PCN Number:	20220526000.2	PCN Date:	May 26, 2022
Title:	Qualification of updated BOM option in TAI, additional Assembly/Test site in MLA		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Nov 22, 2022	**Sample Requests accepted until:**	Jun 26, 2022

***Sample requests received after June 26, 2022 will not be supported.**

Change Type:

☒	Assembly Site	☒	Assembly Process	☒	Assembly Materials
☐	Design	☐	Electrical Specification	☐	Mechanical Specification
☒	Test Site	☒	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☐	Wafer Fab Site	☐	Wafer Fab Materials	☐	Wafer Fab Process
		☐	Part number change		

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of a BOM update in TAI, and new Assembly/Test site in MLA.

BOM/Assembly options are as follows:

	TAI Current	TAI New	MLA
Bond wire diameter composition, diameter	Au, 0.96 mil	1mil PCC Die-> LF .96mil Au Die->Die	1mil PCC Die-> LF .96mil Au Die->Die

	Current Device Symbolization	New Device Symbolization
**ECAT	Include Value	Remove
TI Bug	Include	Replace with "TI" text
Example		

** - Not all devices necessarily have ECAT information included in the symbolization, but for the ones that do, this information will be removed.

Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ

Reason for Change:

Supply continuity.

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

None

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
☒ No Change	☒ No Change	☒ No Change	☒ No Change

Changes to product identification resulting from this PCN:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TAI	TAI	TWN	Chung Ho, New Taipei City
MLA	**MLA**	**MYS**	**Kuala Lumpur**

Sample product shipping label (not actual product label)

Product Affected:

AMC1200TDWVRQ1	AMC1300BQDWVRQ1	AMC1306M05QDWVRQ1	AMC1306M25QDWVRQ1

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

Q100H/Q006 Grade 1 AMC1306M25QDWVRQ1
Approved 17-May-2022
Updated 19-May-2022

Product Attributes

Attributes	Qual Device: AMC1306M25QDWVRQ1	QBS Product Reference: AMC1300BQDWVRQ1	QBS Process Reference: AMC1305M25QDWRQ1	QBS Process Reference: INA210BQDCKRQ1	QBS Process Reference: INA215AQDCKRQ1
Automotive Grade Level	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1
Operating Temp Range	-40 to +125 C	-40 to +125 C	-40 to +125 C	-40 to +125 C	-40 to +125 C
Product Function	Signal Chain	Signal Chain	Signal Chain	Signal Chain	Signal Chain
Wafer Fab Supplier	AIZU, MH8	AIZU, MH8	AIZU, DM5	AIZU	AIZU
Die Revision	A, B	A, B	BC, D, G	D	C
Assembly Site	MLA	MLA	TITL (TAI)	NFME	NFME
Package Type	SOIC	SOIC	SOIC	SOT	SOT
Package Designator	DWV	DWV	DW	DCK	DCK
Ball/Lead Count	8	8	16	6	6

- QBS: Qual By Similarity
- Qual Device AMC1306M25QDWVRQ1 is qualified at LEVEL3-260C
- Device AMC1306M25QDWVRQ1 contains multiple dies.

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: AMC1306M25QDWVRQ1	QBS Product Reference: AMC1300BQDWVRQ1	QBS Process Reference: AMC1305M25QDWRQ1	QBS Process Reference: INA210BQDCKRQ1	QBS Process Reference: INA215AQDCKRQ1
Test Group A – Accelerated Environment Stress Tests												
	PC	A 1	JEDEC J-STD-020 JESD22-A113	3	77	Automotive Preconditioning Level 2	Level 2-260C	-	-	-	-	3/948/0
	PC	A 1	JEDEC J-STD-020 JESD22-A113	3	77	Automotive Preconditioning Level 3	Level 3	-	-	3/960/0	-	-
	HAST	A 2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	-	3/231/0
	AC	A 3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	-	-	3/231/0	-	3/231/0
	TC	A 4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	-	-	3/231/0	-	3/231/0
	PTC	A 5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	-	-	-	-
	HTSL	A 6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 175C	500 Hours	-	-	1/45/0	-	1/45/0

