

<b>PCN Number:</b>	20240116006.1	<b>PCN Date:</b>	January 16, 2024																		
<b>Title:</b>	Qualification of RFAB using qualified Process Technology, Die Revision and additional Assembly Site for select devices																				
<b>Customer Contact:</b>	Change Management team	<b>Dept:</b>	Quality Services																		
<b>Proposed 1<sup>st</sup> Ship Date:</b>	Apr 16, 2024	<b>Estimated Sample Availability:</b>	Feb 16, 2024*																		
<b>*Sample requests received after February 16, 2024 will not be supported.</b>																					
<b>Change Type:</b>																					
<input checked="" type="checkbox"/> Assembly Site	<input checked="" type="checkbox"/> Design	<input type="checkbox"/> Wafer Bump Material																			
<input type="checkbox"/> Assembly Process	<input type="checkbox"/> Data Sheet	<input type="checkbox"/> Wafer Bump Process																			
<input type="checkbox"/> Assembly Materials	<input type="checkbox"/> Part number change	<input checked="" type="checkbox"/> Wafer Fab Site																			
<input type="checkbox"/> Mechanical Specification	<input type="checkbox"/> Test Site	<input checked="" type="checkbox"/> Wafer Fab Materials																			
<input checked="" type="checkbox"/> Packing/Shipping/Labeling	<input type="checkbox"/> Test Process	<input checked="" type="checkbox"/> Wafer Fab Process																			
<b>PCN Details</b>																					
<b>Description of Change:</b>																					
Texas Instruments is pleased to announce the addition of RFAB using the LBC9 qualified process technology in addition to an Assembly site option for the devices listed below.																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">Current Fab Site</th> <th colspan="3" style="text-align: center;">Additional Fab Site</th> </tr> <tr> <th style="text-align: center;">Current Fab Site</th> <th style="text-align: center;">Process</th> <th style="text-align: center;">Wafer Diameter</th> <th style="text-align: center;">Additional Fab Site</th> <th style="text-align: center;">Process</th> <th style="text-align: center;">Wafer Diameter</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">SFAB</td> <td style="text-align: center;">JI1</td> <td style="text-align: center;">150 mm</td> <td style="text-align: center;">RFAB</td> <td style="text-align: center;">LBC9</td> <td style="text-align: center;">300 mm</td> </tr> </tbody> </table>				Current Fab Site			Additional Fab Site			Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter	SFAB	JI1	150 mm	RFAB	LBC9	300 mm
Current Fab Site			Additional Fab Site																		
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter																
SFAB	JI1	150 mm	RFAB	LBC9	300 mm																
The die was also changed as a result of the process change.																					
There are no construction differences for this notification.																					
Qual details are provided in the Qual Data Section.																					
<b>Reason for Change:</b>																					
These changes are part of our multiyear plan to transition products from our 150-millimeter factories to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and 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.																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">RoHS</th> <th style="text-align: center;">REACH</th> <th style="text-align: center;">Green Status</th> <th style="text-align: center;">IEC 62474</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/> No Change</td> </tr> </tbody> </table>				RoHS	REACH	Green Status	IEC 62474	<input checked="" type="checkbox"/> No Change													
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<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change																		
<b>Changes to product identification resulting from this PCN:</b>																					
<b>Fab Site Information:</b>																					
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SH-BIP-1	SHE	USA	Sherman																		
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<b>Die Rev:</b>																					
<b>Current</b>		<b>New</b>																			
Die Rev [2P]		Die Rev [2P]																			
A, B		-																			

**Assembly Site Information:**

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

Sample product shipping label (not actual product label)

**TEXAS INSTRUMENTS**  
 MADE IN: Malaysia  
 2DC: 20:  
 MSL 2 / 260C/1 YEAR SEAL DT  
 MSL 1 / 235C/UNLIM 03/29/04  
 OPT: 39  
 ITEM: (L)T0:1750  
 (1P) SN74LS07NSR  
 (Q) 2000 (D) 0336  
 (31T) LOT: 3959047MLA  
 (4W) TKY (1T) 7523483SI2  
 (P)  
 (2P) REV: (V) 0033317  
 (20L) GSO: SHE (21L) CCO:USA  
 (22L) ASO: MLA (23L) ACO: MYS

