PCN Number:	20201217001.2B	**PCN Date:**	Mar 18, 2021
Title:	Qualification of RFAB as an additional Fab site option for select LBC7 devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Jul 25, 2021	**Estimated Sample Availability:**	Date provided at sample request.

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:

PCN Revision B is a correction to the Description of Change section as shown below. Devices highlighted in bold and yellow highlight will have the addition of a PI Layer as part of this change.

Texas Instruments is pleased to announce the qualification of its RFAB fabrication facility as an additional Wafer Fab source for the selected devices listed in "Product Affected" section.

Current Site			Additional Site		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Wafer Diameter**
FFAB	LBC7	200mm	RFAB	LBC7	300mm

Current Top Layer Material	**New Top Layer Material**
BOAC (No PI)	**BOAC + PI**

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

Chip Site	Chip Site Origin (20L)	Chip Site Country Code (21L)	Chip Site City
FR-BIP-1	TID	DEU	Freising

New Fab Site

Chip Site	Chip Site Origin (20L)	Chip Site Country Code (21L)	Chip Site City
RFAB	**RFB**	**USA**	**Richardson**

Sample product shipping label (not actual product label)

Product Affected:

UCC27524A1QDGNRQ1	UCC27524AQDGNRQ1	UCC27524AQDRQ1

Automotive Qualification Summary

(As per AEC-Q100 and JEDEC Guidelines)

UCC27524A1QDGNRQ1 and UCC27524AQDRQ1 FFAB to RFAB

Approve Date 22-October-2020

Qualification Results

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

	Type	#	Test Spec	Min Lot Qty	SS/ Lot	Test Name / Condition	Duration	Qual Device: UCC27524A1QDGNRQ1	Qual Device: UCC27524AQDRQ1	Process QBS Reference TPS2543QRTE	Product QBS Reference UCC27524AQDRQ1	Package QBS Reference PGA308AQDGSRQ1	Package QBS Reference UCC27524
Test Group A – Accelerated Environment Stress Tests													
	HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	1/77/0	3/231/0	3/231/0
	AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	-	-	3/231/0	1/77/0	3/231/0	-
	uHAST	A3	JEDEC JESD22-A102	3	77	unBiased HAST, 130C/85%RH	96 Hours	-	1/77/0	-	-	-	3/231/0
	TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	-	1/77/0	3/231/0	1/77/0	3/231/0	3/231/0
	PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	N/A	N/A	N/A	N/A	N/A
	HTSL	A6	JEDEC JESD22-A103	1	45	High Temp. Storage Bake, 175C	500 Hours	-	1/45/0	1/45/0	1/45/0	1/45/0	3/231/0
Test Group B – Accelerated Lifetime Simulation Tests													
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 150C	408 Hours	-	-	3/231/0		3/231/0	-
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 140C	480 Hours	-	-	-	2/154/0	-	-
	ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	-	-	3/2640/0	1/800/0	3/2400/0	-
	EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	--	N/A	N/A	N/A	N/A	3/231/0	-
Test Group C – Package Assembly Integrity Tests													
	WBS	C1	AEC Q100-001	1	30	Bond Shear (Cpk>1.67)	Wires	1/30/0	1/30/0	-	-	-	3/90/0
	WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull (Cpk>1.67)	Wires	1/30/0	1/30/0	-	-	-	3/90/0
	SD	C3	JEDEC JESD22-B102	1	15	Solderability (>95% Lead Coverage)	Pb & Pb-Free	-	-	1/15/0	-	-	-
	PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	--	-	-	3/30/0	-	-	3/30/0
Test Group D – Die Fabrication Reliability Tests													
	EM	D1	JESD61	-	-	Electromigration	--	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
	TDDB	D2	JESD35	-	-	Time Dependant Dielectric Breakdown	--	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
	HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	--	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
	NBTI	D4	-	-	-	Negative Bias Temperature Instability	--	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
	SM	D5	-	-	-	Stress Migration	--	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
Test Group E – Electrical Verification Tests													
	HBM	E2	AEC Q100-002	1	3	ESD - HBM	4000 V	1/3/0	1/3/0	-	-	-	-
	CDM	E3	AEC Q100-011	1	3	ESD - CDM	1000 V	1/3/0	1/3/0	-	-	-	-
	LU	E4	AEC Q100-004	1	6	Latch-up	(Per AEC Q100-004)	1/6/0	1/6/0	1/6/0	-	-	-
	ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, Hot, & Cold Test	3/90/0	3/90/0	3/90/0	3/90/0	-	-

Qual Device UCC27524A1QDGNRQ1 is qualified at LEVEL2-260C
Qual Device UCC27524AQDRQ1 is qualified at LEVEL1-260C

A1 (PC): Preconditioning:

Performed for THB, Biased HAST, AC, uHAST, TC & PTC samples, as applicable.

Ambient Operating Temperature by Automotive Grade Level:

Grade 0 (or E): -40°C to +150°C
Grade 1 (or Q): -40°C to +125°C
Grade 2 (or T): -40°C to +105°C
Grade 3 (or I) : -40°C to +85°C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):

Room/Hot/Cold : HTOL, ED
Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
Room : AC/uHAST

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

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