PCN Number:				20170804000A				PCN Date: Aug 10, 2017					
Title: Qualification of UTAC Thailand as additional Assembly and Test Site for Se					Select Dev	vices							
Customer Contact:				PCN Manager				Dept: Quality Services					
									ated Sample Date Provided at			l at	
Proposed 1 st Ship Date: Nov 09, 2017 Estimated Sample Date Provided at Availability: Sample request							est						
Change Type:													
\square	Assembly S					Design	Design			Wafer Bump Site			
	Assembly Process						Data Sheet			Wafer Bump Materia			
	Assembly Materials					Part number change				Wafer Bump Process			
Mechanical Specific					Test Site			Wafer Fab Site					
Packing/Shipping/L			g/Labe	ling		Test Process				Wafer Fab Materials			
PCN Details							5						
Dec	cription of	Chan	001		r	CN Dela	115						
	ision A is to				alue fro	m G4/G3 tr	F4/F	3 for the	af	fected	l devi	ces Me	
	logize for an									ICCLCU			
apor		ymee					•						
Texa	as Instrumei	nts is	please	d to an	nounce t	the qualific	ation o	f UTAC T	hai	land a	as add	litional	
	embly and Te												
asse	embly sites a	and M	aterial	differer	nces are	as follows.							
-								_	-				
_	Assembly S		Assen		e Origin	Assembly		ry Code				Site City	
_	TI Clark			QAB			PHL			Angele		, Pampang	Ja
	UTAC Thail	and		NSE			THA				Bang	jkok	
mat	erial Differ	епсе	5:		<u>г</u> .	TI Clark			Th	ailan	a		
			I. C::							Thailand			
	Mou		<u>d finish</u>		NiPdAu 4207123			Mat					
			Int compound			4208625			20138 220351				
		MOIC		ounu		4200025		C2	_05	51			
Upo	n expiration	of thi	s PCN.	TI will	combine	e lead free	solutio	ns in a si	inal	e sta	ndaro	d part	
	nber, for ex												
	ilable custom												
"TP:	<mark>S51362RVE</mark>	ER E4.	//										
Test coverage, insertions, conditions will remain consistent with current testing and verified with													
		nserti	ons, co	ondition	is will re	main consi	stent w	with curre	ent	testin	g and	verified v	with
	MQ.												
Reason for Change:													
Con	tinuity of Su	pply											
Anticipated impact on Material Declaration													
	No Impact					Declaration							
Material Declaratio		tion	on production data a			nd will be available following the production							
			release. Upon production release the revised reports can be										
				obtained from the <u>TI Eco-Info website</u> . There is no impact to the									
					material meeting current regulator			ry compliance requirements					
	with this PCN change.												
Anticipated impact on Form Fit. Function, Quality or Daliability (negitive (negative))													
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):													
None													
Cha	Changes to product identification resulting from this PCN:												

