



**12500 TI Boulevard, MS 8640, Dallas, Texas 75243**

**PCN# 20251121001.2**

**Qualification of LFAB as an additional fab site and PHI as additional Assembly site  
for Select Devices**  
**Change Notification / Sample Request**

**Date:** November 21, 2025

**To:** MOUSER PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

Texas Instruments requires acknowledgement of receipt of this notification within 60 days of the date of this notice. Lack of acknowledgement of this notice within 60 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 60 days of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date on Page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the change management team.

For sample requests or sample related questions, contact your local Field Sales Representative.

TI values customer engagement and feedback related to TI changes. Customers should contact TI if there are questions or concerns regarding a change notification.

Sincerely,

Change Management Team  
SC Business Services

**20251121001.2**  
**Attachment: 1**

**Products Affected:**

The devices listed on this page are a subset of the complete list of affected devices. According to our records, you have recently purchased these devices. The corresponding customer part number is also listed, if available.

<b>DEVICE</b>	<b>CUSTOMER PART NUMBER</b>
AWR6843AQGABLQ1	NULL

Technical details of this Product Change follow on the next page(s).

<b>PCN Number:</b>	20251121001.2	<b>PCN Date:</b>	November 21, 2025
--------------------	---------------	------------------	-------------------

<b>Title:</b>	Qualification of LFAB as an additional fab site and PHI as 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>	May 20, 2026	<b>Sample requests accepted until:</b>	January 20, 2026

**\*Sample requests received after January 20, 2026 will not be supported.**

<b>Change Type:</b>				
<input checked="" type="checkbox"/> Assembly Site	<input 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 type="checkbox"/>	Wafer Fab Materials
<input checked="" type="checkbox"/> Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Process

### PCN Details

#### Description of Change:

Texas Instruments is pleased to announce the qualification of LFAB as an additional fab site and PHI as additional Assembly site for the devices listed below in the product affected section.

Process Step	Current	Additional
Wafer Fab Site	UMC-F12	LFAB
Assembly Site	ANA	PHI

Qual details are provided in the Qual Data Section.

#### Reason for Change:

Capacity increase to support demand and continuity of supply.

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

No anticipated impact.

#### Impact on Environmental Ratings:

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.

RoHS	REACH	Green Status	IEC 62474
<input checked="" type="checkbox"/> No Change			

#### 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
UMC-F12	F12	TWN	TAINAN
<b>LFAB</b>	<b>LHI</b>	<b>USA</b>	<b>Lehi</b>

## Assembly Site Information:

Assembly Site	Assembly Site Origin Code (22L)	Assembly Site Country Code (23L)	Assembly Site City
ANA	AMP	KOR	Gwangju
<b>PHI</b>	<b>PHI</b>	<b>PHL</b>	<b>Baguio City</b>

Sample product shipping label (not actual product label):



## Product Affected:

AWR1243FBIGABL Q1	AWR1443FQIGABL Q1	AWR6843ABGABL Q1	AWR6843ABSABL RQ1
AWR1243FBIGABL RQ1	AWR6443ABGABL Q1	AWR6843ABGABL RQ1	AWR6843AQGABL Q1
AWR1243FVBIGAB LRQ1	AWR6443ABGABL Q1	AWR6843ABSABL Q1	AWR6843AQGABL RQ1
AWR1443FQIGABL Q1			

## Product Attributes

Attributes	Qualification Device <sup>1</sup>	Qualification by Similarity (QBS = generic Data) Reference Devices			
	<u>AWR1243FBIGABLQ1</u>	<u>QBS Reference: AWR1843ABGABLQ1</u>	<u>QBS Reference: AWR1843ABGABLQ1</u>	<u>QBS Reference: AWR1642BIGABL</u>	<u>QBS Reference: AWR1243BIGABL</u>
Automotive Grade Level	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1
Operating Temp Range (C)	-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 125
Product Function	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor
Wafer Fab Supplier	LFAB	LFAB	UMC-F12	UMC-F12	UMC-F12
Assembly Site	ANA	ANA	PHI	ANA	ANA
Package Group	FCCSP	FCCSP	FCCSP	FCCSP	FCCSP
Package Designator	ABL	ABL	ABL	ABL	ABL
Pin Count	161	161	161	161	161

Note 1. To support the QBS strategy and use of generic data, note that all xWR1243\*, XWR1642\*, and xWR1843\* products utilize the same process (fab) technology, the same fabs and same package sites and materials. Both xWR1642\* and xWR1843\* referenced above use the same die and have the same features, with xWR1843\* enabling an additional transmitter. xWR1243\* is a derivate of xWR1843/xWR1642, containing all the same features, except xWR1243\* excludes the digital processor, resulting in the smaller die size. As a result, xWR1642\* and xWR1843\* generic data apply to xWR1243\* as noted above.

