

<b>PCN Number:</b>	20130429000			<b>PCN Date:</b>	05/06/2013																								
<b>Title:</b>	Qualification of RFAB, FFAB and MIHO8 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>	08/06/2013	<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"/>	Assembly Materials																								
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification																								
<input 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																								
<b>PCN Details</b>																													
<b>Description of Change:</b>																													
<p>This notification is to announce the qualification of RFAB, FFAB and MIHO8 as an additional FAB site for select devices as shown below:</p> <p><b>Device Groups: (Affected devices in Product Affected Section)</b></p> <table border="1"> <thead> <tr> <th colspan="2"><b>Group 1: Adding RFAB</b></th> </tr> </thead> <tbody> <tr> <td>Site, Process, Wafer diameter</td> <td><b>Additional Site, Process, Wafer Dia.</b></td> </tr> <tr> <td>FFAB, LBC7, 200mm</td> <td>RFAB, LBC7, 300mm</td> </tr> <tr> <th colspan="2"><b>Group 2: Adding FFAB</b></th> </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> <th colspan="2"><b>Group 3: Adding MIHO8</b></th> </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> <th colspan="2"><b>Group 4: Adding MIHO8</b></th> </tr> <tr> <td>Site, Process, Wafer diameter</td> <td><b>Additional Site, Process, Wafer Dia.</b></td> </tr> <tr> <td>MIHO6, 50A12, 150mm</td> <td>MIHO8, 50A12, 200mm</td> </tr> </tbody> </table> <p>The LBC7 process was previously qualified at RFAB on 10/06/2010, at FFAB on 10/31/2007, and at MIHO on 1/14/2005. The 50A12 process was previously qualified at MIHO8 on 4/16/2009. Qualification details are shown in the Qual Data Section of this document.</p>						<b>Group 1: Adding RFAB</b>		Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>	FFAB, LBC7, 200mm	RFAB, LBC7, 300mm	<b>Group 2: Adding FFAB</b>		Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>	RFAB, LBC7, 300mm	FFAB, LBC7, 200mm	<b>Group 3: Adding MIHO8</b>		Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>	RFAB, LBC7, 300mm	MIHO8, LBC7, 200mm	<b>Group 4: Adding MIHO8</b>		Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>	MIHO6, 50A12, 150mm	MIHO8, 50A12, 200mm
<b>Group 1: Adding RFAB</b>																													
Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>																												
FFAB, LBC7, 200mm	RFAB, LBC7, 300mm																												
<b>Group 2: Adding FFAB</b>																													
Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>																												
RFAB, LBC7, 300mm	FFAB, LBC7, 200mm																												
<b>Group 3: Adding MIHO8</b>																													
Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>																												
RFAB, LBC7, 300mm	MIHO8, LBC7, 200mm																												
<b>Group 4: Adding MIHO8</b>																													
Site, Process, Wafer diameter	<b>Additional Site, Process, Wafer Dia.</b>																												
MIHO6, 50A12, 150mm	MIHO8, 50A12, 200mm																												
<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
FR-BIP-1	TID	DEU
MIHO6	MH6	JPN

**New**

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

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:  
 ITEM: 39  
**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: SHP~~ ~~(21L) CCO:USA~~  
~~(22L) ASO: MIA~~ (23L) ACO: MYS

**Product Affected:**

<b>Group 1: Adding RFAB (LBC7)</b>			
BQ24190RGER	BQ24192IRGET	BQ24195LRGER	BQ24196RGET
BQ24190RGET	BQ24192RGER	BQ24195LRGET	TXS0206-29YFPR
BQ24192HRGER	BQ24192RGET	BQ24195RGER	TXS0206-29YFPRB
BQ24192HRGET	BQ24192SRGER	BQ24195RGET	TXS02326AMRGER
BQ24192IRGER	BQ24192SRGET	BQ24196RGER	
<b>Group 2: Adding FFAB (LBC7)</b>			
BQ51003YFPR	BQ51013BRHLR	BQ51050BRHLR	BQ51051BYFPR
BQ51003YFPT	BQ51013BRHLT	BQ51050BRHLT	BQ51051BYFPT
BQ51005YFPR	BQ51013BYFPR	BQ51050BYFPR	SN25048YFPR
BQ51005YFPT	BQ51013BYFPT	BQ51050BYFPT	SN25048YFPT
BQ51010BYFPR	BQ51014BYFPR	BQ51051BRHLR	SN51013BRHLR
BQ51010BYFPT	BQ51014BYFPT	BQ51051BRHLT	SN51013BRHLT
<b>Group 3: Adding MIHO8 (LBC7)</b>			
TPS65913B2B5YFFR	TPS65913B2B6YFFT	TPS65913B2C4YFFR	BQ24735FRGRR
TPS65913B2B5YFFT	TPS65913B2B8YFFR	TPS65913B2C4YFFT	BQ24735FRGRT
TPS65913B2B6YFFR	TPS65913B2B8YFFT		
<b>Group 4: Adding MIHO8 (50A12)</b>			
TPA6012A4PWP	TPA6012A4PWPR		

## Reference Qualification Data: LBC7 Process at FFAB

<b>Qualification Data: (Approved: 10/31/2007)</b>					
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.					
<b>Qualification Device: TCA6416PW</b>					
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 RFAB

<b>Qualification Data: (Approved: 10/06/2010)</b>					
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.					
<b>Qualification Device: TPS51217DSC</b>					
Wafer Fab Site:	RFAB	Metallization:	TiN/AlCu.5/TiN		
Wafer Fab Process:	LBC7	Wafer diameter:	300mm		
<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	
Electrical Characterization	Per datasheet spec	Pass	Pass	Pass	
Latch-up	(per JESD78)	6/0	6/0	6/0	
**Biased HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0	
Post Temp Cycle SAM	CSAM and TSAM analysis after 1000 cycles Temp cycle	Pass	Pass	Pass	
ESD HBM	1000V	3/0	3/0	3/0	
ESD CDM	250V	3/0	3/0	3/0	
High Temp. Storage Bake	170C (168, 420 Hrs)	77/0	77/0	77/0	
**Autoclave 121C	121C, (96 Hrs)	77/0	77/0	77/0	
**T/C -65C/150C	-65C/+150C (500, 1000 Cycles)	77/0	77/0	77/0	
Steady-state Life Test (See Note 1)	135C (110, 320, 635 Hrs)	77/0	77/0	77/0	
**Preconditioning: MSL 2@260C					

Note 1: Life test equivalent conditions

- 125C, 1000hrs
- 135C, 635hrs
- 140C, 480hrs
- 150C, 300hrs

## 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.				
<b>Qual Vehicle: TPS62110RSA</b>				
Wafer Fab Site:	MIHO8	Metallization:	TiN/AICu.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: (Approved 04/16/2009)				
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.				
<b>Qual Vehicle: TLV5630IDW</b>				
Wafer Fab Site:	MIHO8	Metallization:	TiW/AICu.5	
Wafer Fab Process:	50A12	Die Protective Coating:	12KACN	
<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	1000V	3/0	3/0	3/0
ESD CDM	250V	3/0	3/0	3/0
**Preconditioning: MSL 1@260C				

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>