PCN Number:	20170822000	PCN Date:	Aug 23, 2017
Title:	Qualify TI Chengdu (CDAT) as an additional Assembly & Test site for select devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Nov 23, 2017	Estimated Sample Availability:	Provided upon Request

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:

Texas Instruments Incorporated is announcing the qualification of TI Chengdu (CDAT) as an Additional Assembly and Test Site for select devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.

Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly City
TI Malaysia	MLA	MYS	Kuala Lumpur
TI Clark	QAB	PHL	Angeles City, Pampanga
TI Chengdu	**CDA**	**CHN**	**Chengdu**

Material Differences:

	TI Malaysia, TI Clark	TI Chengdu
Mount compound	4207768	4207123
Mold compound	4208625	4222198

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

Reason for Change:

Continuity of Supply

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

None

Anticipated impact on Material Declaration

☐	No Impact to the Material Declaration	☒	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI Eco-Info website. There is no impact to the material meeting current regulatory compliance requirements with this PCN change.

Changes to product identification resulting from this PCN:

Assembly Site		
TI Malaysia	Assembly Site Origin (22L)	ASO: MLA
TI Clark	Assembly Site Origin (22L)	ASO: QAB
TI Chengdu	Assembly Site Origin (22L)	ASO: CDA

Sample product shipping label (not actual product label)

Topside Device marking:
Assembly site code for MLA = K, QAB = I, **CDA = 8**

Product Affected

TCA8418RTWR	TPS259241DRCR	TPS259261DRCT	TPS2592BADRCR
TLV320ADC3101IRGER	TPS259241DRCT	TPS259270DRCR	TPS2592BADRCT
TLV320ADC3101IRGET	TPS259250DRCR	TPS259270DRCT	TPS2592BLDRCR
TPS259230DRCR	TPS259250DRCT	TPS259271DRCR	TPS2592BLDRCT
TPS259230DRCT	TPS259251DRCR	TPS259271DRCT	TPS2592ZADRCR
TPS259231DRCR	TPS259251DRCT	TPS2592AADRCR	TPS2592ZADRCT
TPS259231DRCT	TPS259260DRCR	TPS2592AADRCT	
TPS259240DRCR	TPS259260DRCT	TPS2592ALDRCR	
TPS259240DRCT	TPS259261DRCR	TPS2592ALDRCT	

Qualification Report

TCA8418RTWR in CDAT
Approve Date 11-Aug-2017

Product Attributes

Attributes	Qual Device: TCA8418RTWR	QBS Package Reference: THS4552IRTW	QBS Package Reference: TMP116AIDRV
Assembly Site	CDAT	CDAT	CDAT
Package Family	QFN	QFN	QFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	FFAB	FFAB	RFAB
Wafer Fab Process	LBC7	BICOM3X	LBC8LV

- QBS: Qual By Similarity
- Qual Device TCA8418RTWR is qualified at LEVEL2-260C

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TCA8418RTWR	QBS Package Reference: THS4552IRTW	QBS Package Reference: TMP116AIDRV
CDM	ESD - CDM	1500 V	1/3/0	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	3/231/0
HTOL	Life Test, 150C	300 Hours	-	-	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	-	3/231/0	-
SD	Solderability	PB Free	Leads	2/44/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0	3/231/0
UHAST	Unbiased HAST 130C/85%RH	96 Hours	1/77/0	3/231/0	3/231/0
WBP	Bond Pull	Wires	1/76/0	-	-
WBS	Ball Bond Shear	Wires	1/76/0	-	-

- 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

TVADC3101IRGER Assembly and Test Offload from Clark-AT to CDAT

Approve Date 21-Aug-2017

Product Attributes

Attributes	Qual Device: TVADC3101IRGER	Qual Device: TVADC3101IRGER_RFAB	QBS Package Reference: BQ24196RGER	QBS Package Reference: BQ294504DRVR	QBS Package Reference: THS4552IRTW
Assembly Site	CDAT	CDAT	CDAT	CDAT	CDAT
Package Family	VQFN	VQFN	VQFN	WQFN	WQFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	DMOS 5	RFAB	RFAB	RFAB	FFAB
Wafer Fab Process	1833C05.24LRD	1833C05.24LRD	LBC7	LBC7	BICOM3X

- QBS: Qual By Similarity
- Qual Device TVADC3101IRGER is qualified at LEVEL2-260C

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TVADC3101IRGER	Qual Device: TVADC3101IRGER_RFAB	QBS Package Reference: BQ24196RGER	QBS Package Reference: BQ294504DRVR	QBS Package Reference: THS4552IRTW
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0	-
CDM	ESD - CDM	1500 V	-	-	-	-	1/3/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-	-	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	3/231/0	3/231/0
HBM	ESD - HBM	1000 V	-	-	-	-	1/3/0
HTSL	High Temp Storage Bake 170C	420 Hours	-	-	-	-	3/231/0
LU	Latch-up	Per JESD78	-	-	-	-	1/12/0
SD	Pb Free Solderability	PB Free/Solderability	-	-	-	-	2/44/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
UHAST	Unbiased HAST 130C/85%RH	96 Hours	-	-	-	-	3/231/0
WBP	Bond Pull	Wires	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0

