12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20150216000
Qualification of TI Clark (Bump) and TI Philippines (Assembly) as new Back End sites for select devices in the FCBGA package
Change Notification / Sample Request

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

PCN# 20150216000
Attachment: 1

Products Affected:

According to our records, there are the affected device(s) that you have purchased within the past twenty-four (24) months. Technical details of this Product Change follow on the next page(s).

PCN Number:	20150216000	**PCN Date:**	2/19/2015
Title:	Qualification of TI Clark (Bump) and TI Philippines (Assembly) as new back end sites for select devices in the FCBGA package		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	05/19/2015	**Estimated Sample Availability:**	Provided upon 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
		☐	Part number change		

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of TI Clark (Bump) and TI Philippines (Assembly) as new back end sites for select devices in the FCBGA package. There are no differences in the package construction as a result of this change.

Reason for Change:

Continuity of Supply

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

None

Changes to product identification resulting from this PCN:

Assembly Site		
Amkor K4	Assembly Site Origin (22L)	ASO: AMP
TI Philippines	Assembly Site Origin (22L)	ASO: **PHI**

Sample product shipping label (not actual product label)

Topside Device marking:
Assembly site code for AMP= 9
Assembly site code for PHI= W

Product Affected

D781854CYP-S	TMS320C6678ACYP4	TMS320TCI6608XCYP	TMS32TCI6618AXCYP2
SM320C6678ACYPW	TMS320C6678ACYPA	TMS320TCI6616BCYP	TMS32TCI6618AXCYPA
TMS320C6670ACYP	TMS320C6678ACYPA25	TMS320TCI6616BCYP2	TMS32TCI6618AXCYPT
TMS320C6670ACYP2	TMS320C6678AGYPA	TMS320TCI6616BCYP4	TMS32ZTCI6616BXCYP

TMS320C6670ACYPA	TMS320C6678AXCYP	TMS320TCI6616BCYPA	TMS3TCI6602ACYPA25
TMS320C6670ACYPA2	TMS320C6678AXCYP25	TMS320TCI6616BXCYP	TMS3TCI6602AXCYP25
TMS320C6670AXCYP	TMS320C6678AXCYP4	TMS320TCI6618ACYP	TMS3TCI6604ACYPA25
TMS320C6670AXCYP2	TMS320C6678AXCYPA	TMS320TCI6618ACYP2	TMS3TCI6604AXCYP25
TMS320C6670AXCYPA	TMS320C6678CYP	TMS320TCI6618ACYPA	TMS3TCI6608ACYPA25
TMS320C6670AXCYPA2	TMS320C6678CYP25	TMS320TCI6618AXCYP	TMS3TCI6608AXCYP25
TMS320C6671ACYP	TMS320C6678CYPA	TMS32TCI6602ACYP25	TMS3TCI6608AXCYPWA
TMS320C6671ACYP25	TMS320C6678XCYP	TMS32TCI6602AXCYPA	TMS3TCI6616BXCYP2H
TMS320C6671ACYPA	TMS320C6678XCYP25	TMS32TCI6604ACYP25	TMS3TCI6616BXCYPA2
TMS320C6671ACYPA25	TMS320C6678XCYPA	TMS32TCI6604AXCYPA	TMS3TCI6618AXCYP2H
TMS320C6672ACYP	TMS320TCI6602ACYPA	TMS32TCI6608ACYP25	TMS3TCI6618AXCYPA2
TMS320C6672ACYP25	TMS320TCI6602AXCYP	TMS32TCI6608ACYPWA	TMS3TCI6618AXCYPA4
TMS320C6672ACYP5	TMS320TCI6604ACYPA	TMS32TCI6608ALCYP1	TMSNSN6608ACYP10
TMS320C6672ACYPA	TMS320TCI6604AXCYP	TMS32TCI6608AXCYPA	TMSNSN6608AXCYP10
TMS320C6672ACYPA25	TMS320TCI6608ACYP	TMS32TCI6616BCYPA2	TMSTCI6608ACYPWA25
TMS320C6674ACYP	TMS320TCI6608ACYPA	TMS32TCI6616BXCYP2	TMSTCI6616BXCYP2HV
TMS320C6674ACYPA	TMS320TCI6608AXCYP	TMS32TCI6616BXCYPA	TMX32ZTCI6616BXCYP
TMS320C6678ACYP	TMS320TCI6608CYP	TMS32TCI6618ACYPA2	TMX3TCI6616BXCYP2H
TMS320C6678ACYP25	TMS320TCI6608CYP25		

