

PCN Number:	20170424002A	PCN Date:	May 5, 2017
Title:	Qualification of additional Fab site (RFAB) and Assembly site (ASEN) option for select devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	July 26, 2017	Estimated Sample Availability:	Date provided at sample request.
Change Type:			
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Assembly Process
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Electrical Specification
<input checked="" type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling
<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Packing/Shipping/Labeling
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>	Wafer Bump Process	<input type="checkbox"/>	Wafer Bump Material
<input checked="" type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials
<input type="checkbox"/>	Wafer Fab Process	<input type="checkbox"/>	Wafer Fab Materials
<input type="checkbox"/>	Part number change		

PCN Details

Description of Change:

Revision A is to update the Assembly Material Difference table below. Updates are in yellow highlight below.

Texas Instruments is pleased to announce the qualification of an additional fab (RFAB) and assembly (ASEN) site for the selected devices listed in "Product Affected" section.

Current Fab Site			Additional Fab Site		
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter
DP1DM5	LBC7	200 mm	RFAB	LBC7	300 mm

Assembly Material Differences:

	UTAC	ASEN
Mold compound	SID#CZ0140	SID#1800026141
Leadframe Base	Standard	Pre-molded leadframe

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

<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 website .
--------------------------	---------------------------------------	-------------------------------------	--

Changes to product identification resulting from this PCN:

Fab Site Information:

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
DP1DM5	DM5	USA	Dallas
RFAB	RFB	USA	Richardson

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (21L)	Assembly City
UTAC	NSE	THA	Bangkok
ASEN	ASN	CHN	Suzhou

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
 MADE IN: Malaysia
 2DC: 20:
 MSL 2 /260C/1 YEAR SEAL DT
 MSL 1 /235C/UNLIM 03/29/04
 OPT: 39
 ITEM:
LBL: 5A (L)T0:1750

(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

Topside Device marking (if included):

Assembly site code for NSE= P

Assembly site code for ASN = W

Product Affected:**Group 1 device list – Qualify both RFAB and ASEN**

TS3USB3000MRSER	TS3USB3000RSER
-----------------	----------------

Group 2 device list – Qualify only RFAB (ASEN already qualified)

TS3USB3000AMRSER

Qualification Report

TS3USB3000R SER, TS3USB3000MR SE and TS3USB3000AMR SE
 Approve Date 13-Apr-2017

Product Attributes

Attributes	Qual Device: TS3USB3000R SER	QBS Product Reference: TP S51225C	QBS Product Reference: TS3USB3000R SER	QBS Product Reference: TS3USB3000R SER	QBS Process Reference: ALM2402QDRRRQ1
Wafer Fab Supplier	RFAB	RFAB	MIHO8	DP1-DM5	RFAB
Wafer Process	LBC7	LBC7	LBC7	LBC7	LBC7
Assembly Site	ASEN	CLARK	NSE (UTAC)	ASEN	CLARK
Package Family	QFN	QFN	QFN	QFN	SON

- QBS: Qual By Similarity
 - Qual Device TS3USB3000R SER is qualified at LEVEL1-260C

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TS3USB3000R SER	QBS Product Reference: TP S51225C	QBS Product Reference: TS3USB3000R SER	QBS Product Reference: TS3USB3000R SER	QBS Process Reference: ALM2402QDRRRQ1
AC	Autoclave 121C	96 Hours	-	3/231/0	-	3/231/0	3/231/0
ED	Electrical Distributions	Cpk>1.67 Room, hot, and cold test	-	-	-	-	3/90/0
ED	Electrical Characterization	Per Datasheet Parameters	-	Pass	Pass	Pass	-
ELFR	Early Life Failure Rate, 150C	24 Hours	-	-	-	-	1/800/0
HAST	Biased HAST, 130C/85%RH	96 Hours	2/154/0	3/231/0	-	3/231/0	3/231/0
HBM	ESD - HBM	6000 V	1/3/0	-	-	1/3/0	-
CDM	ESD - CDM	1500 V	1/3/0	2/6/0	1/3/0	-	1/3/0
HTOL	Life Test, 125C	1000 Hours	-	3/231/0	-	-	1/77/0
HTOL	Life Test, 150C	300 Hours	-	-	-	1/77/0	2/154/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	-	3/231/0	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	3/231/0	-	-	1/45/0
LU	Latch-up	(per JESD78)	1/6/0	2/12/0	1/6/0	2/12/0	1/6/0
PD	Physical Dimensions	--	-	-	-	3/30/0	3/30/0
SD	Surface Mount Solderability	Pb-Free	-	-	-	3/69/0	3/45/0
SD	Surface Mount Solderability	Pb	-	-	-	-	3/45/0
TC	Temperature Cycle -65C/150C	500 Cycles	1/77/0	3/231/0	-	3/231/0	3/231/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	-	-	-	-
WBP	Bond Pull	Wires	-	-	-	3/90/0	3/228/0
WBS	Ball Bond Shear	Wires	-	-	-	3/15/0	3/90/0
MSL	Moisture Sensitivity	Level 1, 260C	1/12/0	-	-	-	-

- 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

TS3USB3000RSER and SAP spins TS3USB3000MRSE and TS3USB3000AMRSE Second Source Offload in ASEN Approve Date 17-Feb-2017

Product Attributes

Die Attributes	Qual Device: TS3USB3000RSER	QBS Process Reference: TPS22932YFP	QBS Process Reference: TPX3110D2PWP
Wafer Fab Supplier	DP1-DM5	DMOS5	MIHO8
Wafer Process	LBC7	3370LBC7	LBC7
Assembly Site	ASEN	SCS	TAI
Package Family	QFN; 2 x1.5MM	WLBGA	TSSOP

- QBS: Qual By Similarity

- Qual Device TS3USB3000RSER is qualified at LEVEL1-260C

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TS3USB3000RSER	QBS Process Reference: TPS22932YFP	QBS Process Reference: TPX3110D2PWP
AC	Autoclave 121C	96 Hours	3/231/0	-	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	Pass
ELFR	Early Life Failure Rate, 150C	24 Hours	-	-	3/2400/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-	3/231/0
HBM	ESD - HBM	6000 V	1/3/0	-	-
CDM	ESD - CDM	1000 V	1/3/0	-	2/6/0
HTOL	Life Test, 150C	300 Hours	1/77/0	1/77/0	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	-	3/231/0
LU	Latch-up	(per JESD78)	2/12/0	1/6/0	-
PD	Physical Dimensions	(per mechanical drawing)	3/30/0	-	-
SD	Surface Mount Solderability	Pb Free	3/69/0	-	-
TC	Temperature Cycle, -55/125C	1000 Cycles	-	1/77/0	3/231/0
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	3/90/0	-	-
WBS	Ball Bond Shear	Wires	3/15/0	-	-

- 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 you can contact 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