



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20240613009.1**

**Qualification of DFAB and additional Assembly Site/BOM options for select devices  
Change Notification / Sample Request**

**Date:** June 13, 2024

**To:** PREMIER FARNELL PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments (TI). The details of this change are on the following pages, and are in alignment with our standard product change notification (PCN) [process](#).

TI requires acknowledgement of receipt of this notification within 30 days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 30 days of this notification, given that samples are not built ahead of the change.

The Proposed First Ship date in this PCN letter is the earliest possible date that customers could receive the changed material. It is our commitment that the changed device will not ship before that date. If samples are requested within the 30 day sample request window, customers will still have 30-days to complete their evaluation regardless of the proposed 1st ship date.

This particular PCN is related to TI's multiyear transition plan for our two remaining factories with 150-millimeter production (DFAB in Dallas, Texas, and SFAB in Sherman, Texas). DFAB will remain open, but will focus on 200-mm production, with a smaller set of technologies. SFAB will close no earlier than 2024 and no later than 2025. As referenced in the "reason for change" below, these changes are part of our multiyear plan to transition these products to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

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. As always, we thank you for your continued business.

Change Management Team  
SC Business Services

**20240613009.1**  
**Attachment: 1**

**Products Affected:**

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

<b>DEVICE</b>	<b>CUSTOMER PART NUMBER</b>
LP311D	NULL
LT1009IDR	NULL
LT1013DP	NULL
SN74LS06DR	NULL
SN74LS08N	NULL
SN74LS47D	NULL
SN74LS47N	NULL

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

<b>PCN Number:</b>	20240613009.1	<b>PCN Date:</b>	June 13, 2024
<b>Title:</b>	Qualification of DFAB and additional Assembly Site/BOM options for select devices		
<b>Customer Contact:</b>	Change Management Team	<b>Dept:</b>	Quality Services
<b>Proposed 1<sup>st</sup> Ship Date:</b>	September 11, 2024	<b>Sample requests accepted until:</b>	July 13, 2024*
<b>*Sample requests received after July 13, 2024 will not be supported.</b>			
<b>Change Type:</b>			
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design
<input checked="" type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Material
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process
<b>PCN Details</b>			
<b>Description of Change:</b>			
Texas Instruments is pleased to announce the qualification of its DFAB fabrication facility as an additional Wafer Fab option in addition to Assembly Site/BOM options for the devices listed below.			
<b>Current Fab Site</b>			<b>Additional Fab Site</b>
<b>Current Fab Site</b>	<b>Process</b>	<b>Wafer Diameter</b>	<b>Additional Fab Site</b>
SFAB	J11	150 mm	DFAB
			<b>Process</b>
			J11
			<b>Wafer Diameter</b>
			200 mm
Construction differences are as follows:			
<b>Group 1: There are no assembly differences</b>			
<b>Group 2 device: No material differences between TAI and FMX</b>			
Qual details are provided in the Qual Data Section.			
<b>Reason for Change:</b>			
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.			
<b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>			
None			
<b>Impact on Environmental Ratings:</b>			
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.			
<b>RoHS</b>	<b>REACH</b>	<b>Green Status</b>	<b>IEC 62474</b>
<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change
<b>Changes to product identification resulting from this PCN:</b>			
<b>Fab Site Information:</b>			
Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
SH-BIP-1	SHE	USA	Sherman
<b>DL-LIN</b>	<b>DLN</b>	<b>USA</b>	<b>Dallas</b>
<b>Assembly Site Information:</b>			

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TAI	TAI	TWN	Chung Ho, New Taipei City
<b>FMX</b>	<b>MEX</b>	<b>MEX</b>	<b>Aguascalientes</b>

Sample product shipping label (not actual product label):

**TEXAS INSTRUMENTS**  
 MADE IN: Malaysia  
 2DC: 20:  
 MSL 2 /260C/1 YEAR SEAL DT  
 MSL 1 /235C/UNLIM 03/29/04  
 OPT:  
 ITEM: 39  
**LBL: 5A (L)T0:1750**

(1P) **SN74LS07NSR**  
 (Q) **2000** (D) **0336**  
 (31T) LOT: 3959047MLA  
 (4W) TKY (1T) 7523483SI2  
 (P)  
 (2P) REV: (V) 0033317  
 (20L) CSO: SHE (21L) CCO:USA  
 (22L) ASO: MLA (23L) ACO: MYS

