12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20170306000
Qualification of TI Chengdu (CDAT) as an additional Assembly & Test site for select devices
Change Notification / Sample Request

Date: March 10, 2017
To: TOKYO ELECTRON DEVICE (DSTR) 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.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

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, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services

20170306000
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
TPS2590RSAT	null
TPS2590RSAR	null
TPS54678RTET	null

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

PCN Number:	20170306000	**PCN Date:**	Mar 10, 2017
Title:	Qualification of TI Chengdu (CDAT) as an additional Assembly & Test site for select devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	June 10, 2017	**Estimated Sample Availability:**	Date Provided at Sample 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 TI Chengdu (CDAT) as 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 Site City
TI Clark	QAB	PHL	Angeles City, Pampanga
TI Malaysia	MLA	MYS	Kuala Lumpur
TI Chengdu	**CDA**	**CHN**	**Chengdu**

Material Differences:

Group 1 Device

	TI Clark	**TI Chengdu**
Mold compound	4208625	4222198

Group 2 Device

	TI Clark	**TI Malaysia**	**TI Chengdu**
Mount compound	4207768	4205846	4207123
Mold compound	4208625	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 Form, Fit, 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 at the site link below http://www.ti.com/quality/docs/materialcontentsearch.tsp

Changes to product identification resulting from this PCN:

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

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
G4
MADE IN: Malaysia
2DC: 2Q:
MSL 2 /260C/1 YEAR | SEAL DT
MSL 1 /235C/UNLIM | 03/29/04
OPT:
ITEM: 39
LBL: 5A (L)TO:1750
(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T)LOT: 3959047MLA
(4W) TKY(1T) 7523483SI2
(P)
(2P) REV: (V) 0033317
(20L) CSO: SHE (21L) CCO:USA
(22L) ASO: MLA (23L) ACO: MYS

ASSEMBLY SITE CODES: QAB = I , MLA = K, CDA =8

Product Affected: Group 1

DRV8837CDSGR	PTPD8S300RUKT	TPD6S300RUKR	TPD8S300RUKT
DRV8837CDSGT	SN62130ARGTR	TPD6S300RUKT	
PDRV8837CDSGR	SN62130ARGTT	TPD8S300RUKR	

Product Affected: Group 2

TPS2590RSAR	TPS2590RSAT	TPS54678RTER	TPS54678RTET

Group 1: Qualification Report

DRV8837CDSGR Clark probe, CDAT Assembly
Approve Date 14-Feb-2017

Product Attributes

Attributes	Qual Device: DRV8837CDSGR	QBS Product Reference: DRV8837CDSGR	QBS Process Reference: TPS62110RSA	QBS Package Reference: BQ294504DRVR	QBS Package Reference: TPS62140RGTR
Assembly Site	CHENGDU A/T	CLARK-AT	CAR	CHENGDU A/T	CHENGDU A/T
Package Family	WSON	WSON	QFN	WQFN	VQFN
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	MH8	MIH0 8	MIHO8	RFAB	MIHO-8
Wafer Process	LBC7	LBC7	LBC7	LBC7	LBC7X

- QBS: Qual By Similarity
- Qual Device DRV8837CDSGR 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: DRV8837CDSGR	QBS Product Reference: DRV8837CDSGR	QBS Process Reference: TPS62110RSA	QBS Package Reference: BQ294504DRVR	QBS Package Reference: TPS62140RGTR
AC	Autoclave 121C	96 Hours	-	-	3/231/0	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0	1/30/0	-	-	1/30/0

ELFR	Early Life Failure Rate, 140C	48 Hours	-	-	3/1881/0	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	3/231/0	-
HBM	ESD - HBM	4000 V	-	1/3/0	-	-	-
CDM	ESD - CDM	1500 V	1/3/0	-	-	-	-
HTOL	Life Test, 140C	480 Hours	-	-	3/231/0	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	3/231/0	-	-
LU	Latch-up	(per JESD78)	-	1/6/0	3/15/0	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	1/90/0	1/77/0	3/231/0	3/231/0	3/231/0
TS	Thermal Shock, -65/150C	500 Cycles	-	-	3/231/0	-	-
WBP	Bond Pull	Wires	-	-	-	-	3/228/0
WBS	Ball Bond Shear	Wires	-	-	-	-	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

