TEXAS INSTRUMENTS 12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20121219001
Qualification of TI Clark as Additional Assembly/Test Site for select devices on QFN package
Change Notification / Sample Request

Date: 1/9/2013
To: MOUSER PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services
Phone: +1(214) 480-6037
Fax: +1(214) 480-6659

20121219001
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
BQ500211RGZT	null
BQ500410ARGZT	null

Technical details of this Product Change follow on the next page(s).

PCN Number:	20121219001	**PCN Date:**	01/09/2013

Title:	Qualification of TI Clark as Additional Assembly/Test Site for select devices on QFN package

Customer Contact:	PCN Manager	**Phone:**	+1(214)480-6037	**Dept:**	Quality Services

Proposed 1st Ship Date:	04/09/2013	**Estimated Sample Availability:**	Date Provided at Sample request

Change Type:

☒	Assembly Site	☐	Assembly Process	☒	Assembly Materials
☐	Design	☐	Electrical Specification	☐	Mechanical Specification
☒	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process

PCN Details

Description of Change:

Qualification of TI Clark as additional assembly and test site for select devices on QFN package. Current assembly/test site is TI Malaysia (MLA).

Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.

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:

Assembly Site		
TI Malaysia	Assembly Site Origin (22L)	ASO: MLA
TI Clark Philippines	Assembly Site Origin (22L)	ASO: QAB

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)TO: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

Device Marking

O
{CUST1}
TI YMS
LLLL

TI = TI LETTERS
YM = YEAR MONTH DATE CODE
LLLL = ASSEMBLY LOT CODE
S = ASSEMBLY SITE CODE
O = PIN 1 INDICATOR

Topside Device marking:
Assembly site code for MLA = K
Assembly site code for TI-Clark = I

Product Affected:

BQ500211RGZR	BQ500410ARGZR	BQ500410RGZR	HPA01194RGZR
BQ500211RGZT	BQ500410ARGZT	BQ500410RGZT	

Qualification Data : Approved 09/09/2009

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.

Qual Vehicle 1: MSC1202Y3RHHR (MSL 3-260C)

Package Construction Details

Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	36 RHH, QFN	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu, Cu	Bond Wire:	1.0 Mil Dia., Au

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size / Fail
**High Temp. Storage Bake	170C (420 Hrs)	77/0
**Autoclave 121C	121C, 2 atm (96Hrs)	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	82/0
Visual / Mechanical	Performed during Assembly MQ	Pass
Bond Pull	76 ball bonds, min. 3 units	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0
Manufacturability, Assembly	(per mfg. Site specification)	Pass
X-ray	(top side only)	5/0
Moisture Sensitivity	Level 3 @260+5/-0	12/0

**- Preconditioning sequence: Level 3-260C.

Qual Vehicle 2: ONET4291VARGPR (MSL 3-260C)

Package Construction Details

Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	20 RGP, QFN	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu, Cu	Bond Wire:	0.96 Mil. Dia, Au

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size / Fail
**High Temp Operating Life	140C (480 hours)	116/0
**Biased HAST	130C/85%RH (96 Hrs)	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	82/0
Visual / Mechanical	Performed during Assembly MQ	Pass
Bond Pull	76 ball bonds, min. 3 units	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0
Manufacturability, Assembly	(per mfg. Site specification)	Pass
X-ray	(top side only)	5/0
Moisture Sensitivity	Level 3 @260+5/-0	12/0

**- Preconditioning sequence: Level 3-260C.

Qual Vehicle 3: SH6966ACC0RGCRG4_AU_WIRE (MSL 3-260C)

Package Construction Details

Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	64 RGC, QFN	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu, Cu	Bond Wire:	1.15 Mil Dia., Au

Qualification: ☐ **Plan** ☒ **Test Results**		
Reliability Test	Conditions	Sample Size / Fail
**High Temp Operating Life	125C (1000 Hrs)	140/0
**High Temp. Storage Bake	170C (420 Hrs)	77/0
**Biased HAST	130C/85%RH (96 Hrs)	77/0
**Autoclave 121C	121C, 2 atm (96 Hrs)	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	81/0
Solderability	Steam age, 8 hours	22/0
Bond Pull	76 ball bonds, min. 3 units	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0
Manufacturability, Assembly	(per mfg. Site specification)	Pass
**Thermal Shock	-65C/+150C (500 Cyc)	77/0
Salt Atmosphere	24 Hrs	22/0
X-ray	(top side only)	5/0
Moisture Sensitivity	(level 3 @ 260C +5/-0C)	22/0
**- Preconditioning sequence: Level 3-260C.		

