

PCN Number:	20230208001.2A			PCN Date:	February 09, 2023		
Title:	Qualification of RFAB as an additional Fab site and CD-PR wafer Probe site options for select devices						
Customer Contact:	PCN Manager			Dept:	Quality Services		
Proposed 1st Ship Date:	Aug 9, 2023		Sample requests accepted until:		Mar 9, 2023*		
*Sample requests received after March 9, 2023 will not be supported.							
Change Type:							
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site		
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material		
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process		
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site	<input checked="" type="checkbox"/>	Wafer Fab Site		
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input checked="" type="checkbox"/>	Wafer Fab Materials		
				<input type="checkbox"/>	Wafer Fab Process		
PCN Details							
Description of Change:							
Revision A is to update the Assembly Construction differences table in the Description of change section. The corrections are noted below and are in bold yellow highlight .							
Texas Instruments is pleased to announce the qualification of its RFAB fabrication facility as an additional Wafer Fab source and CD-PR as an additional probe site option for the selected devices listed in the "Product Affected" section.							
Current Site				Additional Site			
Current Fab Site	Process	Probe Site	Wafer Diameter	Additional Fab Site	Process	Probe Site	Wafer Diameter
MIHO	LBC7	CLARK-PR	200 mm	RFAB	LBC7	CD-PR	300 mm
Assembly construction differences/BOM options are as follows:							
	Current	New					
Die Attach Material	4208458	4224264					
Test coverage, insertions, conditions will remain consistent with current testing.							
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:							
Fab Site Information:							
Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City				
MIHO8	MH8	JPN	Ibaraki				
RFAB	RFB	USA	Richardson				
Sample product shipping label (not actual product label)							



MADE IN: Malaysia
2DC: 2Q:



(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483SI2
(P)
(2P) REV: (V) 0053317
(20L) CSO: SHE (21L) CCO:USA
(22L) ASO: MLA (23L) ACO: MYS

MSL 2 / 260C / 1 YEAR SEAL DT
MSL 1 / 235C / UNLIM 03/29/04

OPT:
ITEM: 39
LBL: 5A (L)T0:1750

Product Affected:

TAS6424EQDKQRQ1	TAS6424LSQDKQRQ1	TAS6424MSQDKQRQ1	TAS6424QDKQRQ1
TAS6424LQDKQRQ1	TAS6424MQDKQRQ1		

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

Approve Date 28-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: TAS6424XQDKQRQ1	Qual Device: TAS6424XQDKQRQ1	Qual Device: TAS6424XQDKQRQ1	QBS Product/Package Reference: TAS6424QDKQRQ1	QBS Package Reference: TAS6424QDKQRQ1	QBS Process Reference: TPS2543QRTETQ1
Test Group A - Accelerated Environment Stress Tests													
PC	A1	JEDEC J-STD-020 JESD22-A113		3	77	Preconditioning	MSL2 260C	1 Step	-	-	-	-	3/Pass
PC	A1	JEDEC J-STD-020 JESD22-A113		3	77	Preconditioning	MSL3 260C	1 Step	1/Pass	-	3/Pass	3/Pass	-
HAST	A2	JEDEC JESD22-A110		3	77	Biased HAST	130C/85%RH	96 Hours	1/77/0	-	-	3/231/0	3/231/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118		3	77	Autoclave	121C/15psig	96 Hours	1/77/0	-	-	3/231/0	3/231/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118		3	77	Unbiased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-	-
TC	A4	JEDEC JESD22-A104 and Appendix 3		3	77	Temperature Cycle	-65C/150C	500 Cycles	1/77/0	-	3/231/0	3/231/0	3/231/0
TC-BP	A4	MIL-STD883 Method 2011		1	5	Post Temp Cycle Bond Pull	-	-	1/5/0	-	1/5/0	-	-
PTC	A5	JEDEC JESD22-A105		1	45	PTC	-40/125C	1000 Cycles	1/45/0	-	-	-	1/45/0
HTSL	A6	JEDEC JESD22-A103		1	45	High Temperature Storage Life	150C	1000 Hours	1/45/0	-	3/135/0	-	3/135/0
HTSL	A6	JEDEC JESD22-A103		1	45	High Temperature Storage Life	175C	500 Hours	-	-	-	-	3/135/0
Test Group B - Accelerated Lifetime Simulation Tests													
HTOL	B1	JEDEC JESD22-A108		1	77	Life Test	125C	1000 Hours	1/77/0	-	-	2/154/0	3/231/0

ELFR	B2	AEC Q100-008	1	77	Early Life Failure Rate	125C	48 Hours	-	-	-	-	-	3/2400/0
Test Group C - Package Assembly Integrity Tests													
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	1/30/0	1/30/0	2/60/0	3/90/0	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	1/30/0	2/60/0	3/90/0	3/90/0	3/90/0
SD	C3	JEDEC J-STD-002	1	15	PB Solderability	>95% Lead Coverage	-	-	-	-	1/15/0	-	-
SD	C3	JEDEC J-STD-002	1	15	PB-Free Solderability	>95% Lead Coverage	-	-	-	-	1/15/0	-	1/15/0
PD	C4	JEDEC JESD22-B100 and B108	1	10	Physical Dimensions	Cpk>1.67	-	1/10/0	1/10/0	2/20/0	3/30/0	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 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
Test Group E - Electrical Verification Tests													
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	2000 Volts	1/3/0	1/3/0	-	-	-	1/3/0
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	750 Volts	1/3/0	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, and cold	-	2/60/0	1/30/0	-	-	-	3/90/0

- 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/ uHAST

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

- QBS: Qual By Similarity
- Qual Device TAS6424XQDKQRQ1 is qualified at MSL3 260C
- Qual Device TAS6424XQDKQRQ1 is qualified at MSL3 260C
- Qual Device TAS6424XQDKQRQ1 is qualified at MSL3 260C

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

Approve Date 12-JANUARY -2023

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TAS6424XQDKQRQ1	Qual Device: TAS6424LQDKQRQ1	Qual Device: TAS6424MQDKQRQ1	Qual Device: TAS6424LSQDKQRQ1	QBS Reference: TAS6424QDKQRQ1	QBS Reference: TAS6424QDKQRQ1	QBS Reference: TPS2543QRTETQ1
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	-	3/231/0	3/231/1	3/231/0
UHAST	A3	Autoclave	130C/85%RH	96 Hours	-	-	-	-	3/231/0	-	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	-	-	-	3/231/0	3/231/2	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	3/135/0	-	-	-	-	3/135/0	-
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	-	-	-	-	3/135/0
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	-	2/154/0	-	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)	-	-	-	-	-	1/15/0	-	1/15/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	-	-	3/30/0	3/30/0	3/30/0
ESD	E2	ESD CDM	-	500 Volts	-	-	-	-	-	-	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	-	-	-	-	-	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	-	-	-	-	-	1/6/0
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	-	-	-	-	3/90/0

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- Qual Device TAS6424LQDKQRQ1 is qualified at MSL3 260C
- Qual Device TAS6424MQDKQRQ1 is qualified at MSL3 260C
- Qual Device TAS6424LSQDKQRQ1 is qualified at MSL3 260C

Affected ZVEI IDs: SEM-PW-13, SEM-PW-02, SEM-TF-01

For questions regarding this notice, e-mails can be sent to the contact 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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