Test Group B – Accelerated Lifetime Simulation Tests												
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	-	-	-	-	3/231/0
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 150C	408 Hours	-	-	3/231/0	-	-
	ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	-	-	-	-	3/2400/0
	ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 150C	24 Hours	-	-	12/2505/0	-	-
	EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	-	-	-	-
Test Group C – Package Assembly Integrity Tests												
	WBS	C1	AEC Q100-001	1	30	Auto Wire Bond Shear	Wires	-	1/30/0	-	-	1/30/0
	WBP	C2	MIL-STD883 Method 2011	1	30	Auto Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.33, Ppk>1.67	1/30/0	1/30/0	3/90/0	-	1/30/0
	LI	C6	JEDEC JESD22-B105	1	50	Lead Fatigue	To Destruction	-	-	1/50/0	-	-
Test Group D – Die Fabrication Reliability Tests												
	EM	D1	JESD61	-	-	Electromigration	-	Completed Per Process Technology Requirements	-	-	-	-
	TDDB	D2	JESD35	-	-	Time Dependant Dielectric Breakdown	-	Completed Per Process Technology Requirements	-	-	-	-
	HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	-	Completed Per Process Technology Requirements	-	-	-	-
	NBTI	D4	-	-	-	Negative Bias Temperature Instability	-	Completed Per Process Technology Requirements	-	-	-	-
	SM	D5	-	-	-	Stress Migration	-	Completed Per Process Technology Requirements	-	-	-	-

Test Group E – Electrical Verification Tests												
	HBM	E2	AEC Q100-002	1	3	ESD - HBM - Q100	4000V	-	-	1/3/0	-	-
	CDM	E3	AEC Q100-011	1	3	ESD - CDM - Q100	1500V	-	-	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	1/6/0	-
	ED	E5	AEC Q100-009	3	30	Auto Electrical Distributions	Cpk>1.67	1/30/0	1/30/0	3/90/0	9/270/0	-
	MQ			-	-	Manufacturability (Auto Assembly)	(per automotive requirements)	Pass	Pass	Pass	-	Pass
	YLD			-	-	FTY and Bin Summary	-	Pass	Pass	-	-	-

A1 (PC): Preconditioning:
Performed for THB, Biased HAST, AC, uHAST, TC & PTC samples, as applicable.

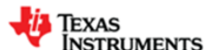
Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40°C to +150°C
Grade 1 (or Q): -40°C to +125°C
Grade 2 (or T): -40°C to +105°C
Grade 3 (or I): -40°C to +85°C

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

Green/Pb-free Status:
Qualified Pb-Free(SMT) and Green

This device qualifies the following devices are qualified in assembly site:

TI Qualification ID: 20210609-140507



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

Q100H Grade 2 AMC1200TDWVRQ1
Approved 16-May-2022
Updated 19-May-2022

Product Attributes

Attributes	Qual Device: AMC1200TDWVRQ1	QBS Product Reference: AMC1200STDUBRQ1	QBS Process Reference: AMC1200TDWVRQ1
Automotive Grade Level	Grade 2	Grade 2	Grade 2
Operating Temp Range	-40 to +105 C	-40 to +105 C	-40 to +105 C
Product Function	Multiple	Signal Chain	Multiple
Wafer Fab Supplier	DP1DM5, TSMC-WF2	DMOS5, TSMC-WF2	DMOS 5, TSMC
Die Revision	F, G	F, G	F, G
Assembly Site	MLA	MLA	TAI / TITL
Package Type	SOIC	SOP	SOP
Package Designator	DWV	DUB	DWV
Ball/Lead Count	8	8	8

- QBS: Qual By Similarity
- Qual Device AMC1200TDWVRQ1 is qualified at LEVEL2-260C
- Device AMC1200TDWVRQ1 contains multiple dies.

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: AMC1200TDWVRQ1	QBS Product Reference: AMC1200STDUBRQ1	QBS Process Reference: AMC1200TDWVRQ1
Test Group A – Accelerated Environment Stress Tests									
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Automotive Preconditioning Level 2	L2-260C	1/0/0	-	3/300/0
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	Level 3-260C	-	3/0/0	-
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	3/231/0
AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	1/77/0	3/231/0	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0	3/231/0
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	-	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 150C	1000 Hours	-	3/231/0	3/135/0
Test Group B – Accelerated Lifetime Simulation Tests									
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 150C	300 Hours	-	3/231/0	-
HTOL	B1	JEDEC JESD22-A108	3	77	High Temperature Operating Life, 150C	408 Hours	-	-	3/231/0
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	24 Hours	-	3/840/0	3/2400/1(1)
EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	-	-

