



<b>PCN Number:</b>		20241015000.2		<b>PCN Date:</b>		October 16, 2024																			
<b>Title:</b>		Qualification of RFAB using qualified Process Technology & Die Change																							
<b>Customer Contact:</b>		Change Management team		<b>Dept:</b>		Quality Services																			
<b>Proposed 1<sup>st</sup> Ship Date:</b>		April 14, 2025		<b>Sample requests accepted until:</b>		November 15, 2024*																			
<b>*Sample requests received after November 15, 2024 will not be supported.</b>																									
<b>Change Type:</b>																									
<input 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 checked="" 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 TIB qualified process technology & die change qualification:																									
<table><tr><th colspan="3">Current Fab Site</th><th colspan="3">Additional Fab Site</th></tr><tr><th>Current Fab Site</th><th>Process</th><th>Wafer Diameter</th><th>Additional Fab Site</th><th>Process</th><th>Wafer Diameter</th></tr><tr><td>SFAB</td><td>JI-PWR1</td><td>150 mm</td><td>RFAB</td><td>TIB</td><td>300 mm</td></tr></table>						Current Fab Site			Additional Fab Site			Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter	SFAB	JI-PWR1	150 mm	RFAB	TIB	300 mm	The die was also changed as a result of the process change.	
Current Fab Site			Additional Fab Site																						
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter																				
SFAB	JI-PWR1	150 mm	RFAB	TIB	300 mm																				
Differences are as follow:																									
<table><tr><th>What</th><th>Current</th><th>Additional</th></tr><tr><td>Pin one identification</td><td>Stripe</td><td>Dot</td></tr><tr><td>Probe site</td><td>SFAB</td><td>CD-PR</td></tr></table>								What	Current	Additional	Pin one identification	Stripe	Dot	Probe site	SFAB	CD-PR									
What	Current	Additional																							
Pin one identification	Stripe	Dot																							
Probe site	SFAB	CD-PR																							
Datasheet updates are included in PCN #20241015002.2																									
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-milimeter 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>Changes to product identification resulting from this PCN:</b>																									
<b>Fab Site Information:</b>																									
<table><tr><td>Chip Site</td><td>Chip Site Origin Code (20L)</td><td>Chip Site Country Code (21L)</td><td>Chip Site City</td></tr><tr><td>SH-BIP-1</td><td>SHE</td><td>USA</td><td>Sherman</td></tr><tr><td><b>RFAB</b></td><td><b>RFB</b></td><td><b>USA</b></td><td><b>Richardson</b></td></tr></table>								Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City	SH-BIP-1	SHE	USA	Sherman	<b>RFAB</b>	<b>RFB</b>	<b>USA</b>	<b>Richardson</b>						
Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City																						
SH-BIP-1	SHE	USA	Sherman																						
<b>RFAB</b>	<b>RFB</b>	<b>USA</b>	<b>Richardson</b>																						
<b>Die Rev:</b>																									
<b>Current</b>		<b>New</b>																							

Die Rev [2P]	Die Rev [2P]
-	C

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



(1P) SN74LS07NSR  
 (Q) 2000 (D) 0336  
 (31T) LOT: 3959047MLA  
 (4W) TKY (1T) 7523483SI2  
 (P)  
 (2P) REV: (V) 0033317  
 (20L) CS0: SHE (21L) CC0:USA  
 (22L) AS0: MLA (23L) AC0: MYS

Product Affected:			
SN2844AQD8R	UC2843AQD8R	UC2843AQD8RQ1	UC2845AQD8R
UC2842AQD8R	UC2843AQD8RCT	UC2844AQD8R	UC2845AQDR
UC2842AQDR			

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

TI Information  
Selective Disclosure

Automotive Qualification Summary  
(As per AEC-Q100 Rev. J and JEDEC Guidelines)

REDBULL Tahoe Automotive C4Y Change devices (PCN).  
Approve Date 18-September-2024

Product Attributes

Attributes	Qual Device: <a href="#">UC2843AQD8RCT</a>
Automotive Grade Level	Grade 1
Operating Temp Range (C)	-40 to 125
Product Function	Power Management
Wafer Fab Supplier	RFAB
Assembly Site	MLA
Package Group	SOIC
Package Designator	D
Pin Count	8

- QBS: Qual By Similarity, also known as Generic Data
- Qual Device UC2843AQD8RCT is qualified at MSL1 260C
- Qual Device UC2844AQD8 is qualified at MSL1 260C
- Qual Device UC2845AQD8 is qualified at MSL1 260C

## 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: <a href="#">UC2843AQD8RCT</a>
<b>Test Group A - Accelerated Environment Stress Tests</b>								
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	No Fails
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	3/231/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Autoclave	121C/15psig	96 Hours	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	3/231/0
TC-BP	A4	MIL-STD883 Method 2011	1	5	Post Temp Cycle Bond Pull	-	-	1/5/0
PTC	A5	JEDEC JESD22-A105	1	45	PTC	-40/125C	1000 Cycles	1/45/0
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	3/135/0
<b>Test Group B - Accelerated Lifetime Simulation Tests</b>								
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	125C	1000 Hours	3/231/0
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	125C	48 Hours	3/2400/0
<b>Test Group C - Package Assembly Integrity Tests</b>								
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	3/90/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	3/90/0
SD	C3	JEDEC J-STD-002	1	15	PB Solderability	>95% Lead Coverage	-	1/15/0
Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: <a href="#">UC2843AQD8RCT</a>
SD	C3	JEDEC J-STD-002	1	15	PB-Free Solderability	>95% Lead Coverage	-	1/15/0
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	3/30/0
<b>Test Group D - Die Fabrication Reliability Tests</b>								
EM	D1	JESD61	-	-	Electromigration	-	-	Completed Per Process Technology Requirements
Tddb	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	-	-	Completed Per Process Technology Requirements
HCI	D3	JESD60 & 28	-	-	Hot Carrier Injection	-	-	Completed Per Process Technology Requirements
BTI	D4	-	-	-	Bias Temperature Instability	-	-	Completed Per Process Technology Requirements
SM	D5	-	-	-	Stress Migration	-	-	Completed Per Process Technology Requirements
<b>Test Group E - Electrical Verification Tests</b>								
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	2000 Volts	1/3/0
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	500 Volts	1/3/0
LU	E4	AEC Q100-004	1	3	Latch-Up	Per AEC Q100-004	-	1/6/0
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	3/90/0
<b>Additional Tests</b>								

- 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 J) : -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/>

TI Qualification ID: R-NPD-2111-104

ZVEI Ids: SEM-DE-01, SEM-DE-02, SEM-DE-03, SEM-PW-02, SEM-PW-09, SEM-PW-13, SEM-PA-13, SEM-PS-04, SEM-TF-01

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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