- QBS: Qual By Similarity, also known as Generic Data
- Qual Device AWR1243FBIGABLQ1 is qualified at MSL3 260C

### Qualification Results

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

Test Group A - Accelerated Environment Stress Tests								Qualification by Similarity (QBS = generic Data) Reference Devices				
Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: <a href="#">AWR1243FBIGABLQ1</a>	QBS Reference: <a href="#">AWR1843ABGABLQ1</a>	QBS Reference: <a href="#">AWR1843ABGABLQ1</a>	QBS Reference: <a href="#">AWR1642BIGABL</a>	QBS Reference: <a href="#">AWR1243BIGABL</a>
<b>Test Group B - Accelerated Lifetime Simulation Tests</b>												
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	$\geq 125C$	1000 Hours	QBS Reference Devices	3/231/0	3/231/0	3/231/0	3/78/0
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	$\geq 125C$	48 Hours	QBS Reference Devices	3/2400/0	3/2400/0	3/2400/0	~ QBS AWR1642BIGABL
<b>Test Group C - Package Assembly Integrity Tests</b>												
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	QBS Reference Devices	3/30/0	3/30/0	3/30/0	~ QBS AWR1642BIGABL
BST	C7	JESD22-B117	3	5	Bump Shear Test	20 bumps/pillars from a minimum of 5 devices. Cpk > 1.67	-	QBS Reference Devices	3/15/0	1/5/0	-	-
<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

Test Group E - Electrical Verification Tests								Qualification by Similarity (QBS = generic Data) Reference Devices				
Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: <a href="#">AWR1243FBIGABLQ1</a>	QBS Reference: <a href="#">AWR1843ABGABLQ1</a>	QBS Reference: <a href="#">AWR1843ABGABLQ1</a>	QBS Reference: <a href="#">AWR1642BIGABL</a>	QBS Reference: <a href="#">AWR1243BIGABL</a>
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
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
BTI	D4	-	-	-	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
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
<b>Additional Tests</b>												
BLR	T1	-	-	-	Board Level Reliability - Temp Cycle	-40C/125C	1000 Cycles	QBS AWR1843ABGABLQ1	QBS AWR1843ABGABLQ1	1/32/0	~ QBS AWR1843ABGABLQ1	~ QBS AWR1843ABGABLQ1

- Test results noted with an “-” are incidental to this qualification and data are not reported here.
- 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/>

TI Qualification IDs: R-CHG-2410-020; R-CHG-2405-045; R-CHG-2501-005; R-BKF-2510-006; R-CHG-2303-112; R-CHG-2510-046

**Product Attributes**

Attributes	Qualification by Similarity (QBS = generic Data) Reference Devices				
	Qualification Device <sup>1</sup> <u>AWR1243FBIGABLQ1</u>	QBS Reference: <u>AWR1843ABGABLQ1</u>	QBS Reference: <u>AWR1843ABGABLQ1</u>	QBS Reference: <u>AWR1642BIGABL</u>	QBS Reference: <u>AWR1243BIGABL</u>
<b>Automotive Grade Level</b>	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1
<b>Operating Temp Range (C)</b>	-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 125
<b>Product Function</b>	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor
<b>Wafer Fab Supplier</b>	LFAB	LFAB	UMC-F12	UMC-F12	UMC-F12
<b>Assembly Site</b>	ANA	ANA	PHI	ANA	ANA
<b>Package Group</b>	FCCSP	FCCSP	FCCSP	FCCSP	FCCSP
<b>Package Designator</b>	ABL	ABL	ABL	ABL	ABL
<b>Pin Count</b>	161	161	161	161	161

Note 1. To support the QBS strategy and use of generic data, note that all xWR1243\*, xWR1642\*, and xWR1843\* products utilize the same process (fab) technology, the same fabs and same package sites and materials. Both xWR1642\* and xWR1843\* referenced above use the same die and have the same features, with xWR1843\* enabling an additional transmitter. xWR1243\* is a derive of xWR1843/xWR1642, containing all the same features, except xWR1243\* excludes the digital processor, resulting in the smaller die size. As a result, xWR1642\* and xWR1843\* generic data apply to xWR1243\* as noted above.