			Test Group C – Package Assembly Integrity Tests							
	WBS	C1	AEC Q100-001	1	30	Auto Wire Bond Shear	wires	-	3/228/0	3/90/0
	WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull	wires	-	3/228/0	3/90/0
	SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability w Bake Precon	Pb Free Solder	-	3/36/0	1/15/0
	SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability w Bake Precon	Pb Solder	-	3/36/0	1/15/0
	PD	C4	JEDEC JESD22-B100 and B108	3	10	Auto Physical Dimensions	Cpk>1.67	-	3/30/0	3/30/0
	LI	C6	JEDEC JESD22-B105	1	50	Lead Pull to Destruction	Leads	-	1/24/0	-
	LI	C6	JEDEC JESD22-B105	1	50	Lead Pull to Destruction	Wires	1/6/0	-	-
			Test Group D – Die Fabrication Reliability Tests							
	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 Injection Carrier	-	Completed Per Process Technology Requirements	-	-
	NBTI	D4	-	-	-	Negative Bias Temperature Instability	-	Completed Per Process Technology Requirements	-	-
	SM	D5	-	-	-	Stress Migration	-	Completed Per Process Technology Requirements	-	-
			Test Group E – Electrical Verification Tests							
	HBM	E2	AEC Q100-002	1	3	ESD - HBM - Q100	3000 V	1/3/0	-	1/3/0
	CDM	E3	AEC Q100-011	1	3	ESD - CDM - Q100	1500 V	1/3/0	1/3/0	1/3/0
	LU	E4	AEC Q100-004	1	6	Latch-up	Ta=105C	1/6/0	-	-
	ED	E5	AEC Q100-009	3	30	Auto Electrical Distributions	Cpk>1.67 Room, hot, and cold test	1/30/0	3/90/0	3/90/0
			Test Group G – Cavity Package Integrity Tests							
	DS	G7	MIL-STD-883 Method 2019	1	5	Die Shear	-	-	3/30/0	-

						Additional Tests				
	MQ			-	-	Manufacturability (Auto Assembly)	(per automotive requirements)	Pass	Pass	-
	MSL			-	-	Thermal Path Integrity, JEDEC	L3-260C	-	3/36/0	-
	MSL			-	-	Thermal Path Integrity, JEDEC, L2	L2-260C	1/12/0	-	3/36/0
	YLD			-	-	FTY and Bin Summary	-	Pass	-	-

A1 (PC): Preconditioning:
Performed for THB, Biased HAST, AC, uHAST, TC & PTC samples, as applicable.

Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40°C to +150°C
Grade 1 (or Q): -40°C to +125°C
Grade 2 (or T): -40°C to +105°C
Grade 3 (or I): -40°C to +85°C

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

(1): **1 failure due to EOS QTS FA453167-1**

Green/Pb-free Status:
Qualified Pb-Free(SMT) and Green

TI Qualification ID: 20210423-139758

TI Information
Selective Disclosure

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

Q100H Grade 1 AMC1300BQDWVRQ1
Approved MAY-17-2022
Updated MAY-19-2022

Product Attributes

Attributes	Qual Device: AMC1300BQDWVRQ1	QBS Product Reference: AMC1311CQDWVRQ1	QBS Process Reference: AMC1305M25QDWRQ1	QBS Process Reference: INA215AQDCKRQ1
Automotive Grade Level	Grade 1	Grade 1	Grade 1	Grade 1
Operating Temp Range	-40 to +125 C	-40 to +125 C	-40 to +125 C	-40 to +125 C
Product Function	Signal Chain	Signal Chain	Signal Chain	Signal Chain
Wafer Fab Supplier	AIZU, MH8	AIZU, MH8	AIZU, DM5-DALLAS, DMOS 5	AIZU
Die Revision	A, B	A, B	BC, D, G	C
Assembly Site	MLA	MLA	TITL (TAI)	NFME
Package Type	SOIC	SOIC	SOIC	SOT
Package Designator	DWV	DWV	DW	DCK
Ball/Lead Count	8	8	16	6

- QBS: Qual by Similarity
- Qual Device AMC1300BQDWVRQ1 is qualified at LEVEL3-260C
- Device AMC1300BQDWVRQ1 contains multiple dies.

