

<b>PCN Number:</b>	20170424002		<b>PCN Date:</b>	April 25, 2017	
<b>Title:</b>	Qualification of additional Fab site (RFAB) and Assembly site (ASEN) option for select devices				
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>		<b>Dept:</b>	Quality Services	
<b>Proposed 1<sup>st</sup> Ship Date:</b>	July 25, 2017		<b>Estimated Sample Availability:</b>	Date provided at sample request.	
<b>Change Type:</b>					
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Assembly Materials
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<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 checked="" type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials	<input type="checkbox"/>	Wafer Fab Process
		<input type="checkbox"/>	Part number change		
<b>PCN Details</b>					
<b>Description of Change:</b>					
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.					
<b>Current Fab Site</b>			<b>Additional Fab Site</b>		
<b>Current Fab Site</b>	<b>Process</b>	<b>Wafer Diameter</b>	<b>Additional Fab Site</b>	<b>Process</b>	<b>Wafer Diameter</b>
DP1DM5	LBC7	200 mm	RFAB	LBC7	300 mm
<b>Assembly Material Differences:</b>					
		<b>UTAC</b>		<b>ASEN</b>	
	Mold compound	SID#CZ0140		<b>SID#1800026141</b>	
Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.					
<b>Reason for Change:</b>					
Continuity of Supply					
<b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>					
None					
<b>Anticipated impact on Material Declaration</b>					
<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 <a href="#">TI ECO website</a> .		
<b>Changes to product identification resulting from this PCN:</b>					
<b>Fab Site Information:</b>					
Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City		
DP1DM5	DM5	USA	Dallas		
<b>RFAB</b>	<b>RFB</b>	<b>USA</b>	<b>Richardson</b>		

### Assembly Site Information:

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

Sample product shipping label (not actual product label)



MADE IN: Malaysia  
2DC: 20:

MSL 2 / 260C / 1 YEAR	SEAL DT
MSL 1 / 235C / UNLIM	03/29/04

OPT:  
ITEM: 39  
**LBL: 5A (L)T0:1750**



G4



(1P) SN74LS07NSR  
(Q) 2000 (D) 0336  
(31T) LOT: 3959047MLA  
(4W) TKY (1T) 7523483SI2  
(P)  
(2P) REV: (V) 0033317  
(20L) CS0: SHE (21L) CCO: USA  
(22L) AS0: 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

TS3USB3000RSER, TS3USB3000MRSE and TS3USB3000AMRSE

Approve Date 13-Apr-2017

#### Product Attributes

Attributes	Qual Device: TS3USB3000RSER	QBS Product Reference: TPS51225C	QBS Product Reference: TS3USB3000RSER	QBS Product Reference: TS3USB3000RSER	QBS Process Reference: ALM2402QDRRRQ1
Wafer Fab Supplier	RFAB	RFAB	MIH08	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 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 Product Reference: TPS51225C	QBS Product Reference: TS3USB3000RSER	QBS Product Reference: TS3USB3000RSER	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	-	-	-	3/65/0	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	<a href="mailto:PCNAmericasContact@list.ti.com">PCNAmericasContact@list.ti.com</a>
Europe	<a href="mailto:PCNEuropeContact@list.ti.com">PCNEuropeContact@list.ti.com</a>
Asia Pacific	<a href="mailto:PCNAsiaContact@list.ti.com">PCNAsiaContact@list.ti.com</a>
Japan	<a href="mailto:PCNJapanContact@list.ti.com">PCNJapanContact@list.ti.com</a>