



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20231207002.1**

**Qualification of RFAB as an additional Fab site option, Die Revision, and Assembly Site and BOM options for select devices  
Change Notification / Sample Request**

**Date:** December 07, 2023  
**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.

Texas Instruments 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.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date on Page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

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 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.

Sincerely,

Change Management Team  
SC Business Services

**20231207002.1**  
**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>
TXS0104EPWR	null

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

<b>PCN Number:</b>	20231207002.1.1	<b>PCN Date:</b>	December 07, 2023																				
<b>Title:</b>	Qualification of RFAB as an additional Fab site option, Die Revision, and Assembly Site and 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>	Mar 08, 2024	<b>Sample requests accepted until:</b>	Jan 08, 2024*																				
<b>*Sample requests received after Jan 08, 2024 will not be supported.</b>																							
<b>Change Type:</b>																							
<input checked="" type="checkbox"/>	Assembly Site	<input checked="" type="checkbox"/>	Design																				
<input 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 checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Process																				
<b>PCN Details</b>																							
<b>Description of Change:</b>																							
Texas Instruments is pleased to announce the qualification of its RFAB fabrication facility as an additional Wafer Fab option in addition to Assembly site and BOM options for the devices listed below.																							
<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>FR-BIP-1</td> <td>ASLC10</td> <td>200mm</td> <td>RFAB</td> <td>LBC7</td> <td>300mm</td> </tr> </tbody> </table>						Current Fab Site			Additional Fab site			Current Fab Site	Process	Wafer Diameter	Additional Fab site	Process	Wafer Diameter	FR-BIP-1	ASLC10	200mm	RFAB	LBC7	300mm
Current Fab Site			Additional Fab site																				
Current Fab Site	Process	Wafer Diameter	Additional Fab site	Process	Wafer Diameter																		
FR-BIP-1	ASLC10	200mm	RFAB	LBC7	300mm																		
The die was also changed as a result of the process change to accommodate the change in Assembly technology																							
Construction differences are as follows:																							
<b>Group 1 Device:</b>																							
	<b>TI Malaysia</b>	<b>TI Malaysia (new)</b>																					
Bond wire composition, diameter	Cu, 0.96 mil	Cu, 0.8 mil																					
<b>Group 2 Device:</b>																							
	<b>TI Malaysia</b>	<b>TI Mexico</b>																					
Bond wire composition, diameter	Cu, 0.96 mil	Cu, 0.8 mil																					
Package marking	Pin 1 Stripe With ECAT (G4) TI Logo	Pin 1 Dot Remove ECAT (G4) TI letter																					
<b>Reason for Change:</b>																							
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.

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
FR-BIP-1	TID	DEU	Freising
<b>RFAB</b>	<b>RFB</b>	<b>USA</b>	<b>Richardson</b>

**Die Rev:**

<b>Current</b>	<b>New</b>
Die Rev [2P]	<b>Die Rev [2P]</b>
B	<b>A</b>

**Assembly Site Information:**

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TI Malaysia	MLA	MYS	Kuala Lumpur
<b>TI Mexico</b>	<b>MEX</b>	<b>MEX</b>	<b>Aguascalientes</b>

Sample product shipping label (not actual product label):

**Group 1 Product Affected: Fab site, Die Revision, BOM update**

TXS0104EPWR	TXS0104EPWRG4
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**Group 2 Product Affected: Fab site, Die Revision, Assembly site**

TXS0104EDR

## Group 1 Qualification Report

Approve Date 19-OCTOBER-2023

### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TXS0104EPWR	QBS Reference: TMP235AEDBZRQ1	QBS Reference: SN74HCS74QPWRQ1
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0
UHAST	A3	Autoclave	121C/15psig	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	1/77/0	-	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0
HTSL	A6	High Temperature Storage Life	150C	2000 Hours	-	3/135/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	3/231/0
HTOL	B1	Life Test	150C	1000 Hours	-	3/231/0	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	3/2400/0
ELFR	B2	Early Life Failure Rate	150C	48 Hours	-	3/2400/0	-
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	1/15/0
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	1/15/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	3/30/0	3/30/0
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	-
ESD	E2	ESD CDM	-	500 Volts	-	1/3/0	1/3/0
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	-	-
ESD	E2	ESD HBM	-	2000 Volts	-	1/3/0	1/3/0
LU	E4	Latch-Up	Per JESD78	-	1/3/0	1/6/0	1/6/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	3/90/0	3/90/0

QBS: Qual By Similarity

Qual Device TXS0104EPWR 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/>

## Group 2 Qualification Report

Approve Date 19-OCTOBER -2023

### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TXS0104EDR	QBS Reference: LM2904BQDRQ1	QBS Reference: LM393BIDR	QBS Reference: TMUX1134PWR
HAST	A2	Biased HAST	130C	96 Hours	-	3/231/0	-	-
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	0/0/0	3/231/0	3/231/0
UHAST	A3	Unbiased HAST	130C	192 Hours	-	3/231/0	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	3/231/0	3/231/0
TC	A4	Temperature Cycle	-65/150C	500 Cycles	-	3/231/0	-	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	3/231/0
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	3/135/0	3/231/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	3/231/0	3/231/0
HTOL	B1	Life Test	150C	408 Hours	-	3/231/0	-	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	3/2400/4 <sup>1,2</sup>	3/2400/0	3/2400/0
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	-	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	-	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes); PB-Free Solder;	-	-	-	-	1/22/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	3/30/0	-	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	2/6/0	1/3/0
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	-	2/6/0	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	-	3/9/0	-	-
LU	E4	Latch-Up	Per JESD78	-	1/3/0	3/18/0	2/6/0	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	3/90/0	1/30/0
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	3/90/0	-	-
FTY	E6	Final Test Yield	-	-	-	-	1/1/0	-

QBS: Qual By Similarity

Qual Device TXS0104EDR 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/>

[1]-Precon and ELFR fails due to a defect screenable at production test. See 8D attached to eQDB.

[2]-Precon and ELFR fails due to a defect screenable at production test. See 8D attached to eQDB.

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

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