Qualification Report

TPD8S300RUK RFAB LBC7 DMOS6 METDCu, CDAT

Approve Date 18-Jan-2017

Product Attributes

Attributes	Qual Device: TPD8S300RUKR	QBS Product Reference: TPD8S300RUKR	QBS Package Reference: BQ294504DRVR	QBS Package Reference: TPS51285BRUKR
Assembly Site	CDAT	CLARK-CLARK	CHENGDU A/T	CHENGDU A/T
Package Family	QFN; 3 X 3 (MM)	QFN; 3 X 3 (MM)	WQFN	WQFN
Flammability Rating	-	-	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	RFAB	RFAB	RFAB	RFAB
Wafer Process	LBC7	LBC7	LBC7	LBC7X

- QBS: Qual By Similarity
- Qual Device TPD8S300RUKR is qualified at LEVEL2-260CG

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TPD8S300RUKR	QBS Product Reference: TPD8S300RUKR	QBS Package Reference: BQ294504DRVR	QBS Package Reference: TPS51285BRUKR
AC	Autoclave 121C	96 Hours	1/77/0	1/77/0	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	1/5/0	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	-
HBM	ESD - HBM	4000 V	1/3/0	1/3/0	-	-
CDM	ESD - CDM	1500 V	1/3/0	1/3/0	-	-
LU	Latch-up	(per JESD78)	2/12/0	1/6/0	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	1/77/0	3/231/0	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	1/77/0	1/77/0	-	-

WBP	Bond Pull	Wires	-	-	-	3/228/0
WBS	Ball Bond Shear	Wires	-	-	-	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

Qualification Report

Qualify CDAT as Assembly & Test Site for SN62130ARGTR

Approve Date 28-Feb-2017

Product Attributes

Attributes	Qual Device: SN62130ARGTR	QBS Product Reference: TPS62130ARGT	QBS Process Reference: TPS62110RSA	QBS Package Reference: TPS62140RGTR
Assembly Site	CDAT	CLARK AT	CAR	CHENGDU A/T
Package Family	QFN	QFN	QFN	VQFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	MIHO 8	MIHO8	MIHO8	MIHO8
Wafer Process	LBC7X	LBC7X	LBC7	LBC7

- QBS: Qual By Similarity
- Qual Device SN62130ARGTR is qualified at LEVEL2-260CG

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: SN62130ARGTR	QBS Product Reference: TPS62130ARGT	QBS Process Reference: TPS62110RSA	QBS Package Reference: TPS62140RGTR
AC	Autoclave 121C	96 Hours	-	-	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	Pass	-	Pass
ELFR	Early Life Failure Rate, 140C	48 Hours	-	-	3/1881/0	-
HAST	Biased HAST, 110C/85%RH	264 Hours	-	-	-	3/230/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	-
HBM	ESD - HBM	2500 V	-	1/3/0	-	-
CDM	ESD - CDM	1500 V	-	1/3/0	-	-
HTOL	Life Test, 140C	480 Hours	-	-	3/231/0	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	3/231/0	3/231/0
LU	Latch-up	(per JESD78)	-	1/6/0	3/15/0	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	-	-	Pass
PD	Physical Dimensions	--	-	-	-	3/15/0
SD	Solderability	Pb Free	-	-	-	3/66/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	3/231/0	3/231/0

TS	Thermal Shock, -65/150C	500 Cycles	-	-	3/231/0	-
WBP	Bond Pull	Wires	-	-	-	3/228/0
WBS	Ball Bond Shear	Wires	-	-	-	3/228/0
YLD	FTY and Bin Summary	--	Pass	Pass	-	-

- 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

Group 2: Qualification Report

Qualification of an additional Assembly site for
TPS2590RSA (MIHO LBC7 CDAT QFN)
Approve Date 02-Dec-2016

Product Attributes

Attributes	Qual Device: TPS2590RSAR	QBS Product Reference: TPS2420RSA (CLARK)	QBS Process Reference: TPS62110RSA	QBS Package Reference: TPS53641RSBR
Assembly Site	CDAT	CLARK	CAR	CHENGDU A/T
Package Family	QFN, 4 X 4 MM	QFN	QFN	WQFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	MIHO	MIHO	MIHO8	RFAB
Wafer Process	LBC7	LBC7	LBC7	LBC7X

- QBS: Qual By Similarity
- Qual Device TPS2590RSAR is qualified at LEVEL2-260CG

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TPS2590RSAR	QBS Product Reference: TPS2420RSA (CLARK)	QBS Process Reference: TPS62110RSA	QBS Package Reference: TPS53641RSBR
AC	Autoclave 121C	96 Hours	1/77/0	-	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	1/15/0	-	-
ELFR	Early Life Failure Rate, 140C	48 Hours	-	-	3/1881/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	-
HBM	ESD - HBM	2500 V	-	1/3/0	-	-
CDM	ESD - CDM	500 V	-	1/3/0	3/9/0	-
HTOL	Life Test, 140C	480 Hours	-	1/76/0	3/231/0	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	3/231/0	3/231/0
LU	Latch-up	(per JESD78)	-	1/6/0	3/15/0	-

