

<b>PCN Number:</b>	20140714001	<b>PCN Date:</b>	07/16/2014																														
<b>Title:</b>	Qualification of FFAB/MIHO/RFAB as additional Fab site options for select devices																																
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Phone:</b>	+1(214)480-6037																														
<b>Dept:</b>	Quality Services																																
<b>*Proposed 1<sup>st</sup> Ship Date:</b>	10/16/2014	<b>Estimated Sample Availability:</b>	Date provided at sample request.																														
<b>Change Type:</b>																																	
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process																														
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification																														
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling																														
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material																														
<input checked="" type="checkbox"/>	Wafer Fab Site	<input checked="" type="checkbox"/>	Wafer Fab Materials																														
<input type="checkbox"/>		<input type="checkbox"/>	Part number change																														
<b>PCN Details</b>																																	
<b>Description of Change:</b>																																	
<p>This change notification is to announce the addition of FFAB, MIHO8, and RFAB as additional Fab site options for select devices as shown below:</p> <p><b>Device Groups: (Affected devices in Product Affected Section)</b></p> <table border="1"> <tr> <td colspan="2"><b>Group 1 MIHO8: Adding FFAB</b></td> </tr> <tr> <td>Site, Process, Wafer diameter</td> <td><b>Additional Site, Process, Wafer Dia.</b></td> </tr> <tr> <td>MIHO8, LBC7, 200mm</td> <td>FFAB, LBC7, 200mm</td> </tr> <tr> <td colspan="2"><b>Group 2 RFAB: Adding FFAB</b></td> </tr> <tr> <td>Site, Process, Wafer diameter</td> <td><b>Additional Site, Process, Wafer Dia.</b></td> </tr> <tr> <td>RFAB, LBC7, 300mm</td> <td>FFAB, LBC7, 200mm</td> </tr> <tr> <td colspan="2"><b>Group 3 RFAB: Adding MIHO8</b></td> </tr> <tr> <td>Site, Process, Wafer diameter</td> <td><b>Additional Site, Process, Wafer Dia.</b></td> </tr> <tr> <td>RFAB, LBC7, 300mm</td> <td>MIHO8, LBC7, 200mm</td> </tr> <tr> <td colspan="2"><b>Group 4 MIHO6: Adding MIHO8</b></td> </tr> <tr> <td>Site, Process, Wafer diameter</td> <td><b>Additional Site, Process, Wafer Dia.</b></td> </tr> <tr> <td>MIH, 50A12, 150mm</td> <td>MIHO8, 50A12, 200mm</td> </tr> <tr> <td colspan="2"><b>Group 5 MIHO8: Adding RFAB</b></td> </tr> <tr> <td>Site, Process, Wafer diameter</td> <td><b>Additional Site, Process, Wafer Dia.</b></td> </tr> <tr> <td>MIHO8, LBC7, 200mm</td> <td>RFAB, LBC7, 300mm</td> </tr> </table> <p>The LBC7 process was previously qualified at FFAB on 10/31/2007 and at MIHO on 1/14/2005. Qualification details are shown in the Qual Data Section of this document.</p>				<b>Group 1 MIHO8: Adding FFAB</b>		Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>	MIHO8, LBC7, 200mm	FFAB, LBC7, 200mm	<b>Group 2 RFAB: Adding FFAB</b>		Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>	RFAB, LBC7, 300mm	FFAB, LBC7, 200mm	<b>Group 3 RFAB: Adding MIHO8</b>		Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>	RFAB, LBC7, 300mm	MIHO8, LBC7, 200mm	<b>Group 4 MIHO6: Adding MIHO8</b>		Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>	MIH, 50A12, 150mm	MIHO8, 50A12, 200mm	<b>Group 5 MIHO8: Adding RFAB</b>		Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>	MIHO8, LBC7, 200mm	RFAB, LBC7, 300mm
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<b>Reason for Change:</b>																																	
Continuity of Supply																																	
<b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>																																	
None																																	

**Changes to product identification resulting from this PCN:**

Chip Site:

**Current**

Chip Site	Chip site code (20L)	Chip country code (21L)
RFAB	RFB	USA
MIHO6	MIH	JPN
MIHO8	MH8	JPN

