

<b>PCN Number:</b>	20180523002.1		<b>PCN Date:</b>	May 24, 2018	
<b>Title:</b>	Qualification of MIHO8 and UTAC as an additional Fab site and Assembly/Test site options 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>	Aug 24, 2018	<b>Estimated Sample Availability:</b>	Date Provided at Sample request		
<b>Change Type:</b>					
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site	<input checked="" type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input checked="" type="checkbox"/>	Wafer Fab Materials
		<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process
<b>PCN Details</b>					
<b>Description of Change:</b>					
This change notification is to announce the addition of MIHO8 and UTAC as additional Fab site and Assembly/Test site options for select devices. Material differences as follows.					
<b>Fab Site:</b>					
<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>
RFAB	LBC7	300 mm	MIHO8	LBC7	200 mm
<b>Assembly Site:</b>					
<b>Assembly Site</b>	<b>Assembly Site Origin</b>	<b>Assembly Country Code</b>	<b>Assembly Site City</b>		
TI Clark	QAB	PHL	Angeles City, Pampanga		
<b>UTAC</b>	<b>NSE</b>	<b>THA</b>	<b>Bangkok</b>		
<b>Material Differences:</b>					
Material	TI Clark	<b>UTAC</b>			
Mount Compound	4207123	<b>CZ00035</b>			
Mold compound	4208625	<b>CZ0289</b>			
Lead finish	NiPdAu	<b>NiPdAuAg</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-Info website</a> . There is no impact to the material meeting current regulatory compliance requirements with this PCN change.		
<b>Changes to product identification resulting from this PCN:</b>					

**Fab Site**

Current Chip Site	Chip Site Code (20L)	Chip Country Code (21L)	Chip Site City
RFAB	CSO: RFB	USA	Richardson
MIHO	CSO: MH8	JPN	Ibaraki

**Assembly Site**

Current Assembly Site		
TI Clark	Assembly Site Origin (22L)	ASO: QAB
UTAC	Assembly Site Origin (22L)	ASO: NSE

**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

G4

(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

**Product Affected Devices**

SN1507044RVCR	TPS25810RVCR	TPS25810RVCT
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**Qualification Report**  
**TPS25810RVC RFAB UTAC**  
Approve Date 16-May-2018

**Product Attributes**

Attributes	Qual Device: TPS25810RVCR-UTAC	QBS Product Reference: TPS25810TWRVCRQ1	QBS Process Reference: TPS2543QRTE
Assembly Site	UTAC	UTAC	CLARK
Package Family	QFN	QFN	QFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	RFAB	RFAB	RFAB
Wafer Process	LBC7	LBC7	LBC7

- QBS: Qual By Similarity
- Qual Device TPS25810RVCR-UTAC 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: TPS25810RVCR- UTAC	QBS Product Reference: TPS25810TWRVCRQ1	QBS Process Reference: TPS2543QRTE
AC	Autoclave 121C	96 Hours	-	3/231/0	3/231/0
ED	Auto Electrical Distributions	Cpk>1.67 Room, Hot, & Cold	-	3/90/0	3/90/0
ED	Electrical Characterization	Per Datasheet Parameters	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	3000 V	-	1/3/0	1/3/0
CDM	ESD - CDM	1500 V	-	1/3/0	1/3/0
HTOL	Life Test, 105C	1000 Hours	-	1/77/0	-

HTOL	Life Test, 150C	408 Hours	-	-	3/231/0
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	3/142/0	-
HTSL	High Temp. Storage Bake, 175C	500 Hours	-	-	3/149/0
LU	Latch-up	(per JESD78)	-	1/6/0	1/6/0
PD	Physical Dimensions	--	-	3/30/0	3/90/0
SD	Solderability	Pb & Pb-Free; 8 Hours Steam Age	-	3/90/0	-
SD	Surface Mount Solderability	Pb Free	-	-	2/30/0
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0	3/231/0
WBP	Bond Pull	Wires	-	3/90/0	-
WBP	Bond Strength	Wires	-	-	-
WBS	Bond Shear	Wires	-	3/90/0	-

- 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

### TPS25810RVC MIHO UTAC

Approve Date 16-May-2018

### Product Attributes

Attributes	Qual Device: <u>TPS25810RVC</u>	QBS Product Reference: <u>TPS25810RVCR-TI CLARK</u>	QBS Process Reference: <u>TPS62110RSA</u>	QBS Package Reference: <u>T5A33403ARVCR</u>	QBS Package Reference: <u>TLV320AIC3253I RGER</u>	QBS Package Reference: <u>TLV320DAC3203I RGE</u>
Assembly Site	UTAC	CLARK	CARZ	UTAC	UTAC	UTAC
Package Family	TPS25800	TPS25800	QFN	QFN	QFN	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 Supplier	MIHO	RFAB	MIHO8	FFAB	RFAB	RFAB
Wafer Process	LBC7	LBC7	LBC7	LBC7	1833C05X4	1833C05X4

