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

PCN# 20121106004
Qualification of TI Clark as Additional Assembly/Test Site for Select RHU Package Devices in the TQFN Family
Change Notification / Sample Request

Date: 11/14/2012
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

20121106004
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
TS3DV520ERHUR	null
TS3L500AERHUR	null

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

PCN Number:	20121106004	PCN Date:	11/14/2012
Title:	Qualification of TI Clark as Additional Assembly/Test Site for Select RHU Package Devices in the TQFN Family		
Customer Contact:	PCN Manager	Phone: +1(214)480-6037	Dept: Quality Services
Proposed 1st Ship Date:	02/14/2013	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
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☐	Wafer Fab Site	☐	Wafer Fab Materials	☐	Wafer Fab Process

PCN Details

Description of Change:

Qualification of TI Clark as Additional Assembly/Test Site for Select devices in the RHU Package of the TQFN Family. Additionally, conversion from Au Wire to Cu Wire and mount and mold compound changes. Assembly differences are shown in the following table:

	NSE	TI Clark
Mount Compound	PZ0031	4207123
Mold Compound	CZ0134	4208625
Wire	1.30 Mil Au	0.96 Mil Cu

Qualification testing will be performed at both MSL1 and MSL2 conditions and the Clark assembled devices will be released at the highest level passing MSL. The devices in the product affected list are being qualified by similarity (see Qualification Data). Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.

Reason for Change:

Continuity of supply.
1) To align with world technology trends and use wiring with enhanced mechanical and electrical properties
2) Maximize flexibility within our Assembly/Test production sites.
3) Cu is easier to obtain and stock

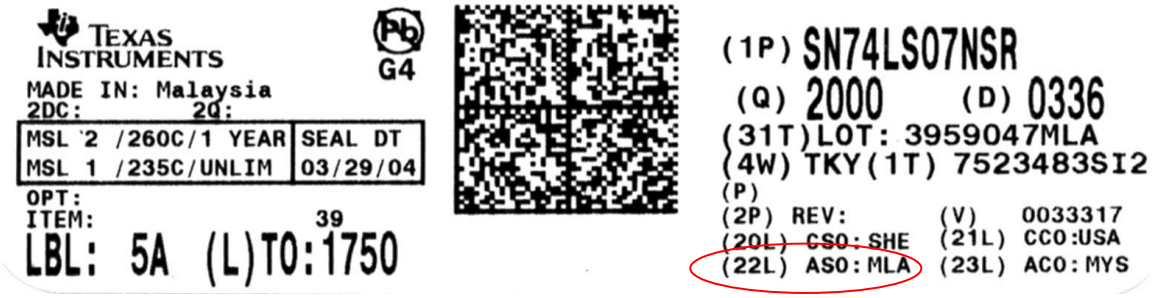
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

No impact on form, fit, function, quality or reliability.

Changes to product identification resulting from this PCN:

Assembly Site		
NSE Thailand	Assembly Site Origin (22L)	ASO: NSE
TI Clark Philippines	Assembly Site Origin (22L)	ASO: QAB

Sample product shipping label (not actual product label)



Assembly site Codes: NSE = J, TI-Clark = I

Product Affected:

TS3DV520ERHUR	TS3L500AERHUR	

Qualification Plan

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 Schedule:	**Start:**	December 2012	**End:**	March 2013

Qual Vehicle 1: TS3DV520ERHUR (MSL1-260C)

Package Construction Details

Assembly Site:	Clark-AT	Mold Compound:	4208625
# Pins-Designator, Family:	56-RHU, TQFN	Mount Compound:	4207123
Lead Finish, Base	NiPdAuAg, Cu	Bond Wire:	0.96 Mil Diameter Cu

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

Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
Ball Bond Shear	76 balls, 3 units minimum	76/0	76/0	76/0
Bond Pull	76 wire, 3 units minimum	76/0	76/0	76/0
Manufacturability (Assembly)	(per mfg. Site specification)	1/0	1/0	1/0
X-ray	(top side only)	5/0	5/0	5/0

Qual Vehicle 2: TS3L500AERHUR (MSL1-260C)

Package Construction Details

Assembly Site:	Clark-AT	Mold Compound:	4208625
# Pins-Designator, Family:	56-RHU, TQFN	Mount Compound:	4207123
Lead Finish, Base	NiPdAuAg, Cu	Bond Wire:	0.96 Mil Diameter Cu

Qualification: ☒ Plan ☐ Test Results				
Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
**High Temp. Storage Bake	170C (420hrs, 600hrs)	77/0	77/0	77/0
**Autoclave	121C, 2 ATM (96 Hrs)	78/0	78/0	78/0
**Temperature Cycle	50-65C/150C, (500 Cycles)	77/0	77/0	77/0
Ball Bond Shear	76 balls, 3 units minimum	76/0	76/0	76/0
Bond Pull	76 wire, 3 units minimum	76/0	76/0	76/0
Manufacturability (Assembly)	(per mfg. Site specification)	1/0	1/0	1/0
Manufacturability Qualification (MQ)	(per mfg. Site specification)	1/0	-	-
X-ray	(top side only)	5/0	5/0	5/0
** Preconditioning sequence: Level 1-260C.				

Reference Qualification for Cu Wire at TI-Clark

Qualification Data: Approved 07/01/2011

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 : SN75DP122ARTQ (MSL3-260C)

Package Construction Details

Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	56-RTQ, VQFN	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu, Cu	Bond Wire:	0.96 Mil Dia., Cu

Qualification: ☐ Plan ☒ Test Results				
Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
**High Temperature Storage Bake	170C (420 Hours)	77/0	77/0	77/0
**Autoclave	121C, 2 ATM (96 Hours)	77/0	77/0	77/0
**Temperature Cycle	-65C/+150C, (500 Cycles)	77/0	77/0	77/0
Ball Bond Shear	76 balls, 3 units minimum	76/0	76/0	76/0
Bond Pull	76 wire, 3 units minimum	76/0	76/0	76/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass
X-ray	(top side only)	5/0	5/0	5/0
**- Preconditioning sequence: Level 3-260C.				

Qualification Data: Approved 12/01/2010

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 : TPS51216 (MSL2-260C)

Package Construction Details

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

Qualification: ☐ **Plan** ☒ **Test Results**				
Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
**Steady-state Life Test	150C (168, 300 Hrs)	77/0	77/0	77/0
Electrical Char.	Per Device specification	passed	--	--
**High Temperature Storage Bake	170C (420 Hours)	77/0	77/0	77/0
**Biased HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	77/0	77/0	77/0
ESD HBM	500V, 1000V, 1500V, 2000V	3/0	3/0	3/0
ESD CDM	200V, 500V	3/0	3/0	3/0
Latch-up	(per JESD78)	6/0	6/0	6/0
Manufacturability/ TQ/MQ	(per mfg. Site specification)	passed	passed	passed
Pre/Post Temp Cycle SAM	CSAM and TSAM analysis	passed	passed	passed
**- 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