PCN Number:	20221219002.1A	PCN Date:	March 16, 2023
Title:	Qualification of CDAT as an alternate Assembly site for select devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Mar 19, 2023	Sample Requests accepted until:	Apr 15, 2023*

***Sample requests received after Apr 15, 2023 will not be supported.**

Change Type:

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

PCN Details

Description of Change:

Revision A is to announce the addition of new devices that were not included on the original PCN notification. These new devices are highlighted and **bolded** in the device list below. The expected first shipment date for these new devices will be 90 days from this notice for these newly added devices only.

Texas Instruments Incorporated is announcing the qualification of CDAT as an additional Assembly site for set of devices listed below. Construction differences are as follows:

	ASEN	CIRTEK	JCETJY	CDAT
Mold Compound	SID#1800819111	SID#B8240AB16A	S#120903003709 or S#120903003009	4222198
Mount Compound	SID#1400329111 or SID#1400230112	SID#NMS607CO10	S#120402007300 or S#120402002600	4207123
Bond wire composition, diameter	Au, 0.8 mil	Au, 0.8 mil	Au, 0.8 mil	Cu, 0.8 mil

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

ASEN	ASN	CHN	Suzhou
CIRTEK	CTK	PHL	Binan City
JCETJY	JC8	CHN	Jiangyin
CDAT	**CDA**	**CHN**	**Chengdu**

Sample product shipping label (not actual product label)

Product Affected:

ESD321DPYR	**TPD1E04U04DPYT**	**TPD1E10B06DPYR**	TPD4E02B04DQAR
ESD351DPYR	**TPD1E05U06DPYR**	**TPD1E10B09DPYR**	TPD4E05U06DQAR
TPD1E04U04DPYR			

TI Information
Selective Disclosure

Qualification Report
Approve Date 29-September-2022

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPD4E05U06DQAR	QBS Reference: TPS2546QRTERQ1	QBS Reference: TPD2E2U06QDCKRQ1	QBS Reference: TPD4E05U06DQAR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	-	-
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	3/231/0	-	-	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	3/231/0	3/231/0	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0
TC	A4	Temperature Cycle	-55C/150C	400 Cycles	-	-	3/231/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	3/231/0	-	-	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0	-	-
HTSL	A6	High Temperature Storage Life	(Dry bake at 150C)	500 Hours	-	-	3/15/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	3/135/0	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	3/231/0	-	-	3/231/0
HTOL	B1	High Temperature Reverse Bias	125C	1000 Hours	-	-	3/231/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	3/231/0	-	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	1/800/0	-	-

WBS	C1	Ball Shear	76 balls, 3 units min	Wires	3/228/0	-	-	-
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	3/228/0	-	-	3/228/0
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	1/10/0	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	1/10/0	-
SD	C3	PB-Free Solderability	8 Hours Steam Age	-	-	-	-	3/66/0
PD	C4	Physical Dimensions	(per mechanical drawing)	-	3/15/0	-	-	3/15/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	3/30/0	-	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	1/30/0	-
ESD	E2	ESD CDM	-	1500 Volts	-	-	-	1/3/0
ESD	E2	ESD CDM	-	1500 Volts	-	-	1/10/0	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	-	-
ESD	E2	ESD CDM	-	500 Volts	-	1/3/0	-	-
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	-	-	-
ESD	E2	ESD HBM	-	10000 Volts	-	-	1/10/0	-
ESD	E2	ESD HBM	-	2000 Volts	-	1/3/0	-	-
ESD	E2	ESD HBM	-	6000 Volts	-	-	1/10/0	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	1/30/0

CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	3/90/0	-	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	3/75/0	-

- QBS: Qual By Similarity
- Qual Device TPD4E05U06DQAR 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/

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

TI Qualification ID: R-CHG-2205-019

Rev A Qual Memo

Qualification Report
Approve Date 22-November-2022

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPD1E04U04DPYR	Qual Device: TPD1E04U04DPYR	QBS Reference: TPS2546QRTERQ1	QBS Reference: PTPDTESTULCDQAR	QBS Reference: TPD1E04U04DPYR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0	-
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	-	3/231/0	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	3/231/0	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	3/231/0	-	-	-	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	3/231/0	-	-	3/231/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	-	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	3/231/0	-	-	3/231/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	3/231/0	-	-

HTOL	B1	Life Test	150C	300 Hours	-	-	-	3/231/0	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	1/800/0	-	-
WBS	C1	Ball Shear	76 balls, 3 units min	Wires	3/228/0	1/76/0	-	-	-
WBP	C2	Bond Pull	30 Wires, 3 units min	Wires	-	-	-	3/90/0	-
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	3/228/0	1/76/0	-	-	-
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	(per mechanical drawing)	-	3/15/0	1/5/0	-	-	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	3/30/0	-	-
ESD	E2	ESD CDM	-	1500 Volts	-	-	-	3/9/0	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	-	-	1/3/0
ESD	E2	ESD CDM	-	500 Volts	-	-	1/3/0	-	-
ESD	E2	ESD HBM	-	1000 Volts	-	-	-	-	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	-	-	1/3/0	-	-
ESD	E2	ESD HBM	-	4000 Volts	-	-	-	3/9/0	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	-	-	-	-	1/30/0
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	3/90/0	-	-

- QBS: Qual By Similarity
- Qual Device TPD1E04U04DPYR is qualified at MSL1 260C
- Qual Device TPD1E04U04DPYR 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/

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

TI Qualification ID: R-CHG-2205-018

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

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