- QBS: Qual By Similarity

- Qual Device TPS25810RVC 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: <u>TPS25810RVC</u>	QBS Product Reference: <u>TPS25810RVCR-TI CLARK</u>	QBS Process Reference: <u>TPS62110RSA</u>
AC	Autoclave 121C	96 Hours	-	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-

ELFR	Early Life Failure Rate, 140C	48 Hours	-	-	3/1800/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0
HBM	ESD - HBM	2500 V	1/3/0	1/3/0	-
CDM	ESD - CDM	1000 V	1/3/0	1/3/0	-
HTOL	Life Test, 125C	1000 Hours	-	1/77/0	-
HTOL	Life Test, 140C	480 Hours	-	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	3/231/0
LU	Latch-up	(per JESD78)	1/6/0	1/6/0	3/15/0
PD	Physical Dimensions	--	-	-	-
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	-	-	-
WBP	Bond Strength	Wires	-	-	-
WBS	Ball Bond Shear	Wires	-	-	-

Type	Test Name / Condition	Duration	QBS Package Reference: <u>T5A33403ARVCR</u>	QBS Package Reference: <u>TLV320AIC3253IRGER</u>	QBS Package Reference: <u>TLV320DAC3203IRGE</u>
AC	Autoclave 121C	96 Hours	3/231/0	2/154/0	1/77/0
ED	Electrical Characterization	Per Datasheet Parameters	-	Pass	-
ELFR	Early Life Failure Rate, 140C	48 Hours	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-
HBM	ESD - HBM	2500 V	-	-	-
CDM	ESD - CDM	1000 V	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-
HTOL	Life Test, 140C	480 Hours	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	2/154/0	1/71/0
LU	Latch-up	(per JESD78)	-	-	-
PD	Physical Dimensions	--	3/15/0	2/10/0	1/5/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	2/154/0	1/77/0
TS	Thermal Shock, -65/150C	500 Cycles	-	-	-
WBP	Bond Pull	Wires	-	2/152/0	-
WBP	Bond Strength	Wires	3/228/0	-	-
WBS	Ball Bond Shear	Wires	-	2/152/0	-

- 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

THIS INFORMATION RELATING TO QUALITY AND RELIABILITY IS PROVIDED "AS IS." Product information detailed in this report may not accurately reflect TI's current product materials, processes and testing used in the construction of the TI products. Customers are solely responsible to conduct sufficient engineering and additional qualification testing to determine whether a device is suitable

for use in their applications. Using TI products outside limits stated in TI's datasheet may void TI's warranty. See TI's Terms of Sale at "http://www.ti.com/lscds/ti/legal/termsofsale.page"

**Qualification Report**  
**TPS25810RVC Miho die at Clark**  
**Approve Date 12-Apr-2018**

**Product Attributes**

Attributes	Qual Device: TPS25810	QBS Product Reference: TPS25810RVCR-TI CLARK	QBS Process Reference: TP562110R SA	QBS Package Reference: TPS2543QRTE
Assembly Site	CLARK	CLARK	CARZ	CLARK
Package Family	QFN	QFN	QFN	TQFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	MH8	RFAB	MH8	RFAB
Wafer Process	LBC7	LBC7	LBC7	LBC7

- QBS: Qual By Similarity
- Qual Device TPS25810 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: TPS25810	QBS Product Reference: TPS25810RVCR-TI CLARK	QBS Process Reference: TP562110R SA	QBS Package Reference: TPS2543QRTE
AC	Autoclave 121C	96 Hours	-	3/231/0	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0	1/30/0	-	3/90/0
ELFR	Early Life Failure Rate, 140C	48 Hours	-	-	3/1800/0	-
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	2500 V	1/3/0	1/3/0	-	1/3/0
CDM	ESD - CDM	1000 V	1/3/0	1/3/0	-	1/3/0
HTOL	Life Test, 125C	1000	-	1/77/0	-	-
HTOL	Life Test, 140C	480 Hours	-	-	3/231/0	-
HTOL	Life Test, 150C	408 Hours	-	-	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	3/231/0	-
HTSL	High Temp. Storage Bake, 175C	500 Hours	-	-	-	3/149/0
LU	Latch-up	(per JESD78)	1/6/0	1/6/0	3/15/0	1/6/0
PD	Physical Dimensions	--	-	-	-	3/90/0
SD	Surface Mount Solderability	Pb Free	-	-	-	2/30/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	3/231/0	3/231/0
TS	Thermal Shock, -65/150C	500 Cycles	-	-	3/231/0	-

- 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

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**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	<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>