PD	Physical Dimensions	--	1/30/0	-	-	-
SD	Solderability	Pb Free	1/25/0	-	-	-
SD	Solderability	Pb	1/25/0	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	-	3/231/0	3/231/0
TS	Thermal Shock, -65/150C	500 Cycles	-	-	3/231/0	-
WBP	Bond Pull	Wires	-	-	-	3/228/0
WBS	Ball Bond Shear	Wires	1/3/0	-	-	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

Qualification Report

TPS54678 Offload to CDAT

Approve Date 06-Mar-2017

Product Attributes

Attributes	Qual Device: TPS54678RTE	QBS Product Reference: TPS54678RTE	QBS Process Reference: TPS51217DSC	QBS Package Reference: BQ24196RGER
Assembly Site	CHENGDU A/T	CLARK	CLARK-AT	CHENGDU A/T
Package Family	QFN/SON	QFN/SON	QFN/SON	QFN/SON
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	RFAB	RFAB	RFAB	RFAB
Wafer Process	LBC7	LBC7	LBC7	LBC7

Attributes	QBS Package Reference: BQ294504DRVR	QBS Package Reference: TPS53641RSBR	QBS Package Reference: TPS62140RGTR	QBS Package Reference: TRS3122ERGER
Assembly Site	CHENGDU A/T	CHENGDU A/T	CHENGDU A/T	CHENGDU A/T
Package Family	QFN/SON	QFN/SON	VQFN QFN/SON	QFN/SON
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	RFAB	RFAB	MIHO	RFAB
Wafer Process	LBC7	LBC7	LBC7	LBC7

- QBS: Qual By Similarity
- Qual Device TPS54678RTE is qualified at LEVEL2-260CG

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TPS54678RTE	QBS Product Reference: TPS54678RTE	QBS Process Reference: TPS51217DSC
AC	Autoclave 121C	96 Hours	-	-	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	Pass
FLAM	Flammability (IEC 695-2-2)	--	-	-	-
FLAM	Flammability (UL 94V-0)	--	-	-	-
FLAM	Flammability (UL-1694)	--	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0
HBM	ESD HBM	2500 V	-	1/3/0	-
CDM	ESD - CDM	1000 V	1/3/0	1/3/0	3/9/0
HTOL	Life Test, 125C	1000 Hours	-	1/77/0	-
HTOL	Life Test, 135C	635 Hours	-	-	3/231/0
HTOL	Life Test, 150C	300 Hours	-	-	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	3/231/0
LU	Latch-up	(per JESD78)	-	1/6/0	3/18/0
PD	Physical Dimensions	--	-	-	-
SD	Surface Mount Solderability	Pb Free	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	1/77/0	3/231/0
WBP	Bond Pull	Wires	1/76/0	-	-
WBS	Ball Bond Shear	Wires	1/76/0	-	-

Type	Test Name / Condition	Duration	QBS Package Reference: BQ24196RGER	QBS Package Reference: BQ294504DRVR	QBS Package Reference: TPS53641RSBR	QBS Package Reference: TPS62140RGTR	QBS Package Reference: TRS3122ERGER
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-	-	Pass	Pass
FLAM	Flammability (IEC 695-2-2)	--	-	-	-	-	3/15/0
FLAM	Flammability (UL 94V-0)	--	-	-	-	-	3/15/0
FLAM	Flammability (UL-1694)	--	-	-	-	-	3/15/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	-	-	3/231/0
HBM	ESD HBM	2500 V	-	-	-	-	-
CDM	ESD - CDM	1000 V	-	-	-	-	1/3/0
HTOL	Life Test, 125C	1000 Hours	-	-	-	-	-
HTOL	Life Test, 135C	635 Hours	-	-	-	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-	-	1/77/0
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-	-	3/231/0
HTSL	High Temp.	420 Hours	-	-	3/231/0	-	-

	Storage Bake, 170C						
LU	Latch-up	(per JESD78)	-	-	-	-	1/6/0
PD	Physical Dimensions	--	-	-	-	-	3/30/0
SD	Surface Mount Solderability	Pb Free	-	-	-	-	1/22/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
WBP	Bond Pull	Wires	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

- 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
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com