

**PCN# 20180910000.1****Qualification of DFAB as an additional wafer fab site option for select devices in the  
LBC4 process technology  
Change Notification / Sample Request**

**Date:** September 11, 2018  
**To:** PREMIER FARNELL 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.

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 changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

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)).

PCN Team  
SC Business Services

**20180910000.1**  
**Attachment: 1**

**Products Affected:**

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

<b>DEVICE</b>	<b>CUSTOMER PART NUMBER</b>
TLC5951DAP	null

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

<b>PCN Number:</b>	20180910000.1	<b>PCN Date:</b>	Sep 11, 2018
<b>Title:</b>	Qualification of DFAB as an additional wafer fab site option for select devices in the LBC4 process technology		
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services
<b>Proposed 1<sup>st</sup> Ship Date:</b>	Dec 11, 2018	<b>Estimated Sample Availability:</b>	Date provided at sample request.
<b>Change Type:</b>			
<input type="checkbox"/> Assembly Site	<input type="checkbox"/> Assembly Process	<input type="checkbox"/> Assembly Materials	
<input 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 type="checkbox"/> Wafer Fab Materials	<input type="checkbox"/> Wafer Fab Process	
	<input type="checkbox"/> Part number change		

### PCN Details

#### Description of Change:

This change notification is to announce the qualification of DFAB (DL-LIN) as an additional wafer fab site option for the LBC4 devices listed in the "Product Affected" section.

Current Fab Site			Additional Fab Site		
Current Fab Site	Process	Wafer Diameter	New Fab Site	Process	Wafer Diameter
CFAB	LBC4	200 mm	DL-LIN	LBC4	200 mm

Qual details are provided in the Qual Data Section.

#### 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:

##### Current:

Current Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
CFAB	CU3	CHN	Chengdu

##### New Fab Site:

New Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
DL-LIN	DLN	USA	Dallas

Sample product shipping label (not actual product label)




(1P) SN74LS07NSR  
 (Q) 2000 (D) 0336  
 (31T) LOT: 3959047MLA  
 (4W) TKY (1T) 7523483S12  
 (P)  
 (2P) REV: (V) 0033317  
 (20L) CSO: SHE (21L) CCO:USA  
 (22L) ASO: MLA (23L) ACO: 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:

TLC5951DAP	TLC5951DAPR
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## Qualification Report

**TLC5951DAP 2<sup>nd</sup> Source BLBFC5951A1CC8 Die Qualification – LBC4 Process at DFAB/Assembled in HTSSOP at TAI**

Approve Date 13-Aug-2018

### Product Attributes

Attributes	Qual Device: TLC5951DAPR	QBS Product Reference: TLC5951RHA	QBS Product Reference: TLC5951RTA	QBS Product/Process Reference: TLC5951RHA	QBS Process Reference: SN104982PZP	QBS Package Reference: TLC6C5724QDAPRQ1 (PG1.0)
Assembly Site	TAI	CARZ	CARZ	MLA	TAI	TAI
Package Family	HTSSOP	QFN	QFN	QFN	HTQFP	HTSSOP
Flammability	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	DFAB	DFAB	DFAB	DFAB	DFAB	RFAB
Wafer Process	LBC4	LBC4	LBC4	LBC4	LBC4	LBC7

- QBS: Qual By Similarity
- Qual Device TLC5951DAPR is qualified at LEVEL3-260C

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TLC5951DAPR	Qual Device: TLC5951RHA	QBS Product Reference: TLC5951RTA	QBS Product/Process Reference: TLC5951RHA	QBS Process Reference: SN104982PZP	QBS Package Reference: TLC6C5724QDA PRQ1 (PG1.0)
AC	Autoclave 121C	96 Hours	-	-	-	-	-	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	1/30/0	3/90/0	3/90/0	3/90/0
ELFR	Early Life Failure Rate, 125C	24 Hours	-	-	-	3/3000/0	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	3/231/0	3/231/0	3/231/0
HAST	Biased HAST, 110C/85%RH	264 Hours	-	3/231/0	-	-	-	-
HBM	ESD - HBM	2000 V	-	-	1/3/0	-	-	1/3/0
HBM	ESD - HBM	3000 V	-	-	1/3/0	-	-	-
CDM	ESD - CDM	500 V	-	1/3/0	1/3/0	-	-	-
CDM	ESD - CDM	1000 V	-	1/3/0	1/3/0	-	-	1/3/0
CDM	ESD - CDM	1500 V	-	1/3/0	1/3/0	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	1/77/0	1/77/0	-	3/231/0	-
HTOL	Life Test, 140C	480 Hours	-	-	-	3/231/0	-	-
HTOL	Life Test, 150C	408 Hours	-	-	-	-	-	1/77/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	1/77/0	1/45/0	3/135/0	-	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-	-	-	1/77/0
LU	Latch-up (per JESD78)	-	-	1/6/0	1/6/0	3/15/0	3/15/0	1/6/0
PC	Preconditioning	Level 3-260C	-	3/308/0	3/738/0	-	-	3/770/0
PD	Physical Dimensions	-	-	3/60/0	3/60/0	-	-	3/30/0
SD	Solderability	Pb Free	-	3/15/0	3/15/0	3/66/0	-	1/15/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	3/231/0	3/231/0	1/77/0	3/231/0
TS	Thermal Shock -65/150C	500 Cycles	-	-	-	-	3/231/0	-
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	-	-	-
UHAST	Unbiased HAST, 110C/85%RH	264 Hours	-	3/231/0	-	-	-	-
WBP	Bond Pull	Wires	-	3/108/0	3/108/0	-	-	3/90/0
WBS	Bond Shear	Wires	-	3/108/0	3/108/0	-	-	3/90/0
MQ	Manufacturing (Assembly)	-	1/Pass	3/Pass	3/Pass	-	-	3/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

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	<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>