**Product Affected:**

**Group 1 Device list (RFAB/Process migration, Die Change & MLA as an additional Assembly site):**

SN75157DR	UA9637ACDR	UA9637ACDRE4
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**Group 2 Device list (RFAB/Process migration & Die Change only):**

SN75157P	SN75157PSR
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For alternate parts with similar or improved performance, please visit the product page on [TI.com](http://TI.com)

**Qualification Results**

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

Type	#	Test Name	Condition	Duration	Qual Device: UA9637ACDR	Qual Device: SN75157DR	Qual Device: SN75157PSR	QBS Reference (Process): TLV9062ID	QBS Reference (Package): TCAN1044VDRQ1 PG2.0	QBS Reference (Package): TCAN1044VDRQ1 PG1.1	QBS Reference (Package): TL092CPS
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	-	1/77/0	2/154/0	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	-	-	1/77/0	2/154/0	3/230/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	-	1/77/0	2/154/0	3/231/0
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	-	-	-	3/231/0
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	-	-	1/45/0	2/90/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	-	1/77/0	2/154/0	-
HTOL	B1	Life Test	150C	300 Hours	-	-	-	3/231/0	-	-	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	3/2400/1 <sup>1</sup>	-	-	-
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	1/76/0	1/76/0	1/76/0	-	-	-	-

Type	#	Test Name	Condition	Duration	Qual Device: UA9637ACDR	Qual Device: SN75157DR	Qual Device: SN75157PSR	QBS Reference (Process): TLV9062ID	QBS Reference (Package): TCAN1044VDRQ1 PG2.0	QBS Reference (Package): TCAN1044VDRQ1 PG1.1	QBS Reference (Package): TL092CPS
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	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	-	-	1/10/0	2/20/0	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	1/3/0	1/3/0	-	-	-	-
ESD	E2	ESD HBM	-	1000 Volts	-	1/3/0	-	-	-	-	-
LU	E4	Latch-Up	Per JESD78	-	-	1/3/0	-	-	-	-	-
CHAR	E5	Electrical Characterization	Min, Typ, Max Temp	-	-	1/30/0	-	-	-	-	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	-	1/30/0	-	-	-	-	-

- QBS: Qual By Similarity
- Qual Device UA9637ACDR is qualified at MSL1 260C
- Qual Device SN75157DR is qualified at MSL1 260C
- Qual Device SN75157PSR 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/>

TI Qualification ID: R-CHG-2205-015

### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: SN75157P	QBS Reference (Process): TLV9062ID	QBS Reference (Package): NE5532P	QBS Reference (Package): UCC37322P	QBS Reference (Process, Product): SN75157DR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-	
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	-	3/231/0	
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	3/231/0	
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	3/231/0	
HTOL	B1	Life Test	150C	300 Hours	-	3/231/0	3/231/0	-	
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	3/2400/1 <sup>1</sup>	-	-	
WBS	C1	Ball Shear	76 balls, 3 units min	Wires	1/76/0	-	-	-	
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	1/76/0	-	-	-	
SD	C3	PB-Free Solderability	8 Hours Steam Age	-	-	-	3/66/0	3/66/0	
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes); PB-Free Solder,	-	-	-	3/66/0	3/66/0	
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	-	-	

Type	#	Test Name	Condition	Duration	Qual Device: <a href="#">SN75157P</a>	QBS Reference (Process): <a href="#">TLV9062ID</a>	QBS Reference (Package): <a href="#">NE5532P</a>	QBS Reference (Package): <a href="#">UCC37322P</a>	QBS Reference (Process, Product): <a href="#">SN75157DR</a>
ESD	E2	ESD HBM	-	1000 Volts	-	-	-	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	-	-	-	1/3/0
CHAR	E5	Electrical Characterization	Min, Typ, Max Temp	-	1/30/0	-	-	-	1/30/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	-	1/30/0

- QBS: Qual By Similarity
- 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/>

TI Qualification ID: R-CHG-2205-022

[1]-Die EOS

1 unit – Unresolved- Reran another group from same fab/assembly lot and passed.

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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