

<b>PCN Number:</b>	20160824002	<b>PCN Date:</b>	08/26/2016
<b>Title:</b>	Qualification of AIZU as an additional Wafer Fab Site option for select devices in F05 Technology		
<b>Customer Contact:</b>	<u>PCN Manager</u>	<b>Dept:</b>	Quality Services
<b>Proposed 1<sup>st</sup> Ship Date:</b>	11/26/2016	<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	
	<input type="checkbox"/> Part number change		

### PCN Details

#### Description of Change:

Texas Instruments is pleased to announce the qualification of its AIZU fabrication facility as an additional Wafer Fab source for the selected devices listed in "Product Affected" section.

Current Site			Additional Site		
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter
DP1DM5	F05	200mm	AIZU	F05	200mm

Qual details are provided in the Qual Data Section.

#### Reason for Change:

Continuity of Supply

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

None

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

##### Current

Chip Site	Chip Site Origin (20L)	Chip Site Country Code (21L)	Chip Site City
DP1DM5	DM5	USA	Richardson

##### New Fab Site

Chip Site	Chip Site Origin (20L)	Chip Site Country Code (21L)	Chip Site City
AIZU	CU2	JPN	Aizuwakamatsu-shi

Sample product shipping label (not actual product label)

 <p>MADE IN: Malaysia 2DC: 20:</p> <table border="1"> <tr> <td>MSL '2 / 260C / 1 YEAR</td> <td>SEAL DT</td> </tr> <tr> <td>MSL 1 / 235C / UNLIM</td> <td>03/29/04</td> </tr> </table> <p>OPT: ITEM: 39 LBL: 5A (L)T0:1750</p>	MSL '2 / 260C / 1 YEAR	SEAL DT	MSL 1 / 235C / UNLIM	03/29/04	 	<p>(1P) SN74LS07NSR (Q) 2000 (D) 0336 (31T) LOT: 3959047MLA (4W) TKY (1T) 7523483S12 (P) (2P) REV: (Y) 0033317 (20L) CS0: SHE (21L) CCO: USA (22L) AS0: MLA (23L) ACO: MYS</p>
MSL '2 / 260C / 1 YEAR	SEAL DT					
MSL 1 / 235C / UNLIM	03/29/04					

**Product Affected Group:**

SBF2808PZA	TMS320F2801PZA-60	TMS320F2802ZGMA	TMS320F2806ZGMSR
TMS320F28015PZA	TMS320F2801PZS	TMS320F2802ZGMS	TMS320F2808GGMA
TMS320F28015PZS	TMS320F2801PZS-60	TMS320F2803PZA	TMS320F2808GGMS
TMS320F28015PZSR	TMS320F2801ZGMA	TMS320F2806PZA	TMS320F2808PZA
TMS320F28015ZGMA	TMS320F2802PZA	TMS320F2806PZS	TMS320F2808PZS
TMS320F28016PZA	TMS320F2802PZA-60	TMS320F2806ZGMA	TMS320F2808ZGMA
TMS320F28016PZS	TMS320F2802PZS	TMS320F2806ZGMS	TMS320F2808ZGMS
TMS320F2801PZA	TMS320F2802PZS-60		

**Qualification Report**

INA231AIYFFR/T in AIZU as 2nd source  
Approve Date 8-April-2016

**Product Attributes**

Attributes	Qual Device: INA231AIYFF	QBS Process Reference: CD3246B0YFFR	QBS Process Reference: TMP103AYFF	QBS Process Reference: TSC2014YZG	QBS Package Reference: CD3246B0YFFR	QBS Package Reference: TPS75105YFF
Assembly Site	CLARK-AT	CLARK-AT	CLARK-AT	CLARK-AT	CLARK-AT	CLARK-AT
Package Family	DSBGA	DSBGA	DSBGA	DSBGA	DSBGA	DSBGA
Wafer Fab Supplier	AIZU	AIZU	AIZU	AIZU	DMOS5	FFAB
Wafer Process	50HPA07HV	50HPA07HV	33HPA07	33HPA07	50HPA07HV	3370A12

- QBS: Qual by Similarity  
- Qual Device INA231AIYFF 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: INA231AIYFF	QBS Process Reference: CD3246B0YFFR	QBS Process Reference: TMP103AYFF	QBS Process Reference: TSC2014YZG	QBS Package Reference: CD3246B0YFFR	QBS Package Reference: TPS75105YFF
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	Pass	Pass	Pass	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/252/0	-	-	3/231/0	3/230/0
HBM	ESD - HBM	2500 V	1/3/0	2/12/0	1/3/0	1/3/0	2/12/0	-
CDM	ESD - CDM	1000 V	1/3/0	2/6/0	1/3/0	-	2/6/0	-
HTOL	Life Test, 150C	300 Hours	1/77/0	3/231/0	-	1/77/0	3/231/0	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	3/231/0	-	-	3/231/0	3/231/0
LU	Latch-up (per JESD78)		1/6/0	3/18/0	1/6/0	1/6/0	3/18/0	-
PD	Physical Dimensions	--	-	-	-	-	-	3/15/0
SBS	Bump Shear	Unstressed	-	3/150/0	-	-	-	3/150/0
TC	Temperature Cycle, -40/125C	400 Cycles	-	-	-	-	3/230/0	-
TC	Temperature Cycle, -55/125C	700 Cycles	-	3/231/0	-	-	-	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	3/231/0	-	-	3/231/0	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 JEDEC47: -55C/125C/700 Cycles and -55C/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 Data: Aizu F05 Qualification (Approved 4/14/2016)**

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

**Qualification Device Construction Details:**

**Qualification Vehicle: TMS320F2803XAPN**

Wafer Fab Site:	AIZU	Wafer Process:	F05
Assembly Site:	TI Philippines	Wafer Size Dia.	200mm

**Qualification:**  Plan  Test Results

Reliability Test	Conditions	Sample Size (PASS/FAIL)
20K W/E	20K Write / Erase Cycles prior to HTSL, HTOL, RTSL	1800/0
HTOL (High Temperature Op Life)	125C - 1000 Hours	231/0
HTSL (High Temp Storage Life)*	150C Bake - 1000 Hours	231/0
RTSL (Room Temp Storage Life)	25C - 1000 Hours	231/0
Package Reliability		
Preconditioning	MSL3/260C	693/0
THB	85C/85RH - 1000 Hours	231/0

Temp Cycle	-65C/150C - 500 Cycles	231/0
Autoclave	121C/96hrs	231/0
ESD-HBM	2000v	15/0
ESD-CDM	750v	6/0
Latchup	1.5Vdd +/-100mA 125C	6/0
Notes: * Test requires Moisture Preconditioning Qualification tests "pass" on zero fails for each test <optional> "QBS" stands for Qualification by Similarity		

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.

<b>Location</b>	<b>E-Mail</b>
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>