



<b>PCN Number:</b>	20160307002			<b>PCN Date:</b>	03/09/2016													
<b>Title:</b>	Qualification of TIPI as a new Assembly Site for Select Devices in the PBGA Package																	
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>			<b>Dept:</b>	Quality Services													
<b>Proposed 1<sup>st</sup> Ship Date:</b>	09/05/2016			<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 type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Site													
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Materials													
				<input type="checkbox"/>	Wafer Fab Process													
<b>PCN Details</b>																		
<b>Description of Change:</b>																		
Texas Instruments is pleased to announce the qualification of TIPI as a new Assembly Site for Select Devices in the PBGA Package. Assembly differences are as follows:																		
<table border="1"> <thead> <tr> <th>Assembly Site</th> <th>Assembly Site Origin</th> <th>Assembly Country Code</th> <th>Assembly City</th> </tr> </thead> <tbody> <tr> <td>Amkor Philippines</td> <td>AP3</td> <td>PHL</td> <td>Binan</td> </tr> <tr> <td><b>TI Philippines</b></td> <td><b>PHI</b></td> <td><b>PHL</b></td> <td><b>Baguio City</b></td> </tr> </tbody> </table>							Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly City	Amkor Philippines	AP3	PHL	Binan	<b>TI Philippines</b>	<b>PHI</b>	<b>PHL</b>	<b>Baguio City</b>
Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly City															
Amkor Philippines	AP3	PHL	Binan															
<b>TI Philippines</b>	<b>PHI</b>	<b>PHL</b>	<b>Baguio City</b>															
<b>Material differences:</b>																		
<b>BGA Package Type</b>	<b>Amkor Philippines (P3)</b>			<b>TI Philippines (TIPI)</b>														
	Mount Compound	Mold Compound	Wire Type (mil)	Mount Compound	Mold Compound	Wire Type (mil)												
ZJZ	101321630	101327143	1.0 Au	4205412	4208515	0.80 Cu												
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 website</a> .															
<b>Changes to product identification resulting from this PCN:</b>																		

**Sample Product Shipping Label** (not actual product label)

Assembly Site		
Amkor Philippines (P3)	Assembly Site Origin (22L)	ASO: AP3
TI Philippines (TIPI)	Assembly Site Origin (22L)	ASO: PHI

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**



(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

Assembly Site Codes: AP3 = 3, PHI = W

**Product Affected:**

TMS320F28232ZJZQ	TMS320F28235ZJZQ	TMS320F28334ZJZQ
TMS320F28234ZJZQ	TMS320F28235ZJZQR	TMS320F28335ZJZQ
TMS320F28234ZJZQR	TMS320F28332ZJZQ	TMS320F28335ZJZQR

## Qualification Report

### Assembly Site Transfer from AP3 to TIPI (Phase 2 EPD PBGA Package - Device T3)

Approve Date 12-Nov-2014

#### Product Attributes

Attributes	Qual Device: S4AV67ACZJZQQ1
Assembly Site	TIPI
Package Family	PBGA
Flammability Rating	UL 94 V-0
Wafer Fab Supplier	DM5-DALLAS
Wafer Process	18F05.24L

- QBS: Qual By Similarity
- Qual Device S4AV67ACZJZQQ1 is qualified at LEVEL3-260C

#### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: S4AV67ACZJZQQ1
ED	Auto Electrical Distributions	Cpk>1.67 Room, hot, and cold test	3/90/0
HTOL	Life Test, 125C	1000hrs	3/273/0
HTSL	High Temp Storage Bake 150C	1000hrs	3/135/0
MQ	Manufacturability (Auto Assembly)	(per automotive requirements)	3/Pass
PC	PreCon Level 3	3cy/260C	3/780/0
PD	Physical Dimensions	Cpk>1.33, Ppk>1.67	3/30/0
TC	Temperature Cycle, -55/125C	1000cyc	3/231/0
THB	Biased Temperature and Humidity, 85C/85%RH	1000hrs	3/78/0

Type	Test Name / Condition	Duration	Qual Device: S4AV67ACZJZQQ1
UHASt	Unbiased HAST 110C/85%RH	264Hrs	3/231/0
WBP	Wire Pull	Minimum of 5 devices, 30 wires Cpk>1.33, Ppk>1.67	3/240/0
WBS	Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.33, Ppk>1.67	3/240/0

- 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

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>