Qual Vehicle 4: SN65LVCP40RGZ (MSL 3-260C)

Package Construction Details

Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	48 RGZ, QFN	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu, Cu	Bond Wire:	0.96 Mil Dia., Au

Qualification: ☐ **Plan** ☒ **Test Results**		
Reliability Test	Conditions	Sample Size / Fail
**High Temp Operating Life	155C (240Hrs)	116/0
**High Temp. Storage Bake	170C (420 Hrs)	77/0
**Biased HAST	130C/85%RH (96 Hrs)	77/0
**Autoclave 121C	121C, 2 atm (96 Hrs)	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	82/0
Visual / Mechanical	Performed during Assembly MQ	Pass
Bond Pull	76 ball bonds, min. 3 units	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0
Manufacturability, Assembly	(per mfg. Site specification)	Pass
X-ray	(top side only)	5/0
Moisture Sensitivity	Level 3 @260+5/-0	12/0
**- Preconditioning sequence: Level 3-260C.		

Qual Vehicle 5: TPA5050RSA (MSL 2-260C)

Package Construction Details

Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	16 RSA, QFN	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu, Cu	Bond Wire:	0.96 Mil Dia., Au

Qualification: ☐ **Plan** ☒ **Test Results** **Approved 9/9/2009**

Reliability Test	Conditions	Sample Size / Fail
**High Temp Operating Life	140C (480 hrs)	116/0
**Biased HAST	130C/85%RH (96 Hrs)	80/0
Visual / Mechanical	Performed during Assembly MQ	Pass
Bond Pull	76 ball bonds, min. 3 units	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0
Manufacturability, Assembly	(per mfg. Site specification)	Pass
X-ray	(top side only)	5/0
Moisture Sensitivity	Level 2 @260+5/-0	12/0

**- Preconditioning sequence: Level 2-260C.

Qual Vehicle 6: TPS2231RGPR (MSL 2-260C)

Package Construction Details

Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	20 RGP, QFN	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu, Cu	Bond Wire:	2.0 Mil Dia., Au

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size / Fail
**High Temp Operating Life	155C (240 Hrs)	77/0
**High Temp. Storage Bake	170C (420 Hrs)	77/0
**Autoclave 121C	121C, 2 atm (96 Hrs)	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	77/0
Solderability	Steam age, 8 hours	22/0
Bond Pull	76 ball bonds, min. 3 units	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0
Manufacturability, Assembly	(per mfg. Site specification)	Pass
**Thermal Shock	-65C/+150C (500 Cyc)	77/0
Salt Atmosphere	24 Hrs	22/0
X-ray	(top side only)	5/0
Moisture Sensitivity	Level 2 @260+5/-0	12/0

**- Preconditioning sequence: Level 2-260C.

Qual Vehicle 7: TPS61020DRC (MSL 2-260C)

Package Construction Details

Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	10 DRC, QFN	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10.5KAN

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size / Fail
**High Temp. Storage Bake	170C (420 Hrs)	77/0
**Autoclave 121C	121C, 2 atm (96 Hrs)	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	77/0
Bond Pull	76 ball bonds, min. 3 units	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0
Manufacturability, Assembly	(per mfg. Site specification)	Pass
**Thermal Shock	-65C/+150C (500 Cyc)	77/0
X-ray	(top side only)	5/0
Moisture Sensitivity	Level 2 @260+5/-0	12/0

**- Preconditioning sequence: Level 2-260C.

Qual Vehicle 8: TPS62402DRCR (MSL 2-260C)			
Package Construction Details			
Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	10DRC, QFN	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu, Cu	Bond Wire:	1.3 MIL Dia., Au

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size/Fail
**High Temp. Storage Bake	170C (420 Hrs)	77/0
**Autoclave 121C	121C, 2 atm (96 Hrs)	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	87/0
Bond Pull	76 ball bonds, min. 3 units	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0
Manufacturability, Assembly	(per mfg. Site specification)	Pass
**Thermal Shock	-65C/+150C (500 Cyc)	77/0
Salt Atmosphere	24 Hrs	22/0
X-ray	(top side only)	5/0
Moisture Sensitivity	Level 2 @260+5/-0	12/0
**- Preconditioning sequence: Level 2-260C.		

Qual Vehicle 9: TPS650240RHBR (MSL 2-260C)			
Package Construction Details			
Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	32 RHB, QFN	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu, Cu	Bond Wire:	1.3 MIL Dia., Au

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Samples Size / Fail
**High Temp. Storage Bake	170C (420 Hrs)	77/0
**Autoclave 121C	121C, 2 atm (96 Hrs)	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	77/0
Bond Pull	76 ball bonds, min. 3 units	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0
Manufacturability, Assembly	(per mfg. Site specification)	Pass
**Thermal Shock	-65C/+150C (500 Cyc)	77/0
X-ray	(top side only)	5/0
Moisture Sensitivity	Level 2 @260+5/-0	12/0
**- Preconditioning sequence: Level 2-260C.		

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	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com