**Group 1 Product Affected (Wafer fab only):**

LM211D	SN74LS00NSRG4	SN74LS14DRE4	SN75468D
LM211DE4	SN74LS04D	SN74LS14DRG4	SN75468DE4
LM211DG4	SN74LS04DG4	SN74LS14N	SN75468DR
LM211DR	SN74LS04DR	SN74LS14NE4	SN75468N
LM211DRG4	SN74LS04DRG4	SN74LS14NSR	SN75468N-A
LM211P	SN74LS04N	SN74LS156NSR	SN75468NE4
LM211PW	SN74LS04NE4	SN74LS164DR	SN75468NSR
LM211PWR	SN74LS04NSR	SN74LS164N	SN75468NSRG4
LM236D-2-5	SN74LS05D	SN74LS164NE4	SN75C185DWR
LM236DR-2-5	SN74LS05DR	SN74LS165ADR	TL026CD
LM311D	SN74LS05N	SN74LS166ADR	TL026CDR
LM311DR	SN74LS05NE4	SN74LS20N	TL026CPSR
LM311P	SN74LS06D	SN74LS20NE4	TL1431CD
LM311PSR	SN74LS06DBR	SN74LS21DR	TL1431CDR
LM311PW	SN74LS06DG4	SN74LS247DR	TL1431CLP
LM311PWR	SN74LS06DR	SN74LS247N	TL1431CLPME3
LM336BD-2-5	SN74LS06DRE4	SN74LS247NE4	TL1431CLPR
LM336BDR-2-5	SN74LS06N	SN74LS247NSR	TL7700CDGKR
LM336BLP-2-5	SN74LS06NE4	SN74LS266D	TL7700CDGKT
LM336BLPR-2-5	SN74LS06NS	SN74LS266DG4	TL7700CPS
LM336D-2-5	SN74LS06NSG4	SN74LS273DWR	TL7700CPSR
LM336DR-2-5	SN74LS06NSR	SN74LS273N	TL7700CPW
LM336LP-2-5	SN74LS06NSRG4	SN74LS273NE4	TL7700CPWR
LM336LPR-2-5	SN74LS07D	SN74LS273NSR	TL7700CPWRG4
LP211D	SN74LS07DBR	SN74LS32DR	TL7702ACD
LP211DR	SN74LS07DBRG4	SN74LS32DRE4	TL7702ACDR
LP311D	SN74LS07DR	SN74LS32DRG4	TL7702AID
LP311DR	SN74LS07DRE4	SN74LS32N	TL7702AIDR
LP311P	SN74LS07N	SN74LS32NE4	TL7702BCD
LT1009CD	SN74LS07NSR	SN74LS32NSR	TL7702BCDR
LT1009CDR	SN74LS07NSRG4	SN74LS32NSRG4	TL7702BID