Assembly Site									
TI Clark Philippines	Assembly Site Or	rigin (22L) ASO: Q	AB ECAT: <mark>E4</mark>						
UTAC Thailand	Assembly Site Or	rigin (22L) ASO: N	SE ECAT: <mark>E3</mark>						
Sample product shipp	ing label (not actual	product label)							
	ECAT: E4 = ECAT: E3 =								
TEXAS INSTRUMENTS	E3	(1P) SN74LS07NSR							
MADE IN: Malaysia 2DC: 2Q:		(Q) 2000 (D) ()336						
MSL 2 /260C/1 YEAR SEA MSL 1 /235C/UNLIM 03/		(31T)LOT: 3959047 (4W) TKY(1T) 7523	MLA 483512						
OPT:		(P)							
	750	ITEM: 39 (2P) REV: (V) 0033317 IDI: FA /I\TO:1750 (20L) CSO: SHE (21L) CCO:USA							
LBL: 5A (L)T0:1750									
LDL: DA (L)IUII	150	(22L) ASO: MLA (23L) A	CO:MYS						
		(22L) ASO: MLA (23L) A	CO:MYS						
ASSEMBLY SITE CODE	S: TI-Clark = I, UTAC	(22L) ASO: MLA (23L) A	CO: MYS						
		(22L) ASO: MLA (23L) A	CO: MYS						
ASSEMBLY SITE CODE		(22L) ASO: MLA (23L) A	CO: MYS TPS53515RVET						
ASSEMBLY SITE CODE Product Affected:	S: TI-Clark = I, UTAC	(22L) ASO: MLA (23L) A							
ASSEMBLY SITE CODE Product Affected: CSD59924Q4M	S: TI-Clark = I, UTAC	(22L) ASO: MLA (23L) A C Thailand = J TPS51362RVER	TPS53515RVET						
ASSEMBLY SITE CODE Product Affected: CSD59924Q4M CSD59930Q4M	S: TI-Clark = I, UTAC DPA02259RVER FX021	(22L) ASO: MLA (23L) A C Thailand = J TPS51362RVER TPS51362RVET	TPS53515RVET TPS53913RVER						
ASSEMBLY SITE CODE Product Affected: CSD59924Q4M CSD59930Q4M CSD59935Q4M	S: TI-Clark = I, UTAC DPA02259RVER FX021 FX026	(22L) AS0: MLA (23L) A C Thailand = J TPS51362RVER TPS51362RVET TPS51363RVER	TPS53515RVET TPS53913RVER TPS53913RVET						
ASSEMBLY SITE CODE Product Affected: CSD59924Q4M CSD59930Q4M CSD59935Q4M CSD59998Q4M	S: TI-Clark = I, UTAC DPA02259RVER FX021 FX026 FX033	(22L) AS0: MLA (23L) A C Thailand = J TPS51362RVER TPS51362RVET TPS51363RVER TPS51363RVET	TPS53515RVET TPS53913RVER TPS53913RVET TPS53915RVER						
ASSEMBLY SITE CODE Product Affected: CSD59924Q4M CSD59930Q4M CSD59935Q4M CSD59998Q4M CSD59998Q4M	S: TI-Clark = I, UTAC DPA02259RVER FX021 FX026 FX033 FX033Z	(22L) AS0: MLA (23L) A C Thailand = J TPS51362RVER TPS51362RVET TPS51363RVER TPS51363RVET TPS51367RVER	TPS53515RVET TPS53913RVER TPS53913RVET TPS53915RVER TPS53915RVET						
ASSEMBLY SITE CODE Product Affected: CSD59924Q4M CSD59930Q4M CSD59935Q4M CSD59998Q4M CSD59998Q4M CSD95377Q4M CSD95377Q4MT CSD97374Q4M	S: TI-Clark = I, UTAC DPA02259RVER FX021 FX026 FX033 FX033Z HPA02240RVER	(22L) AS0: MLA (23L) A C Thailand = J TPS51362RVER TPS51362RVET TPS51363RVER TPS51363RVET TPS51367RVER TPS51367RVET	TPS53515RVET TPS53913RVER TPS53913RVET TPS53915RVET TPS53915RVER TPS53915RVET TPS548A20RVER						
ASSEMBLY SITE CODE Product Affected: CSD59924Q4M CSD59930Q4M CSD59935Q4M CSD59998Q4M CSD95377Q4M CSD95377Q4MT	S: TI-Clark = I, UTAC DPA02259RVER FX021 FX026 FX033 FX033Z HPA02240RVER SN1401043RVER	(22L) AS0: MLA (23L) A C Thailand = J TPS51362RVER TPS51362RVET TPS51363RVER TPS51363RVET TPS51367RVER TPS51367RVET TPS51367RVET TPS53513RVER	TPS53515RVET TPS53913RVER TPS53913RVET TPS53915RVER TPS53915RVER TPS53915RVET TPS548A20RVER TPS548A20RVET						
ASSEMBLY SITE CODE Product Affected: CSD59924Q4M CSD59930Q4M CSD59935Q4M CSD59998Q4M CSD95377Q4M CSD95377Q4MT CSD95377Q4MT CSD97374Q4M CSD97395Q4M	S: TI-Clark = I, UTAC DPA02259RVER FX021 FX026 FX033 FX033Z HPA02240RVER SN1401043RVER SN1402065RVER	(22L) ASO: MLA (23L) A C Thailand = J TPS51362RVER TPS51362RVET TPS51363RVET TPS51363RVET TPS51367RVER TPS51367RVER TPS51367RVET TPS53513RVER TPS53513RVET	TPS53515RVET TPS53913RVER TPS53913RVET TPS53915RVER TPS53915RVER TPS53915RVET TPS548A20RVER TPS548A20RVER TPS548A20RVER TPS548A20RVER						

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

Qual Device: CSD97374Q4M	Qual Device: TPS51362RVER				
UTAC1 THAILAND	UTAC1 THAILAND				
VSON 3.5 X 4.5 (MM)	QFN 4.5 X 3.5 (MM)				
UL 94 V-0	UL 94 V-0				
CFAB, MIHO8	CFAB, MIHO 8				
FET, LBC7	FET, LBC7				
	CSD97374Q4M UTAC1 THAILAND VSON 3.5 X 4.5 (MM) UL 94 V-0 CFAB, MIHO8				

- 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

Туре	Test Name / Condition	Duration	Qual Device: CSD97374Q4M	Qual Device: TPS51362RVER	
AC	Autoclave, 121C	121C 96 Hours		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	

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

- 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