

PCN Number:	20170804000	PCN Date:	Aug 09, 2017												
Title:	Qualification of UTAC Thailand as additional Assembly and Test Site for Select Devices														
Customer Contact:	PCN Manager	Dept:	Quality Services												
Proposed 1st Ship Date:	Nov 09, 2017	Estimated Sample Availability:	Date Provided at Sample request												
Change Type:															
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design												
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet												
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change												
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site												
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process												
		<input type="checkbox"/>	Wafer Bump Site												
		<input type="checkbox"/>	Wafer Bump Material												
		<input type="checkbox"/>	Wafer Bump Process												
		<input type="checkbox"/>	Wafer Fab Site												
		<input type="checkbox"/>	Wafer Fab Materials												
		<input type="checkbox"/>	Wafer Fab Process												
PCN Details															
Description of Change:															
Texas Instruments is pleased to announce the qualification of UTAC Thailand as additional Assembly and Test Site for Select Devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.															
<table border="1"> <thead> <tr> <th>Assembly Site</th> <th>Assembly Site Origin</th> <th>Assembly Country Code</th> <th>Assembly Site City</th> </tr> </thead> <tbody> <tr> <td>TI Clark</td> <td>QAB</td> <td>PHL</td> <td>Angeles City, Pampanga</td> </tr> <tr> <td>UTAC Thailand</td> <td>NSE</td> <td>THA</td> <td>Bangkok</td> </tr> </tbody> </table>				Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City	TI Clark	QAB	PHL	Angeles City, Pampanga	UTAC Thailand	NSE	THA	Bangkok
Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City												
TI Clark	QAB	PHL	Angeles City, Pampanga												
UTAC Thailand	NSE	THA	Bangkok												
Material Differences:															
		TI Clark	UTAC Thailand												
	Lead finish	NiPdAu	Matte Sn												
	Mount compound	4207123	PZ0138												
	Mold compound	4208625	CZ0351												
Upon expiration of this PCN, TI will combine lead free solutions in a single <u>standard part number</u> , for example; <u>TPS51362RVER</u> – can ship with both Matte Sn and NiPdAu. When available customers may specify NiPdAu finish by ordering the part with the G4 suffix, e.g. <u>TPS51362RVERG4</u> ."															
Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.															
Reason for Change:															
Continuity of Supply															
Anticipated impact on Material Declaration															
<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	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.												
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):															
None															
Changes to product identification resulting from this PCN:															

Assembly Site			
TI Clark Philippines	Assembly Site Origin (22L)	ASO: QAB	ECAT: G4
UTAC Thailand	Assembly Site Origin (22L)	ASO: NSE	ECAT: G3

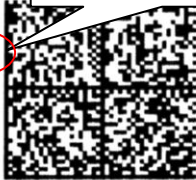
Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
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)T0:1750

(Pb)
G4



ECAT: G4 = NiPdAu
ECAT: G3 = Matte Sn

(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: TI-Clark = I, UTAC Thailand = J

Product Affected:

CSD59924Q4M	DPA02259RVER	TPS51362RVER	TPS53515RVET
CSD59930Q4M	FX021	TPS51362RVET	TPS53913RVER
CSD59935Q4M	FX026	TPS51363RVER	TPS53913RVET
CSD59998Q4M	FX033	TPS51363RVET	TPS53915RVER
CSD95377Q4M	FX033Z	TPS51367RVER	TPS53915RVET
CSD95377Q4MT	HPA02240RVER	TPS51367RVET	TPS548A20RVER
CSD97374Q4M	SN1401043RVER	TPS53513RVER	TPS548A20RVET
CSD97395Q4M	SN1402065RVER	TPS53513RVET	TPS549A20RVER
CSD97395Q4MT	SN1402065RVET	TPS53515ARVER	TPS549A20RVET
CSD97396Q4M	SN1409027RVER	TPS53515ARVET	TPS59367RVER
CSD97396Q4MT	SN1607023RVER	TPS53515RVER	TPS59367RVET

Qualification Plan

Offload of Power Stage Clip QFN Devices from TI Clark to UTL1 (UTAC)

Phase 1

(Qual target date: Oct 30, 2017)

Product Attributes

Attributes	Qual Device: CSD97374Q4M	Qual Device: TPS51362RVER
Assembly Site	UTAC1 THAILAND	UTAC1 THAILAND
Package Family	VSON 3.5 X 4.5 (MM)	QFN 4.5 X 3.5 (MM)
Flammability Rating	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	CFAB, MIHO8	CFAB, MIHO 8
Wafer Fab Process	FET, LBC7	FET, LBC7

- Qual Device CSD97374Q4M is qualified at LEVEL2-260C
- Qual Device TPS51362RVER is qualified at LEVEL2-260CX
- Device CSD97374Q4M contains multiple dies.
- Device TPS51362RVER contains multiple dies.

Qualification Results expected Oct 30, 2017

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

Type	Test Name / Condition	Duration	Qual Device: CSD97374Q4M	Qual Device: TPS51362RVER
AC	Autoclave, 121C	96 Hours	3/231 - TBD	3/231 - TBD
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231 - TBD	3/231 - TBD
BLR	BLR - Temperature Cycle, -40C / +125C	1000 Cycles	3/96 - TBD	-
ED	Electrical Characterization	Per datasheet parameters	TBD	TBD
CDM	ESD CDM	+/- 500V	3/9 - TBD	3/9 - TBD
HBM	ESD HBM	+/- 2000V	3/9 - TBD	3/9 - TBD
IOL	Intermittent Operating Life	2500, 5000, 10,000 Cycles	3/231 - TBD	-
HTSL	High Temperature Storage Bake, 170C	420 Hours	3/231 - TBD	3/231 - TBD
MSL	Thermal Integrity Sequence (Cu Wire)	Level 2 at 260C	3/36 - TBD	-
MSL	Thermal Integrity Sequence	Level 2 at 260C	-	3/36 - TBD
MQ	Manufacturability (Assembly)	Per Mfg. Site specification	TBD	TBD
PD	Physical Dimensions	Per mechanical drawing	3/15 - TBD	3/15 - TBD
SD	Solderability	Steam age, 8 hours; Pb-Free	3/66 - TBD	3/66 - TBD
SD	Solderability	Steam age, 8 hours; Pb	3/66 - TBD	3/66 - TBD
TC	Temperature Cycle, -55C/125C	700 Cycles	3/231 - TBD	3/231 - TBD

- Preconditioning 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/1000 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/1000 Hours, and 170C/420 Hours.

- The following are equivalent Temperature 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