LT1009CLP	SN74LS08D	SN74LS373DWR	TL7702BIDR
LT1009CLPM	SN74LS08DR	SN74LS373N	TL7705ACD
LT1009CLPR	SN74LS08DRE4	SN74LS373NE4	TL7705ACDR
LT1009ID	SN74LS08N	SN74LS373NSR	TL7705ACPS
LT1009IDR	SN74LS08NE4	SN74LS374DWR	TL7705ACPSR
LT1009ILP	SN74LS08NSR	SN74LS374N	TL7705AID
LT1009ILPR	SN74LS09DR	SN74LS374NE4	TL7705AIDR
LT1013CD	SN74LS09DRE4	SN74LS374NSR	TL7705BCD
LT1013CDR	SN74LS09NSR	SN74LS377DWR	TL7705BCDR
LT1013CP	SN74LS123D	SN74LS47D	TL7705BID
LT1013DD	SN74LS123DE4	SN74LS47DR	TL7705BIDR
LT1013DDE4	SN74LS123DR	SN74LS47N	TL7705CPS-B
LT1013DDG4	SN74LS123DRG4	SN74LS47NE4	TL7705CPSR-B
LT1013DDR	SN74LS123N	SN74LS47NSR	TL7709ACD
LT1013DID	SN74LS123NE4	SN74LS540DBR	TL7709ACDR
LT1013DIDR	SN74LS123NSR	SN74LS540DWR	TL7712ACD
LT1013DIP	SN74LS123NSRG4	SN74LS540N	TL7712ACDR
LT1013DP	SN74LS136DR	SN74LS540NS	TL7712AIDR
LT1014CN	SN74LS138D	SN74LS540NSR	TL7715ACD
LT1014DDW	SN74LS138DG4	SN74LS541DBR	TL7726CD
LT1014DDWR	SN74LS138DR	SN74LS541DW	TL7726CDR
LT1014DIDW	SN74LS138DRE4	SN74LS541DWR	TL7726ID
LT1014DIDWR	SN74LS138N	SN74LS541N	TL7726IDR
P82B715DR	SN74LS138NE4	SN74LS541NE4	TL7733BCD
P82B715DRG4	SN74LS139ADR	SN74LS541NSR	TL7733BCDR
P82B715P	SN74LS139ADRE4	SN74LS74ADR	TL7733BID
P82B715PE4	SN74LS139AN	SN74LS74ADRG4	TL7733BIDR
P82B96DGKR	SN74LS139ANE4	SN74LS74AN	TPD4E002DRL2
P82B96DGKRG4	SN74LS145DR	SN74LS74ANE4	TPD4E002DRLR
P82B96DR	SN74LS145DRE4	SN74LS74ANSR	TPD5E003DPFR
P82B96DRG4	SN74LS145N	SN74LS74ANSRG4	TS321IDBVR
P82B96P	SN74LS145NE4	SN74LS86ADR	TS321IDBVT
P82B96PWR	SN74LS145NSR	SN74LS86ADRE4	TS321IDR
P82B96PWRG4	SN74LS14D	SN74LS86AN	TSS521DR
SN74LS00DR	SN74LS14DBR	SN74LS86ANE4	TSS721ADR
SN74LS00N	SN74LS14DE4	SN74LS86ANSR	
SN74LS00NE4	SN74LS14DG4	SN75185DBR	
SN74LS00NSR	SN74LS14DR	SN75185DWR	
<b>Group 2 Product Affected (Wafer fab, Assembly site from TAI to FMX):</b>			
TL7705BQD	TL7705BQDG4	TL7705BQDR	TL7705BQDRG4

For alternate parts with similar or improved performance, please visit the product page on [TI.com](http://TI.com)

### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: LT1013DIDR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	3/231/0
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	3/231/0
HTSL	A6	High Temperature Storage Life	170C	420 Hours	3/231/0
HTOL	B1	Life Test	150C	300 Hours	3/231/0
ELFR	B2	Early Life Failure Rate	150C	24 Hours	3/2400/0
ESD	E2	ESD CDM	-	500 Volts	1/3/0
ESD	E2	ESD HBM	-	1000 Volts	1/3/0
LU	E4	Latch-Up	Per JESD78	-	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0

- QBS: Qual By Similarity
- Qual Device LT1013DIDR is qualified at MSL1 260C
- Qual Device LT1013DIDR 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/>

TI Qualification ID: R-CHG-2202-003

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: SN74LS07DR	QBS Process Reference: LT1013DIDR	QBS Package Reference: ULQ2003AQDRQ1
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	3/231/0
uHAST	Unbiased HAST, 130C/85%RH	96 Hours	1/77/0	3/231/0	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	3/231/0	3/231/0
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	3/135/0
HTOL	Life Test, 150C	300 Hours	-	3/231/0	3/231/0
ELFR	Early Life Failure Rate, 150C	24 Hours	-	3/2400/0	-
HBM	ESD - HBM	2000 V	1/3/0	-	-
HBM	ESD - HBM	1000 V	1/3/0	1/3/0	-
CDM	ESD - CDM	1000 V	1/3/0	1/3/0	-
LU	Latch-up	(per JESD78)	1/3/0	1/3/0	-
ED	Electrical Distributions	Cpk>1.67 Room, Hot, & Cold Test	1/30/0	3/90/0	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	-

- Qual Devices qualified at LEVEL1-260CG: SN74LS07DR
- 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-2202-009

## Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: SN75C185DWR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	2/154/0
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	3/231/0
HTSL	A6	High Temperature Storage Life	170C	420 Hours	3/231/0
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes); PB-Free Solder;	-	1/22/0
ESD	E2	ESD CDM	-	250 Volts	1/3/0
ESD	E2	ESD HBM	-	1000 Volts	1/3/0
LU	E4	Latch-Up	Per JESD78	-	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0

- QBS: Qual By Similarity
- Qual Device SN75C185DWR is qualified at MSL1 260C
- Qual Device SN75C185DWR 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/>

TI Qualification ID: R-CHG-2202-030

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

### IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale ([www.ti.com/legal/termsofsale.html](http://www.ti.com/legal/termsofsale.html)) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.