**New**

Chip Site	Chip site code (20L)	Chip country code (21L)
<b>FR-BIP-1</b>	<b>TID</b>	<b>DEU</b>
<b>MIHO8</b>	<b>MH8</b>	<b>JPN</b>
<b>RFAB</b>	<b>RFB</b>	<b>USA</b>

Sample product shipping label (not actual product label)

**Product Affected:**

<b>Group 1 MIHO8: Adding FFAB (LBC7)</b>			
FX026	HPA02240RVER	TPS51363RVER	TPS51367RVET
FX033	TPS51362RVER	TPS51363RVET	TPS59367RVER
FX033Z	TPS51362RVET	TPS51367RVER	TPS59367RVET
<b>Group 2 RFAB: Adding FFAB (LBC7)</b>			
TPS65132A0YFFR	TPS65132B0YFFR	TPS65132B5YFFR	TPS65132LYFFR
TPS65132AYFFR	TPS65132B2YFFR	TPS65132BYFFR	TPS65132YFFR
<b>Group 3 RFAB: Adding MIHO8 (LBC7)</b>			
BQ24295RGER	SN2807RGER	TPS54427DRCR	TPS54626PWP
BQ24295RGET	SN2807RGET	TPS54427DRCT	TPS54626PWPR
BQ24296RGER	SN2808RGER	TPS54428DDA	TPS54627DDA
BQ24296RGET	SN2808RGET	TPS54428DDAR	TPS54627DDAR
BQ24297RGER	SN2910RGER	TPS54428DRCR	TPS54628DDA
BQ24297RGET	SN2910RGET	TPS54428DRCT	TPS54628DDAR
SN2800RGER	TPS54427DDA	TPS54625PWP	TPS56628DDA
SN2800RGET	TPS54427DDAR	TPS54625PWPR	TPS56628DDAR
<b>Group 4 MIHO6: Adding MIHO8 (50A12)</b>			
TPA6013A4PWP	TPA6013A4PWPR		
<b>Group 5 MIHO8: Adding RFAB (LBC7)</b>			
TPS22993PRLWR	TPS22993PRLWT		

## Reference Qualification Data: LBC7 Process at FFAB

Qualification Data: (Approved: 10/31/2007)					
This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.					
Qualification Device: TCA6416PW					
Wafer Fab Site:	FFAB	Metallization:	TiN/AlCu.5/TiN		
Wafer Fab Process:	LBC7	Wafer diameter:	200mm		
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results					
Reliability Test	Conditions	Sample Size /Fail			
		Lot#1	Lot#2	Lot#3	
** Steady-State Life Test 150C	300 Hrs	116/0	116/0	116/0	
**Biased HAST, 130C/85%RH	96 hours	77/0	77/0	77/0	
**Autoclave 121C	96 Hrs	77/0	77/0	77/0	
**Temp Cycle -65C/+150C	1000 Cycles	77/0	77/0	77/0	
**High Temp. Storage Bake 150C	1000 Hours	77/0	77/0	77/0	
ESD HBM	1000V	3/0	-	-	
ESD CDM	250V	3/0	-	-	
Latch-up	(per JESD78, Class II)	9/0	-	-	
Electrical Char	Per datasheet spec	Pass	Pass	Pass	
Manufacturability	(approved by mfg. site)	Pass	Pass	Pass	
**Preconditioning: MSL 1@260C					

## Reference Qualification Data: LBC7 Process at MIHO8

Qualification Data: (Approved 01/14/2005)					
This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.					
Qual Vehicle: TPS62110RSA					
Wafer Fab Site:	MIHO8	Metallization:	TiN/AlCu.5/TiN		
Wafer Fab Process:	LBC7	Die Protective Coating:	Oxynitride 8000A		
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results					
Reliability Test	Conditions	Sample Size /Fail			
		Lot#1	Lot#2	Lot#3	
**Life Test, 140C	480 Hours	130/0	130/0	130/0	
**HAST 130C/85%RH	96 Hours	77/0	77/0	77/0	
**Autoclave, 121C	240 Hours	77/0	77/0	77/0	
**Thermal Shock, -65/150C	1000 Cycles	77/0	77/0	77/0	
**Temp Cycle, -65/+150C	1000 Cycles	77/0	77/0	77/0	
**High-Temp Storage, 170C	420 hours	77/0	77/0	77/0	
ESD HBM	1000V	3/0	3/0	3/0	
ESD CDM	250V	3/0	3/0	3/0	
Latch-up @ 70C	(per JESD78)	5/0	5/0	5/0	
Electrical Characterization	Per datasheet spec	PASS	PASS	PASS	
Manufacturability	Wafer Fab Approved	PASS	PASS	PASS	
Manufacturability	Assembly Site Approved	PASS	PASS	PASS	
**Preconditioning: MSL 2@260C					

**Reference Qualification Data: 50A12 Process at MIHO8**  
**Qualification Data: (1/08/2010)**

This qualification has been developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.