Qualification Report

TMS320TCI6618x, TMS320TCI6616x, and TMS320C6678x Qualification in Clark / TIPI
Approved 12/16/2014

Product Attributes for Key Devices and Device Families

Die Attributes	TMS320TCI6618x	TMS320TCI6618x	TMS320TCI6616x	TMS320C6678x
Wafer Fab Site	TSMC12	TSMC12	TSMC12	TSMC12
Wafer Fab Process	40 nm	40 nm	40 nm	40 nm
Passivation	Polyimide	Polyimide	Polyimide	Polyimide
Package Attributes	#1, Original Device (Reference Only)	#2, Qualification Device	#3, QBS Example	#4, QBS Example
Bump Site	Amkor-K4	Clark	Clark	Clark
Assembly Site	Amkor-K4	TIPI	TIPI	TIPI
Package Family	FC-BGA	FC-BGA	FC-BGA	FC-BGA
Package Designator	CYP	CYP	CYP	CYP
Package Size (mm x mm)	24.0 x 24.0	24.0 x 24.0	24.0 x 24.0	24.0 x 24.0
Body Thickness (mm)	TBD	TBD	TBD	TBD
Pin Count	841	841	841	841
Lead Pitch (mm)	0.80	0.80	0.80	0.80
Substrate Material	Organic	Organic	Organic	Organic
Substrate Finish	Pb-free SOP	Pb-free SOP	Pb-free SOP	Pb-free SOP
Bump Metal	SnAg (Pb-free)	SnAg (Pb-free)	SnAg (Pb-free)	SnAg (Pb-free)
Green Status	Pb-free(SMT) and Green	Pb-free(SMT) and Green	Pb-free(SMT) and Green	Pb-free(SMT) and Green
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0

1. QBS: Qualification By Similarity.
2. All devices and device families listed here are qualified at LEVEL4-245C.
3. All device qualification data for this change were collected on TMS320TCI6618x, listed as "#2 Qualification Device" in the table above. This is the key QBS vehicle for all other devices.
4. Justification for using TMS320TCI6618x as the QBS vehicle is illustrated with example devices #3 and #4 above. .
   - Differences among these packages are minor, consisting of minor variations in die size and silicon functionality.
   - All 3 die have same package footprint, same # of package pins, and same package drawing.

Qualification Results

Data Displayed as: # lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: TMS320TCI6618x
PC	PreCon, MSL-4, 245C	MSL-4, 245C	3 / 1475 / 0
THB	Biased Temp & Humidity, 85C/85%RH	1000 / 30C / 85C	3 / 78 / 0
UHAST	Unbiased HAST 130C/85%RH	96 hrs, 130C	3 / 240 / 0
TC	Temperature Cycle, -40/125C	850 cycles, 40/125	7 / 580 / 0
TC	Temperature Cycle, -55/125C	700 cycles, -55/125	7 / 230 / 0
HTSL	High Temp Storage Bake 150C	1000hrs, 150C	3 / 240 / 0
BLR-TC*	Board Level Reliability, Temp Cycle, 0C/100C	3500 Cyc	1 / 42 / 0

Reference Only: TI Qualification ID: 20140804-107085

- All Tests listed above passed.
- Preconditioning was performed for Unbiased HAST, THB, Temperature Cycle, and Storage/Bake.
- Qualification data listed for this BLR test here originates from the original qualification previously ran with the Daisy Chain device in Amkor-K4, item #1 in the first table above; since the packaging materials are the same, this tests was QBS'd from the original data collected in Amkor-K4.

Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

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