

<b>PCN Number:</b>	20221216012.2	<b>PCN Date:</b>	December 21, 2022
<b>Title:</b>	Qualification of RFAB as an additional Fab site option for select LBC8 devices		
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services
<b>Proposed 1<sup>st</sup> Ship Date:</b>	Jun 20, 2023	<b>Sample Requests accepted until:</b>	Jan 20, 2023*

**\*Sample requests received after January 20, 2023 will not be supported.**

**Change Type:**

<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 checked="" type="checkbox"/>	Wafer Fab Materials	<input type="checkbox"/>	Wafer Fab Process
		<input type="checkbox"/>	Part number change		

**PCN Details**

**Description of 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 the "Product Affected" section.

Current Fab Site			Additional Fab Site		
Current Fab Site	Process	Wafer Diameter	New Fab Site	Process	Wafer Diameter
MIHO8	LBC8	200mm	RFAB	LBC8	300mm

Qual details are provided in the Qual Data Section.

**Reason for Change:**

Continuity of supply.

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

None.

**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
MIHO8	MH8	JPN	Ibaraki
<b>RFAB</b>	<b>RFB</b>	<b>USA</b>	<b>Richardson</b>

Sample product shipping label (not actual product label)

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

(1P) SN74LS07NSR  
 (Q) 2000 (D) 0336  
 (31T) LOT: 3959047MLA  
 (4W) TKY (1T) 7523483SI2  
 (P)  
 (2P) REV: (V) 8033317  
 (20L) CSO: SHE (21L) CCO:USA  
 (22L) ASO: MLA (23L) ACO: MYS

**Product Affected:**

ISO6731FQDWRQ1	ISO6740FQDWRQ1	ISO6741FQDWRQ1	ISO6742FQDWRQ1
ISO6731QDWRQ1	ISO6740QDWRQ1	ISO6741QDWRQ1	ISO6742QDWRQ1

**Automotive New Product Qualification Summary (As per  
AEC-Q100 and JEDEC Guidelines)**

**Approve Date 09-December-2022**

**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: <u>ISO6741QDWRQ1</u>	Qual Device: <u>ISO6731QDWRQ1</u>	Qual Device: <u>ISO6740QDWRQ1</u>	Qual Device: <u>ISO6742QDWRQ1</u>	QBS Reference: <u>UCC23513QDWYQ1</u>	QBS Reference: <u>ISO6741QDWRQ1</u>
<b>Test Group A - Accelerated Environment Stress Tests</b>													
PC	A1	JEDEC J-STD-020 JESD22A113	3	77	Preconditioning	MSL2 260C	1 Step	-	-	-	-	No Fails	No Fails
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	-	-	-	3/231/0	3/231/0
AC/UHAST	A3	JEDEC JESD22A102/JEDEC JESD22A118	3	77	Autoclave	121C/15psig	96 Hours	-	-	-	-	3/231/0	3/231/0
TC	A4	JEDEC JESD22A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	-	3/231/0	3/231/0
HTSL	A6	JEDEC JESD22A103	1	45	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	-	3/135/0
HTSL	A6	JEDEC JESD22A103	1	45	High Temperature Storage Life	175C	500 Hours	-	-	-	-	3/135/0	-
<b>Test Group B - Accelerated Lifetime Simulation Tests</b>													
HTOL	B1	JEDEC JESD22A108	1	77	Life Test	125C	1000 Hours	-	-	-	-	3/231/0	3/231/0
ELFR	B2	AEC Q100008	1	77	Early Life Failure Rate	125C	48 Hours	-	-	-	-	3/2400/0	-
<b>Test Group C - Package Assembly Integrity Tests</b>													
WBS	C1	AEC Q100001	1	30	Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	1/30/0	-	-	-	3/90/0	3/90/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	1/30/0	-	-	-	3/90/0	3/90/0
SD	C3	JEDEC JESD22B102	1	15	PB Solderability	>95% Lead Coverage	-	-	-	-	-	1/15/0	1/15/0
SD	C3	JEDEC JESD22- B102	1	15	PB-Free Solderability	>95% Lead Coverage	-	-	-	-	-	1/15/0	1/15/0
PD	C4	JEDEC JESD22B100 and B108	1	10	Physical Dimensions	Cpk>1.67	-	1/10/0	-	-	-	3/30/0	3/30/0
<b>Test Group D - Die Fabrication Reliability Tests</b>													

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
TDD8	D2	JESD35	-	-	Time Dependent 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 Carrier Injection	-	-	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
<b>Test Group E - Electrical Verification Tests</b>													
ESD	E2	AEC Q100002	1	3	ESD HBM	-	2000 Volts	1/3/0	-	-	-	1/3/0	1/3/0
ESD	E3	AEC Q100011	1	3	ESD CDM	-	500 Volts	1/3/0	-	-	-	1/3/0	1/3/0
LU	E4	AEC Q100004	1	6	Latch-Up	Per AEC Q100-004	-	1/6/0	-	-	-	1/6/0	1/6/0
ED	E5	AEC Q100009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	1/30/0	-	1/30/0	1/30/0	3/90/0	3/90/0

- QBS: Qual By Similarity  
Devices qualified at MSL2 260C: ISO6741QDWRQ1, ISO6741FQDWRQ1, ISO6731QDWRQ1, ISO6731FQDWRQ1, ISO6740QDWRQ1, ISO6740FQDWRQ1, ISO6742QDWRQ1, ISO6742FQDWRQ1
- 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

**Ambient Operating Temperature by Automotive Grade Level:**

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

**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/ulHAST

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

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