- QBS: Qual By Similarity, also known as Generic Data
- Qual Device AWR1243FBIGABLQ1 is qualified at MSL3 260C

**Qualification Results**

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

							Qualification Device	Qualification by Similarity (QBS = generic Data) Reference Devices				
Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: <u>AWR1243FBIGABLQ1</u>	QBS Reference: <u>AWR1843ABGABLQ1</u>	QBS Reference: <u>AWR1843ABGABLQ1</u>	QBS Reference: <u>AWR1642BIGABL</u>	QBS Reference: <u>AWR1243BIGABL</u>
<b>Test Group A - Accelerated Environment Stress Tests</b>												
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL3 260C	-	QBS Reference Devices	3/693/0	3/780/0	3/780/0	3/102/0
HAST	A2	JEDEC JESD22-A110	3	77	Temperature Humidity Bias	85C/85%RH	1000 Hours	QBS Reference Devices	3/231/0	3/231/0	3/231/0	~ QBS AWR1642BIGABL
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Unbiased HAST	110C/85%RH	264 Hours	QBS Reference Devices	3/231/0	3/231/0	3/231/0	~ QBS AWR1642BIGABL
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-55C/150C	1000 Cycles	QBS Reference Devices	3/231/0	3/231/0	3/231/0	3/78/0
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	QBS Reference Devices	1/45/0	3/45/0	1/45/0	~ QBS AWR1642BIGABL
<b>Test Group B - Accelerated Lifetime Simulation Tests</b>												
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	≥ 125C	1000 Hours	QBS Reference Devices	3/231/0	3/231/0	3/231/0	3/78/0
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	≥ 125C	48 Hours	QBS Reference Devices	3/2400/0	3/2400/0	3/2400/0	~ QBS AWR1642BIGABL
<b>Test Group C - Package Assembly Integrity Tests</b>												
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	QBS Reference Devices	3/30/0	3/30/0	3/30/0	~ QBS AWR1642BIGABL
BST	C7	JESD22-B117	3	5	Bump Shear Test	20 bumps/pillars from a minimum of 5 devices. Cpk > 1.67	-	QBS Reference Devices	3/15/0	1/5/0	-	-
<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	

								Qualification Device	Qualification by Similarity (QBS = generic Data) Reference Devices			
Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: AWR1243FBIGABLQ1	QBS Reference: AWR1843ABGABLQ1	QBS Reference: AWR1843ABGABLQ1	QBS Reference: AWR1642BIGABL	QBS Reference: AWR1243BIGABL
TDBB	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
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
BTI	D4	-	-	-	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
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
<b>Test Group E - Electrical Verification Tests</b>												
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	2000 Volts	1/3/0	1/3/0	- QBS AWR1843ABGABLQ1	1/3/0	1/3/0
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	500 Volts	1/3/0	1/3/0	- QBS AWR1843ABGABLQ1	1/3/0	1/3/0
LU	E4	AEC Q100-004	1	3	Latch-Up	Per AEC Q100-004	-	1/3/0	1/3/0	- QBS AWR1843ABGABLQ1	1/3/0	1/3/0
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0
<b>Additional Tests</b>												
BLR	T1	-	-	-	Board Level Reliability - Temp Cycle	-40C/125C	1000 Cycles	QBS AWR1843ABGABLQ1	QBS AWR1843ABGABLQ1	1/32/0	- QBS AWR1843ABGABLQ1	- QBS AWR1843ABGABLQ1

- Test results noted with an “\*” are incidental to this qualification and data are not reported here.
- 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, EFLR, ESD & LU
- Room : AC/uHAST

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

TI Qualification IDs: R-CHG-2410-020; R-CHG-2405-045; R-CHG-2501-005; R-BKF-2510-006; R-CHG-2303-112; R-CHG-2510-046

