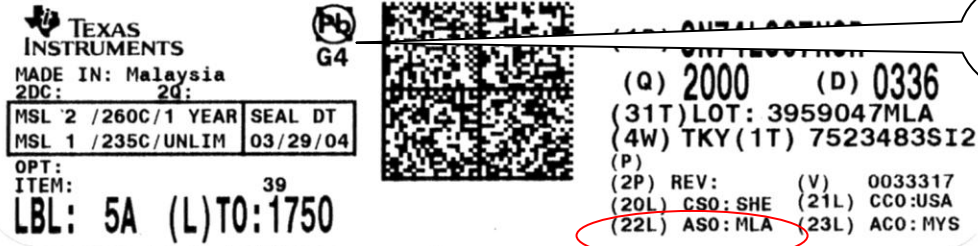


PCN Number:	20240124000.1			PCN Date:	January 25, 2024
Title:	Qualification of CDAT as an alternate Assembly site for select devices				
Customer Contact:	Change Management team		Dept:	Quality Services	
Proposed 1st Ship Date:	April 23, 2024		Sample Requests accepted until:	Feb 26, 2024*	
*Sample requests received after Feb 26, 2024 will not be supported.					
Change Type:					
<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 checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Material
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Process
PCN Details					
Description of Change:					
<p>Texas Instruments Incorporated is announcing the qualification of CDAT as an additional Assembly site for set of devices listed below. There are no new BOM elements with the CDAT assembly site qualification.</p>					
Reason for Change:					
Supply continuity					
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):					
None					
Impact on Environmental Ratings					
<p>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.</p>					
RoHS		REACH		Green Status	
<input checked="" type="checkbox"/> No Change		<input checked="" type="checkbox"/> No Change		<input checked="" type="checkbox"/> No Change	
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Changes to product identification resulting from this PCN:					
Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City		
CARZ	CSZ	CHN	Jiangsu		
CLARK	QAB	PHL	Angeles City, Pampanga		
UTL1	NSE	THA	Bangkok		
CDAT	CDA	CHN	Chengdu		

Sample product shipping label (not actual product label)



Product Affected:

SN1507044RVCR	TPS25810RVCR	TPS62060DSGR	TPS62060DSGT
SN1806002RVCR	TPS25810RVCT		

TI Information
Selective Disclosure

Qualification Report
Approve Date 24-March-2023

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: SN1507044RVCR	QBS Reference: TPS254900AIRVCRQ1
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	150C	500 Hours	-	3/135/0
HTOL	B1	Life Test	85C	1000 Hours	-	3/231/0
WBS	C1	Wire Bond Shear	Wires	-	1/76/0	1/76/0
WBP	C2	Wire Bond Pull	Wires	-	1/76/0	1/76/0
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0
PD	C4	Physical Dimensions	Cpk>1.67	-	1/10/0	3/30/0

- QBS: Qual By Similarity
- Qual Device SN1507044RVCR is qualified at MSL2 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/>

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

TI Qualification ID: R-CHG-2202-039

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: <u>LM2775QDSGRQ1</u>	QBS Process Reference: <u>LP87332ARHDRQ1</u>	QBS Package Reference: <u>TPS2546QRTERQ1</u>
Test Group A – Accelerated Environment Stress Tests									
			3	22	SAM Analysis, Pre Stress	Completed	3/66/0		3/66/0
PC	A1	JEDEC J-STD-020; JESD22-A113	3	77	Preconditioning	Level 2- 260C	3/All/0	-	3/All/0
			3	22	SAM Analysis, Post Precon	Completed	3/66/0		3/66/0
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-	3/231/0
			3	1	Cross Section, Post bHAST 96 Hours	Completed	3/3/0	-	3/9/0
			3	22	SAM Analysis, Post bHAST, 96 Hours	Completed	3/66/0	-	3/66/0
			3	30	Wire Bond Shear, Post bHast, 96 Hours	Wires	3/90/0	-	3/90/0
			3	30	Bond Pull over Stitch, post bHAST, 96 Hours	Wires	3/90/0	-	3/90/0
			3	30	Bond Pull over Ball, Post bHAST, 96 Hours	Wires	3/90/0		3/90/0
HAST	A2	JEDEC JESD22-A110	3	70	Biased HAST, 130C/85%RH	192 Hours	3/210/0	-	3/210/0
			3	1	Cross Section, Post bHAST 192 Hours	Completed	3/3/0	-	3/9/0
			3	22	SAM Analysis, Post bHAST, 192 Hours	Completed	3/66/0	-	3/66/0
			3	30	Wire Bond Shear, Post bHast 192 Hours	Wires	3/90/0	-	3/90/0
			3	30	Bond Pull over Stitch, post bHAST 192 Hours	Wires	3/90/0	-	3/90/0
			3	30	Bond Pull over Ball, Post bHAST 192 Hours	Wires	3/90/0	-	3/90/0
AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	3/231/0	-	3/231/0