- 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

Add additional site CDAT for TPS259230DRC device family
Qualifying CDAT DRC RFAB / LBC7

Approve Date 08-Aug-2017

Product Attributes

Attributes	Qual Device: TPS259230DRCR	QBS Product Reference: TPS2592AADRC	QBS Process Reference: TPIC2020RTQ	QBS Package Reference: TPS3850G09DRC	QBS Package Reference: TPS3850G50DRC
Assembly Site	CDAT	CLARK AT	CLARK-AT	CDAT	CDAT
Package Family	VSON	WSON	VQFN	VSON	VSON
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	RFAB	RFAB	RFAB	RFAB	RFAB
Wafer Process	LBC7	LBC7	LBC7	LBC7	LBC7

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL2-260C: TPS259231DRCR, TPS259251DRCR, TPS259260DRCR, TPS259270DRCR, TPS259250DRCR, TPS259230DRCR, TPS259240DRCR, TPS259241DRCR, and TPS259271DRCR

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TPS259230DRCR	QBS Product Reference: TPS2592AADRC	QBS Process Reference: TPIC2020RTQ	QBS Package Reference: TPS3850G09DRC	QBS Package Reference: TPS3850G50DRC
AC	Autoclave 121C	96 Hours	3/231/0	-	1/77/0	3/231/0	-
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0	1/15/0	-	1/30/0	1/30/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	1/77/0	1/77/0	3/231/0	-
HBM	ESD - HBM	4000 V	1/3/0	1/3/0	-	1/3/0	-
CDM	ESD - CDM	1500 V	1/3/0	1/3/0	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	3/231/0	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-	1/77/0	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	1/77/0	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/255/0	-	-	3/231/0	-
LU	Latch-up	(per JESD78)	1/6/0	1/12/0	3/18/0	1/6/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	-	3/231/0	3/231/0	-
WBP	Bond Pull	Wires	3/9/0	-	-	-	-

- 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

Qualifying G2TPS2592A die family using TPS2592BADRC, Spin of TPS259230DRC, in new assembly location CDAT

Approve Date 08-Aug-2017

Product Attributes

Attributes	Qual Device: TPS2592AADRCR	Qual Device: TPS2592ALDRCR	Qual Device: TPS2592BADRCR	Qual Device: TPS2592BLDRCR	Qual Device: TPS2592ZADRCR	QBS Product Reference: TPS259230DRCR	QBS Process Reference: TPIC2020RTQ	QBS Package Reference: TPS3850G09DRC
Assembly Site	CDAT	CDAT	CDAT	CDAT	CDAT	CDAT	CLARK-AT	CDAT
Package Family	VSON	VSON	VSON	VSON	VSON	VSON	VQFN	VSON
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB

Wafer Process	LBC7	LBC7	LBC7	LBC7	LBC7	LBC7	LBC7	LBC7

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL2-260C: TPS2592BADRCR, TPS2592BLDRCR, TPS2592ALDRCR, TPS2592AADRCR, and TPS2592ZADRCR

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TPS2592AADRCR	Qual Device: TPS2592ALDRCR	Qual Device: TPS2592BADRCR	Qual Device: TPS2592BLDRCR
AC	Autoclave 121C	96 Hours	-	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	Pass	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-
HBM	ESD - HBM	4000 V	-	-	-	-
CDM	ESD - CDM	1500 V	-	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	-	-
LU	Latch-up	(per JESD78)	-	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	-	-
WBP	Bond Pull	Wires	-	-	-	-

Type	Test Name / Condition	Duration	Qual Device: TPS2592ZADRCR	QBS Product Reference: TPS259230DRCR	QBS Process Reference: TPIC2020RTQ	QBS Package Reference: TPS3850G09DRC
AC	Autoclave 121C	96 Hours	-	3/231/0	1/77/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	1/77/0	3/231/0
HBM	ESD - HBM	4000 V	-	1/3/0	-	1/3/0
CDM	ESD - CDM	1500 V	-	1/3/0	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	3/231/0	-
HTOL	Life Test, 150C	300 Hours	-	-	-	1/77/0
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	1/77/0	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	3/231/0	-	3/231/0
LU	Latch-up	(per JESD78)	-	1/6/0	3/18/0	1/6/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	3/231/0	3/231/0
WBP	Bond Pull	Wires	-	3/9/0	-	-

- 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

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

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
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Japan	PCNJapanContact@list.ti.com