Product Attributes									
Attributes		1st Qualification Device <sup>1</sup>		2nd Qualification Device <sup>1</sup>		Qualification by Similarity (QBS = generic Data) Reference Devices			
		AWR6843ABGABLQ1 (ANA)		AWR6843ABGABLQ1 (PHI)		QBS Reference: AWR1843ABGABLQ1	QBS Reference: AWR1843ABGABLQ1	QBS Reference: AWR1642BIGABL	QBS Reference: xWR6843*ABL*
<b>Automotive Grade Level</b>		Grade 2	Grade 2	Grade 2	Grade 2	Grade 2	Grade 2	Grade 2	Grade 2
<b>Operating Temp Range (C)</b>		-40 to 125 (Tj)	-40 to 125 (Tj)	-40 to 125 (Tj)	-40 to 125 (Tj)	-40 to 125 (Tj)	-40 to 125 (Tj)	-40 to 125 (Tj)	-40 to 125 (Tj)
<b>Product Function</b>		Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor
<b>Die Attributes</b>									
<b>Wafer Fab Supplier</b>		LFAB	LFAB	LFAB	UMC-F12	UMC-F12	UMC-F12		
<b>Wafer Process</b>		1118C014.M8	1118C014.M8	1118C014.M8	1118C014.M8	1118C014.M8	1118C014.M8		
<b>Package Attributes</b>									
<b>Assembly Site</b>		ANA	PHI	ANA	PHI	ANA	ANA		
<b>Package Group</b>		FCCSP	FCCSP	FCCSP	FCCSP	FCCSP	FCCSP		
<b>Package Designator</b>		ABL	ABL	ABL	ABL	ABL	ABL		
<b>Package Size (mm)</b>		10.4 x 10.4	10.4 x 10.4	10.4 x 10.4	10.4 x 10.4	10.4 x 10.4	10.4 x 10.4		
<b>Body Thickness (mm)</b>		0.75	0.75	0.75	0.75	0.75	0.75		
<b>Pin Count</b>		161	161	161	161	161	161		
<b>Lead Finish</b>		SNAGCU	SNAGCU	SNAGCU	SNAGCU	SNAGCU	SNAGCU		
<b>Lead Pitch(mm)</b>		0.65	0.65	0.65	0.65	0.65	0.65		

Note 1. To support the QBS strategy and use of generic data, note that each of xWR1642\* and xWR1843\* referenced above contain all the features referenced on xWR6843\*, but xWR6843\* is tuned to support 60 GHz, rather than 77-81 GHz used in xWR1642\* and xWR1843\*. In other words, the xWR6843\* physical design utilizes the same technology, utilizes the same fabs and has the same features (IPs) as of xWR1642\* and xWR1843\*, but with RF optimized to lower 60 GHz frequency. Both xWR1642\* and xWR1843\* utilize the same die and are released in both LFAB and UMC-F12, with data referenced above. Additionally, all devices are released in LFAB and UMC-F12 and use the same package and materials, as noted in the attributes table.