Type	#	Test Spec	Min Lot Qty	SS/ Lot	Test Name / Condition	Duration	Qual Device: LM2775QDSGRQ1	QBS Process Reference: LP87332ARHDRQ1	QBS Package Reference: TPS2546QRTERRQ1
TC	A4	JEDEC JESD22-A104	3	77	Temperature Cycle, -65/150C	500 Cycles	3/231/0	-	3/231/0
			3	1	Cross Section, Post T/C 500 Cycles	Completed	3/3/0	-	3/9/0
			3	22	SAM Analysis, Post T/C 500 Cycles	Completed	3/66/0	-	3/66/0
			3	30	Wire Bond Shear, Post T/C 500 Cycles	Wires	3/90/0	-	3/90/0
			3	30	Bond Pull over Stitch, Post T/C 500 Cycles	Wires	3/90/0	-	3/90/0
			3	30	Bond Pull over Ball Post T/C 500 Cycles	Wires	3/90/0	-	3/90/0
TC	A4	JEDEC JESD22-A104	3	70	Temperature Cycle, -65/150C	1000 Cycles	3/210/0	-	3/210/0
			3	1	Cross Section, Post T/C 1000 Cycles	Completed	3/3/0	-	3/9/0
			3	22	SAM Analysis, Post T/C 1000 Cycles	Completed	3/66/0	-	3/66/0
			3	30	Wire Bond Shear, Post T/C 1000 Cycles	Wires	3/90/0	-	3/90/0
			3	30	Bond Pull over Stitch, Post T/C 1000 Cycles	Wires	3/90/0	-	3/90/0
			3	30	Bond Pull over Ball, Post T/C 1000 Cycles	Wires	3/90/0	-	3/90/0
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle, -40/125C	1000 Cycles	1/45/0	-	-
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle, -40/125C	2000 Cycles	1/45/0	-	-
HTSL	A6	JEDEC JESD22-A103	3	45	High Temp Storage Bake 175C	500 Hours	3/135/0	-	-
			3	1	Cross Section, Post HTSL 500 Hours	Completed	3/3/0	-	-
HTSL	A6	JEDEC JESD22-A103	3	44	High Temp Storage Bake 175C	1000 Hours	3/132/1*	-	-
			3	1	Cross Section, Post HTSL 1000 Hours	Completed	3/3/0	-	-
HTSL	A6	JEDEC JESD22-A103	3	45	High Temp Storage Bake 150C	1000 Hours	-	-	3/145/0
			3	1	Cross Section, Post HTSL 1000 Hours	Completed	-	-	3/3/0
HTSL	A6	JEDEC JESD22-A103	3	44	High Temp Storage Bake 150C	2000 Hours	-	-	3/132/0

Type	#	Test Spec	Min Lot Qty	SS/ Lot	Test Name / Condition	Duration	Qual Device: LM2775QDSGRQ1	QBS Process Reference: LP87332ARHDRQ1	QBS Package Reference: TPS2546QRTERRQ1
			3	1	Cross Section, Post HTSL 2000 Hours	Completed	-		3/3/0
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	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, 150C	24 Hours	-	3/2400/0	-
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	Wire Bond Shear, Cpk>1.67	Wires	3/90/0	-	3/90/0
WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull over Stitch, Cpk>1.67	Wires	3/90/0	-	-
WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull over Ball, Cpk>1.67	Wires	3/90/0	-	3/90/0
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	Pb Free	3/45/0	-	3/45/0
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	Pb	3/45/0	-	3/45/0
PD	C4	JEDEC JESD22-B100 and B108	3	10	Auto Physical Dimensions Cpk>1.67	--	3/90/0	-	3/90/0
LI	C6	JEDEC JESD22-B105	1	50	Lead Integrity	Leads	N/A	-	-
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									

Type	#	Test Spec	Min Lot Qty	SS/ Lot	Test Name / Condition	Duration	Qual Device: LM2775QDSGRQ1	QBS Process Reference: LP87332ARHDRQ1	QBS Package Reference: TPS2546QRTERRQ1
HBM	E2	AEC Q100-002	1	3	ESD - HBM - Q100	3000 V	1/3/0	-	-
CDM	E3	AEC Q100-011	1	3	ESD - CDM - Q100	1500 V	1/3/0	-	-
LU	E4	AEC Q100-004	1	6	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	-	-

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

Note: * 1 failure due to trim bit data change. Not Cu wire related.

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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