**Qual Vehicle 1: TLV5630IDW**

Wafer Fab Site:	MIHO 8 (MIHO)	Wafer Size	200 mm		
Wafer Fab Process:	50A12				
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results					
Reliability Test	Conditions	Sample Size (PASS/FAIL)			
		Lot#1	Lot#2	Lot#3	
Life Test	125C, 1000 Hrs	112/0	112/0	112/0	
Biased Temp Humidity	85C/85%RH(500 Hrs)	77/0	77/0	77/0	
Autoclave*	+121C, 240 Hrs.	77/0	77/0	77/0	
Temp Cycle*	-65/+150C, 1000 cycles	77/0	77/0	77/0	
Thermal Shock*	-65/150C, 1000 Cycles	77/0	77/0	77/0	
High Temp Storage Bake	+150C, 1000 Hrs.	77/0	77/0	77/0	
ESD – HBM (3 Units/level)	500V, 1kV, 1.5kV, 2kV	12/0	12/0	12/0	
ESD – CDM (3 Units/level)	500V	3/0	3/0	3/0	

\*Preconditioning: Level 2 @ 260C

**Qual Vehicle 2: TPA6203A1DRB**

Wafer Fab Site:	MIHO 8 (MIHO)	Wafer Size	200 mm		
Wafer Fab Process:	50A12				
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results					
Reliability Test	Conditions	Sample Size (PASS/FAIL)			
		Lot#1	Lot#2	Lot#3	
Manufacturability (Wafer Fab)	Per mfg. site spec	Pass	-	-	
Electrical Characterization	Side by side comparison	30/0	-	-	

**Qual Vehicle 3: TPA6205A1DRB**

Wafer Fab Site:	MIHO 8 (MIHO)	Wafer Size	200 mm		
Wafer Fab Process:	50A12				
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results					
Reliability Test	Conditions	Sample Size (PASS/FAIL)			
		Lot#1	Lot#2	Lot#3	
Manufacturability (Wafer Fab)	Per mfg. site spec	Pass	-	-	
Electrical Characterization	Side by side comparison	30/0	-	-	

**Reference Qualification Data: LBC7 Process at RFAB**  
**Qualification Data – (Approved 06/03/2014)**

Attributes	Qual Device: TPS22993PRLW	QBS Process: TPS54620RGYR	QBS Process: CD3230A0YFF
Wafer Fab Site	RFAB	RFAB	RFAB
Wafer Fab Process	LBC7	LBC7	LBC7
Wafer Diameter	200mm	200mm	200mm

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

Type	Test Name / Condition	Duration	QBS Product: TPS22993PRLW	QBS Process: TPS54620RGYR	QBS Process: CD3230A0YFF
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-	3/250/0
AC	Autoclave 121C	96 Hours	3/267/0	6/230/0	-
UHAST	Unbiased HAST 130C/85%RH	96 Hours	-	-	2/169/0
TC	Temperature Cycle, -55/125C	700 cycles	-	-	2/164/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/269/0	6/231/0	-
HTSL	High Temp Storage Bake 150C	1000 Hours	3/273/0	-	-
HTSL	High Temp Storage Bake 170C	420 Hours	-	6/231/0	3/239/0
HTOL	Life Test, 125C	1000 Hours	-	-	3/240/0
HTOL	Life Test, 150C	300 Hours	1/79/0	-	-
HTOL	Life Test, 155C	240 Hours	-	6/228/0	-
HBM	ESD - HBM	1000 V	1/3/2000	3/9/2000	3/9/2000
CDM	ESD - CDM	250 V	1/3/2000	3/9/2000	3/9/2000
LU	Latch-up	(per JESD78)	1/6/2000	6/18/2000	3/36/0
ED	Electrical Characterization.	Per Datasheet Parameters	1/Pass	-	3/Pass

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>