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

									1st Qualification Device	2nd Qualification Device	Qualification by Similarity (QBS = generic Data) Reference Devices			
Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: <a href="#">AWR6843ABGABLQ1</a>	Qual Device: <a href="#">AWR6843ABGABLQ1</a>	QBS Reference: <a href="#">AWR1843ABGABLQ1</a>	QBS Reference: <a href="#">AWR1843ABGABLQ1</a>	QBS Reference: <a href="#">AWR1642BIGABL</a>	QBS Reference: <a href="#">xWR6843*ABL</a>	
Test Group A - Accelerated Environment Stress Tests														
PC	A1	JEDEC J-STD-020 JESD22A113	3	77	Preconditioning	MSL3 260C	-	QBS Reference Devices	QBS Reference Devices	3/693/0	3/780/0	3/780/0	3/83/0	
HAST	A2	JEDEC JESD22A110	3	77	Temperature Humidity Bias	85C/85%RH	1000 Hours	QBS Reference Devices	QBS Reference Devices	3/231/0	3/231/0	3/231/0	←QBS AWR1642BIGABL	
AC/UHAST	A3	JEDEC JESD22A102//JEDEC JESD22A118	3	77	Unbiased HAST	110C/85%RH	264 Hours	QBS Reference Devices	QBS Reference Devices	3/231/0	3/231/0	3/231/0	←QBS AWR1642BIGABL	
TC	A4	JEDEC JESD22A104 and Appendix 3	3	77	Temperature Cycle	-55C/150C	1000 Cycles	QBS Reference Devices	QBS Reference Devices	3/231/0	3/231/0	3/231/0	3/78/0	
HTSL	A6	JEDEC JESD22- A103	1	45	High Temperature Storage Life	150C	1000 Hours	QBS Reference Devices	QBS Reference Devices	1/45/0	3/45/0	1/45/0	←QBS AWR1642BIGABL	
Test Group B - Accelerated Lifetime Simulation Tests														
HTOL	B1	JEDEC JESD22- A108	3	77	Life Test	≥ 125C	1000 Hours	QBS Reference Devices	QBS Reference Devices	3/231/0	3/231/0	3/231/0	3/78/0	
ELFR	B2	AEC Q100008	3	800	Early Life Failure Rate	≥ 125C	48 Hours	QBS Reference Devices	QBS Reference Devices	3/2400/0	3/2400/0	3/2400/0	←QBS AWR1642BIGABL	
Test Group C - Package Assembly Integrity Tests														
PD	C4	JEDEC JESD22B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	QBS Reference Devices	QBS Reference Devices	3/30/0	3/30/0	3/30/0	←QBS AWR1642BIGABL	
BST	C7	JESD22B117	3	5	Bump Shear Test	20 bumps/pillars from a minimum of 5 devices. Cpk > 1.67	-	QBS Reference Devices	QBS Reference Devices	3/15/0	1/5/0	-	-	
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	
TDBB	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	
								1st Qualification Device	2nd Qualification Device	Qualification by Similarity (QBS = generic Data) Reference Devices				
Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: <a href="#">AWR6843ABGABLQ1</a>	Qual Device: <a href="#">AWR6843ABGABLQ1</a>	QBS Reference: <a href="#">AWR1843ABGABLQ1</a>	QBS Reference: <a href="#">AWR1843ABGABLQ1</a>	QBS Reference: <a href="#">AWR1642BIGABL</a>	QBS Reference: <a href="#">xWR6843*ABL</a>	
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	
BTI	D4	-	-	-	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 Q100002	1	3	ESD HBM	-	2000 Volts	1/3/0	←QBS AWR1843ABGABLQ1	1/3/0	←QBS AWR1843ABGABLQ1	1/3/0	1/3/0	
ESD	E3	AEC Q100011	1	3	ESD CDM	-	500 Volts	1/3/0	←QBS AWR1843ABGABLQ1	1/3/0	←QBS AWR1843ABGABLQ1	1/3/0	1/3/0	
LU	E4	AEC Q100004	1	3	Latch-Up	Per AEC Q100-004	-	1/3/0	←QBS AWR1843ABGABLQ1	1/3/0	←QBS AWR1843ABGABLQ1	1/3/0	1/3/0	
ED	E5	AEC Q100009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	2/60/0 + QBS xWR6843*ABL*	2/60/0 + QBS xWR6843*ABL*	3/90/0	3/90/0	3/90/0	3/90/0	
Additional Tests														
BLR	T1	-	-	-	Board Level Reliability - Temp Cycle	-40C/125C	1000 Cycles	QBS AWR1843ABGABLQ1	QBS AWR1843ABGABLQ1	QBS AWR1843ABGABLQ1	1/32/0	←QBS AWR1843ABGABLQ1	←QBS AWR1843ABGABLQ1	

- Test results noted with an “-” are incidental to this qualification and data are not reported here.
- 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 JEDEC : -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, EFLR, ESD & LU
- Room : AC/HAST

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

TI Qualification IDs: R-CHG-2410-020; R-CHG-2405-045; R-CHG-2501-005; R-BKF-2510-006; R-CHG-2303-112; R-CHG-2510-046

ZVEI ID's: SEM-PW-13, SEM-PA-18

For questions regarding this notice, e-mails can be sent to the Change Management team or your local Field Sales Representative.

### IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale ([www.ti.com/legal/termsofsale.html](http://www.ti.com/legal/termsofsale.html)) or other applicable terms available either on [ti.com](http://ti.com) or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.