PCN Number:	20150115000	PCN Date:	01/19/2015
Title:	Qualification of Additional Fab/Assembly/Test Location for Select Devices in the QFN Package		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	04/19/2015	Estimated Sample Availability:	Date provided upon request

Change Type:

☒	Assembly Site	☐	Assembly Process	☒	Assembly Materials
☐	Design	☐	Electrical Specification	☐	Mechanical Specification
☒	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☒	Wafer Fab Site	☐	Wafer Fab Materials	☐	Wafer Fab Process
		☐	Part number change		

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of Carsem Suzhou as an alternate Assembly and test site and Miho as an additional fab site for the devices listed below. Device construction and fabrication differences are noted below:

	TI Clark	Carsem
Mount Compound	4207768	SID#435143

Current Site/Process/Wafer Diameter	Additional Site/Process/Wafer Diameter
RFAB/LBC7X/300MM	MIHO/LBC7X/200MM

Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.

Reason for Change:

Continuity of Supply

Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):

None

Changes to product identification resulting from this PCN:

Assembly Site		
TI Clark	Assembly Site Origin (22L)	ASO: QAB
CARZ	**Assembly Site Origin (22L)**	**ASO: CSZ**

Fab Site		
RFAB	Assembly Site Origin (22L)	ASO: RFB
MIHO	**Assembly Site Origin (22L)**	**ASO: MH8**

Sample product shipping label (not actual product label)

Topside Device marking:
Assembly site code for QAB=I
Assembly site code for CSZ=F

Product Affected

FX018	TPS51622ARSMT	TPS51622RSMT	TPS51631RSMT
TPS51622ARSMR	TPS51622RSMR	TPS51631RSMR	

Qualification Report

TPS51622 Qual for offload to CARZ
Approved 12/23/2014

Product Attributes

Attributes	Qual Device: TPS51622RSM RFAB	Qual Device: TPS51622RSM MIHO	QBS Process: TPS62110RSA	QBS Package: TPS53211RGTR	QBS Package: TPS51217DSCR	QBS Package: TPS51220RHBR
Assembly Site	CARZ	CARZ	CAR	CARZ	CARZ	CARZ
Package Family	QFN	QFN	QFN	QFN	SON	QFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Site	RFAB	MIHO8	MIHO8	MIHO8	RFAB	RFAB
Wafer Fab Process	LBC7	LBC7	LBC7	LBC7	LBC7	LBC7

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL2-260C: TPS51622RSM RFAB, TPS51622RSM MIHO

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

Type	Test Name / Condition	Duration	Qual Device: TPS51622RSM RFAB	Qual Device: TPS51622RSM MIHO	QBS Process: TPS62110RSA	QBS Package: TPS53211RGTR	QBS Package: TPS51217DSCR	QBS Package: TPS51220RHBR
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	3/230/0	-	1/79/0
AC	Autoclave 121C	96 Hours	-	1/77/0	3/231/0	3/231/0	3/231/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	1/77/0	3/231/0	3/231/0	3/231/0	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	3/231/0	3/231/0	3/231/0	-
TS	Thermal Shock, -65/150C	500 Cycles	-	-	3/231/0	-	-	-
HTOL	Life Test 125C	1000 Hours	-	-	-	-	-	-
HTOL	Life Test, 135C	635 Hours	-	-	-	-	-	-
HTOL	Life Test, 140C	480 Hours	-	-	3/390/0	-	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-	-	3/231/0	-
ELFR	Early Life Failure Rate, 140C	48 Hours	-	-	3/1881/0	-	-	-
WBS	Ball Bond Shear	Wires	1/76/0	1/76/0	-	-	-	-
WBP	Bond Pull	Wires	1/76/0	1/76/0	-	-	-	-
HBM	ESD - HBM	2500 V	-	1/3/0	-	-	-	-
CDM	ESD - CDM	1500 V	-	1/3/0	-	-	-	-
LU	Latch-up	(per JESD78)	-	1/6/0	3/15/0	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	-	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

Qualification Report

TPS51631RSM Qual for offload to CARZ
Approved 12/23/2014

Product Attributes

Attributes	Qual Device: TPS51631RSM (1)	QBS Product: TPS51622RSM	QBS Package: TPS53211RGTR	QBS Package: TPS51217DSCR	QBS Package: TPS51220RHBR
Assembly Site	CARZ	CARZ	CARZ	CARZ	CARZ
Package Family	QFN	QFN	QFN	SON	QFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Site	RFAB	MIHO8	MIHO8	RFAB	RFAB
Wafer Fab Process	LBC7	LBC7	LBC7	LBC7	LBC7

- QBS: Qual By Similarity
- Qual Device TPS51631RSM 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: TPS51631RSM (1)	QBS Product: TPS51622RSM	QBS Package: TPS53211RGTR	QBS Package: TPS51217DSCR	QBS Package: TPS51220RHBR
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/230/0	-	1/77/0
AC	Autoclave 121C	96 Hours	-	1/77/0	3/231/0	3/231/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	1/77/0	3/231/0	3/231/0	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	3/231/0	3/231/0	-
HTOL	Life Test 125C	1000 Hours	-	-	-	-	-
HTOL	Life Test, 135C	635 Hours	-	-	-	-	-
HTOL	Life Test, 150C	168 Hours	-	-	-	3/231/0	-
HTOL	Life Test, 150C	300 Hours	-	-	-	3/231/0	-
WBS	Ball Bond Shear	Wires	1/76/0	1/76/0	-	-	-
WBP	Bond Pull	Wires	1/76/0	1/76/0	-	-	-
HBM	ESD - HBM	2500 V	-	1/3/0	-	-	-
CDM	ESD - CDM	1500 V	-	1/3/0	-	-	-
LU	Latch-up	(per JESD78)	-	1/6/0	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	-	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 Website: http://www.ti.com/

Green/Pb-free Status:
Qualified Pb-Free(SMT) and Green
Notes: TPS51631RSM uses the same silicon and package as TPS51622RSM. The only difference is test program.

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