12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20221031001.1
Qualification of CFAB and additional assembly BOM options for select LBC4 devices
Change Notification / Sample Request

Date: November 01, 2022
To: TOKYO ELECTRON DEVICE (DSTR) 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 of the 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 PCN Team (PCN_ww_admin_team@list.ti.com). For sample requests or sample related questions, contact your local Field Sales Representative. As always, we thank you for your continued business.

PCN Team
SC Business Services

20221031001.1
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.

DEVICE	CUSTOMER PART NUMBER
UCC28600DR	null
UCC29002D/1	null
UCC28600D	null
UCC39002D	null

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

PCN Number:	20221031001.1	**PCN Date:**	November 01, 2022
Title:	Qualification of CFAB and additional assembly BOM options for select LBC4 devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Jan 31, 2023	**Sample requests accepted until:**	Nov 30, 2022*

***Sample requests received after November 30, 2022 will not be supported.**

Change Type:

☐	Assembly Site	☐	Assembly Process	☒	Assembly Materials
☐	Design	☐	Electrical Specification	☐	Mechanical Specification
☐	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☒	Wafer Fab Site	☒	Wafer Fab Materials	☐	Wafer Fab Process
		☐	Part number change		

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of a new fab site (CFAB) and assembly BOM options for selected devices as listed below in the product affected section.

Current Fab Site			New Fab Site		
Fab Site	**Process**	**Wafer Diameter**	**Fab Site**	**Process**	**Wafer Diameter**
DL-LIN	LBC4	150 mm	CFAB	LBC4	200 mm
DL-LIN	LBC4	200 mm			

Additionally, there will be assembly BOM options introduced for these devices:

Group 2: (DFAB to CFAB Wafer Fab site & BOM update)

	Current	Additional
Bond wire composition, diameter	Au, 0.96 mils	Cu, 0.96 mils
Mold Compound	4211471	4205442
Mount Compound	4147858	4211470

Reason for Change:

These changes are part of our multiyear plan to transition products from our 150-milimeter factories to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

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

None

Impact on Environmental 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
☒ No Change	☒ No Change	☒ No Change	☒ 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
DL-LIN	DLN	USA	Dallas
CFAB	**CU3**	**CHN**	**Chengdu**

Sample product shipping label (not actual product label):

Product Affected:

Group 1 Device list (DFAB to CFAB Wafer Fab site)

UCC28600D	UCC29002D	UCC29002DR	UCC39002D
UCC28600DR	UCC29002D/1	UCC29002DR/1	UCC39002DR

Group 2 Device list (DFAB to CFAB Wafer Fab site & BOM update)

BQ30421DBT	BQ3055DBT	BQ30Z55DBT	BQ77PL157APW-4225
BQ30421DBTR	BQ30Z551DBTR-V100	BQ30Z55DBTR	BQ77PL157APWR-4225
BQ30424DBT	BQ30Z551DBT-V100	BQ30Z55DBT-R1	BQ8055DBT-D1
BQ30424DBTR	BQ30Z555DBT	BQ30Z55DBT-R2	BQ8055DBTR-D1
BQ30471DBTR	BQ30Z555DBTR	BQ30Z55DBTR-R1	BQ80S55DBT
BQ30471DBT-R1	BQ30Z555DBT-R2	BQ30Z55DBTR-R2	BQ80S55DBTR
BQ30471DBTR-R1	BQ30Z555DBTR-R2	BQ30Z55DBT-V100	

For alternate parts with similar or improved performance, please visit the product page on TI.com

Qualification Report

Approve Date 13-Jun-2022

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: BQ77PL157APWR-4225
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0
CDM	ESD CDM	500V	1/3/0
HBM	ESD HBM	2500V	1/3/0
LU	Latch-up	per JESD78	1/6/0
MQ	Manufacturability (Assembly)	(per mfg. site specification)	1/PASS
MQ	Manufacturability (Wafer Fab)	(per mfg. site specification)	1/PASS

- Qual Device BQ77PL157APWR-4225 is qualified at LEVEL2-260CG
- Qual Device BQ77PL157APWR-4225 contains multiple dies.

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

Qualification Report
Approve Date 06-MAY-2022

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: BQ24085DRCR	Package QBS: TPS63000DRCR	Package QBS: MSP430FR5969IRGZR	Process QBS: SN65HVDA195QDRQ1
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	3/231/0	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0	3/231/0	3/231/0
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	-	1/45/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/231/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	3/231/0
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	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)	-	-	3/66/0	-	1/15/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	3/15/0	-	3/30/0
ESD	E2	ESD CDM	-	2000 Volts	1/3/0	-	-	-
ESD	E2	ESD HBM	-	3000 Volts	1/3/0	-	-	-
LU	E3	Latch-up	-	Per JESD78	1/6/0	-	-	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	1/Pass	-	-	3/90/0

- QBS: Qual By Similarity
- Qual Device BQ24085DRCR is qualified at MSL2 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/

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

For questions regarding this notice, e-mails can be sent to the contact shown below or your local Field Sales Representative.

Location	E-Mail
WW Change Management Team	PCN_ww_admin_team@list.ti.com

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