |             |                 | Electrical Specification |                                | Mech                | Mechanical Specification |                                  |                    |              |
| Test Site  |  | ite         |                 |                          | Packing/Shipping/Labeling      |                     | Test                     | Test Process                     |                    |              |
| Wafer Bump Site                                  |  |             |                 | Wafer Bump Material      |                                | Wafe                | Wafer Bump Process       |                                  |                    |              |
|  |  |             |                 |                          | Wafer Fab Materials            |                     | Wafe                     | Wafer Fab Process                |                    |              |
|  |  |             |                 |                          | Part numbe                     | r change            |                          |                                  |                    |              |
| PCN Details                                      |  |             |                 |                          |                                |                     |                          |                                  |                    |              |

# **Description of Change:**

This change notification is to announce the qualification of CFAB as an additional wafer fab site option for the LBC5 devices listed in the product affected section of this document.

|                     | Current |                   | Additional          |         |                   |
|---------------------|---------|-------------------|---------------------|---------|-------------------|
| Current Fab<br>Site | Process | Wafer<br>Diameter | Additional Fab Site | Process | Wafer<br>Diameter |
| DP1DM5              | LBC5    | 200 mm            | CFAB                | LBC5    | 200 mm            |

The LBC5 process technology has been running successfully in production at CFAB since 2012.

### **Reason for Change:**

Continuity of Supply

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

None

## Changes to product identification resulting from this PCN:

Chip Site Origin Code

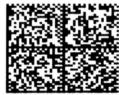
#### Current

| CFAB CU3   |                             | CHN                             | Chengdu        |
|------------|-----------------------------|---------------------------------|----------------|
| Chip Site  | Chip Site Origin Code (20L) | Chip Site Country<br>Code (21L) | Chip Site City |
| New        |                             |                                 |                |
| DP1DM5     | DM5                         | USA                             | Dallas         |
| Chip Sites | (20L)                       | Code (21L)                      | Chip Site City |

Chip Site Country

Sample product shipping label (not actual product label)





(1P) \$N74L\$07N\$R (Q) 2000 (D) 0336 (31T) LOT: 3959047MLA (4W) TKY(1T) 7523483\$I2 (P) (2P) REV: (20L) CSO: SHE (21L) CCO: USA (23L) ASO: MLA (23L) AGO: MYS

| Product Affected: |             |             |  |  |  |
|-------------------|-------------|-------------|--|--|--|
| DRV8800PWP        | DRV8801PWP  | DRV8818PWP  |  |  |  |
| DRV8800PWPR       | DRV8801PWPR | DRV8818PWPR |  |  |  |

#### **Qualification Report**

#### **Qualification of LBC5 Process Technology at CFAB**

#### **Die Attributes**

| Attributes        | Process QBS:<br>TAS5613APHD<br>Approved:<br>3/2/2012 | Qual Device<br>DRV8800PWP<br>Approved:<br>12/03/2015 | Qual Device<br>DRV8801PWP<br>Approved:<br>12/03/2015 | Qual Device<br>DRV8818PWPR<br>Approved<br>11/12/2015 |
|-------------------|--|--|--|--|
| Wafer Fab Site    | CFAB   | CFAB   | CFAB   | CFAB   |
| Wafer Fab Process | LBC5   | LBC5   | LBC5   | LBC5   |
| Wafer Diameter    | 200mm  | 200mm  | 200mm  | 200mm  |

- QBS: Qual By Similarity
- Qual Device TAS5613APHD and SN8C0183PWP are qualified at LEVEL3-260C
- Qual Device DRV8800PWP/DRV8801PWP is qualified at LEVEL2-260CG
- Qual Device DRV8860PWPR is qualified at LEVEL1-260CG

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

| Туре | Test Name /<br>Condition          | Duration                       | Process QBS<br>Device:<br>TAS5613APHD | Qual Device<br>DRV8800PWP | Qual Device<br>DRV8801PWP | Qual Device<br>DRV8818PWPR |
|------|-----------------------------------|--------------------------------|---------------------------------------|---------------------------|---------------------------|----------------------------|
| AC   | Autoclave 121C                    | 96 Hours                       | 3/77/0                                | -                         | -                         | -                          |
| ED   | Electrical<br>Characterization    | Per<br>Datasheet<br>Parameters | 3/Pass                                | 1/Pass                    | 3/Pass                    | 1/Pass                     |
| HAST | Biased HAST,<br>130C/85%RH        | 96 Hours                       | 3/77/0                                | -                         | -                         | -                          |
| HBM  | ESD - HBM                         | 1500 V                         | 3/21/0                                | -                         | 1/3/0                     | -                          |
| CDM  | ESD - CDM                         | 250 V                          | 3/15/0                                | -                         | 1/3/0                     | -                          |
| HTOL | Life Test, 155C                   | 240 Hours                      | 3/77/0                                | -                         | -                         | -                          |
| HTSL | High Temp<br>Storage Bake<br>170C | 420 Hours                      | 3/77/0                                | -                         | -                         | -                          |
| LU   | Latch-up                          | (per<br>JESD78)                | 3/6/0                                 | -                         | 1/6/0                     | -                          |
| ТС   | Temperature<br>Cycle, -65/150C    | 500 Cycles                     | 3/77/0                                | 1/77/0                    | -                         | -                          |

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

<sup>-</sup> 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

<sup>-</sup> The following are equivalent HTSL options based on an activation energy of  $0.7 \mathrm{eV}$ :  $150 \mathrm{C}/1 \mathrm{k}$  Hours, and  $170 \mathrm{C}/420$  Hours

<sup>-</sup> 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 you can contact your local Field Sales Representative.

| Location     | E-Mail                         |
|--------------|--------------------------------|
| USA          | PCNAmericasContact@list.ti.com |
| Europe       | PCNEuropeContact@list.ti.com   |
| Asia Pacific | PCNAsiaContact@list.ti.com     |
| Japan        | PCNJapanContact@list.ti.com    |