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: AMC1300BQDWVRQ1	QBS Product Reference: AMC1311CQDWVRQ1	QBS Process Reference: AMC1305M25QDWRQ1	QBS Process Reference: INA215AQDCKRQ1
Test Group A – Accelerated Environment Stress Tests										
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Automotive Preconditioning Level 2	Level 2-260C	-	-	-	3/948/0
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Automotive Preconditioning Level 3	L3-260C	-	3/0/0	3/960/0	-
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	3/231/0	3/231/0
AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	-	-	3/231/0	3/231/0
UHAST	A3	JEDEC JESD22-A102	-	-	Unbiased HAST 130C/85%RH	96 Hours	-	3/231/0	-	-
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	3/231/0	3/231/0
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	-	-	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 175C	500 Hours	-	3/135/0	1/45/0	1/45/0

	Test Group B – Accelerated Lifetime Simulation Tests										
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	-	-	-	3/231/0
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 150C	408 Hours	-	1/77/0	3/231/0	-
	ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	-	-	-	3/2400/0
	ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 150C	24 Hours	-	-	12/2505/0	-
	EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	-	-	-
	Test Group C – Package Assembly Integrity Tests										
	WBS	C1	AEC Q100-001	1	30	Auto Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.67	1/30/0	3/90/0	3/90/0	1/30/0
	WBP	C2	MIL-STD883 Method 2011	1	30	Auto Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	1/30/0	3/90/0	3/90/0	1/30/0
	SD	C3	JEDEC JESD22-B102	1	15	Pb Free Surface Mount Solderability	Pb Free	-	1/15/0	-	-
	PD	C4	JEDEC JESD22-B100 and B108	3	10	Auto Physical Dimensions	Cpk>1.67	-	1/30/0	-	-
	LI	C6	JEDEC JESD22-B105	1	50	Lead Pull	leads	1/24/0	1/24/0	1/5/0	-
	Test Group D – Die Fabrication Reliability Tests										
	EM	D1	JESD61	-	-	Electromigration	-	Completed Per Process Technology Requirements	-	-	-
	TDDB	D2	JESD35	-	-	Time Dependant Dielectric Breakdown	-	Completed Per Process Technology Requirements	-	-	-
	HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	-	Completed Per Process Technology Requirements	-	-	-
	NBTI	D4	-	-	-	Negative Bias Temperature Instability	-	Completed Per Process Technology Requirements	-	-	-
	SM	D5	-	-	-	Stress Migration	-	Completed Per Process Technology Requirements	-	-	-
	Test Group E – Electrical Verification Tests										
	HBM	E2	AEC Q100-002	1	3	Auto ESD HBM	4000V	1/3/0	-	-	-
	CDM	E3	AEC Q100-011	1	3	Auto ESD CDM	1500V	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	Auto Electrical Distributions	Cpk>1.67 Room, hot, and cold test	1/30/0	1/30/0	3/90/0	-

	Additional Tests										
	-			-	-	Automotive L3 Powerpad Moisture Sensitivity	L3-260C	-	3/36/0	-	-
	FLAM			-	-	Flammability (IEC 695-2-2)	Method B/IEC 695-2-2	-	1/5/0	-	-
	FLAM			-	-	Flammability (UL 94V-0)	Method A/UL 94V-0	-	1/5/0	-	-
	FLAM			-	-	Flammability (UL-1694)	Method C/UL-1694	-	1/5/0	-	-
	MQ			-	-	Manufacturability (Auto Assembly)	(per automotive requirements)	Pass	Pass	Pass	Pass
	MQ			-	-	Manufacturability (Wafer Fab)	(per mfg. Site specification)	Pass	Pass	-	-
	YLD			-	-	FTY and Bin Summary	-	Pass	-	-	-

A1 (PC): Preconditioning:
Performed for THB, Biased HAST, AC, uHAST, TC & PTC samples, as applicable.

Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40°C to +150°C
Grade 1 (or Q): -40°C to +125°C
Grade 2 (or T): -40°C to +105°C
Grade 3 (or I): -40°C to +85°C

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

Green/Pb-free Status:
Qualified Pb-Free(SMT) and Green

TI Qualification ID: 20210315-139117

IMPORTANT NOTICE AND DISCLAIMER

For questions regarding this notice, e-mails can be sent to the contacts shown below or your local Field Sales Representative.

Location	E-Mail
WW Change Management Team	PCN_ww_admin_team@list.ti.com

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) or other applicable terms available either on 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.