12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20130221000
Die Revision for DM816x/AM38xx PG1.1/2.0
Change Notification / Sample Request

Date: 3/7/2013
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: (214) 480-6037
Fax: (214) 480-6659

20130221000
Attachment:

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
AM3894ACYG120	null
TMS320DM8168ACYG2	null
TMS320DM8168BCYG2	null
TMS320DM8168BCYGA2	null

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

PCN Number:	20130221000			**PCN Date:**	03/07/2013
Title:	Die revision for DM816x/AM38xx PG1.1/2.0				
Customer Contact:	PCN Manager	**Phone:**	+1(214)480-6037	**Dept:**	Quality Services
Proposed 1st Ship Date:	06/07/2013	**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:

The purpose of this notification is to introduce a die revision for DM816x/AM38xx PG1.1/2.0. This design change will move the revision to 2.1. Affected devices are listed in Product Affected section.

- Customers moving from rev1.1 to rev 2.1 will not require a board upgrade but may need a software upgrade. Contact your local TI representative for details.
- For customers moving from rev2.0 to rev2.1 this is a drop in replacement and there are no other requirements.

The table below shows requirements for changing from current rev1.1/2.0 to new rev2.1.

Current Rev	New Rev	Requirements
PG1.1 (Rev A)	PG2.1 (Rev C/Rev S)	Contact your TI representative for possible software upgrade requirements. Customers using TI's DVR Reference Design (DVRRDK) for video surveillance applications do not require any software changes and the upgrade is drop-in compatible.
PG2.0 (Rev B)	PG2.1 (Rev C/Rev S)	No requirements, this is a drop in replacement

As part of this change, the orderable part numbers will be changing.

The tables below show part number mapping for DaVinci Video and Sitara Devices.

DaVinci Video Devices

	Previous Revision (Map From)		PG2.1 Part Number (Map To)		
P/N	PG1.1	PG2.0	Video Surveillance Applications	DSP Applications	- Non-Video Surveillance - Broad Market Applications
DM8169		TMS320DM8169BCYG2		TMS320DM8169MCYG4	
		TMS320DM8169BCYG4		TMS320DM8169MCYG4	
DM8168		TMS320DM8168BCYG	TMS320DM8168SCYG		TMS320DM8168CCYG
	TMS320DM8168ACYG2	TMS320DM8168BCYG2	TMS320DM8168SCYG2		TMS320DM8168CCYG2
		TMS320DM8168BCYGA2	TMS320DM8168SCYGA2		TMS320DM8168CCYGA2
		TMS320DM8168BCYG4	TMS320DM8168SCYG4	TMS320DM8168MCYG4	TMS320DM8168CCYG4
DM8167		TMS320DM8167BCYG	TMS320DM8167SCYG		
	TMS320DM8167ACYG2	TMS320DM8167BCYG2	TMS320DM8167SCYG2		
		TMS320DM8167BCYG4	TMS320DM8167SCYG4		
DM8165		TMS320DM8165BCYG	TMS320DM8165SCYG		
	TMS320DM8165ACYG2	TMS320DM8165BCYG2	TMS320DM8165SCYG2		
		TMS320DM8165BCYG4	TMS320DM8165SCYG4		

Sitara Devices

P/N	PG1.1	PG2.0	PG2.1
AM3894	AM3894ACYG120	AM3894BCYG120	AM3894CCYG120
		AM3894BCYG135	AM3894CCYG135
AM3892		AM3892BCYG135	AM3892CCYG135

The table below lists PG2.1 design changes.

Issue	Resolution
DSS 1-3 Frame Drop	Resolves Advisories: 2.0.2, 2.0.29-31, 2.0.52, 2.0.61
DMM Arbitration enhancement	Resolves Advisories: 2.0.68
Capture to Tiled memory Continuous Overflow	Resolves Advisories: 2.0.59, 2.0.63
SATA Gen3 interoperability	Resolves Advisories: 2.0.64

No datasheet changes are required.

Availability of PG1.1 and PG2.0:

June 30th 2013 will be the last order entry date.
December 31st 2013 will be the last shipment date.

Reason for Change:

PG2.1 is intended as the long term production device for all customers and applications.

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

No impact

Changes to product identification resulting from this PCN:

Die Rev designator will change as shown in table & sample label below:

Current	New
Die Rev [2P]	**Die Rev [2P]**
A/B	**E**

Sample product shipping label to indicate die rev location (**not actual product label**)

Product Affected:

AM3892BCYG135	TMS320DM8165BCYG4	TMS320DM8167SCYG4	TMS320DM8168CCYGA2
AM3892CCYG135	TMS320DM8165SCYG	TMS320DM8168ACYG2	TMS320DM8168MCYG4
AM3894ACYG120	TMS320DM8165SCYG2	TMS320DM8168BCYG	TMS320DM8168SCYG
AM3894BCYG120	TMS320DM8165SCYG4	TMS320DM8168BCYG2	TMS320DM8168SCYG2
AM3894BCYG135	TMS320DM8167ACYG2	TMS320DM8168BCYG4	TMS320DM8168SCYG4
AM3894CCYG120	TMS320DM8167BCYG	TMS320DM8168BCYG5	TMS320DM8168SCYG5
AM3894CCYG135	TMS320DM8167BCYG2	TMS320DM8168BCYGA2	TMS320DM8168SCYGA2
TMS320DM8165ACYG2	TMS320DM8167BCYG4	TMS320DM8168CCYG	TMS320DM8169BCYG2
TMS320DM8165BCYG	TMS320DM8167SCYG	TMS320DM8168CCYG2	TMS320DM8169BCYG4
TMS320DM8165BCYG2	TMS320DM8167SCYG2	TMS320DM8168CCYG4	TMS320DM8169MCYG4

Netra Qualification Data: Approved 1/12/2012

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 Device: NETRA 2.1

Die Construction Details

Wafer Fab Site:	TSMC12	Wafer Fab Process:	C014
Wafer Diameter:	300mm	Die Revision[3]:	C
Assembly Site:	TIPI	# Pins-Designator, Family:	1031-CYG, FCBGA

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

Reliability Test	Conditions	Sample Size	Result[2]
MSL-4 Precondition	Level 4 at 245C	3 Lots	1170 / 0
Temp Cycle[1]	-40C/125C, 850 Cycle	3 Lots	228 / 0
THB[1]	85C/85%RH/Vdd max, 1000 hrs	3 Lots	71 / 0
Unbiased HAST[1]	110C, 85%RH, 264 hrs	3 Lots	230 / 0
Storage Bake[1]	150C, 1000 hrs	3 Lots	233 / 0
ESD - HBM	± 1000V	1 Lot	5 / 0
ESD - CDM	± 250V, All Pins but SerDes TX	1 Lot	5 / 0
ESD - CDM	+ 250V/-200V, SerDes TX Pins	1 Lot	5 / 0
Latchup	±100mA @90C/1.5Vmax	3 Lots	18 / 0
Latchup	±200mA @25C/1.5Vmax	3 Lots	18 / 0
HTOL	HTOL – 125C Tj, 1000 hrs	3 Lots	436 / 0
Temperature Cycle	0C/100C	32 Virgin+ 12 Rework	44/0 Thru 3500 Cyc

1. Includes IPC/JEDEC MSL4 at 245C peak reflow moisture precondition
2. Includes data from Netra 1.1 and Rev 2.0. Netra 2.1 includes minor logic updates and bug fixes.
3. This is a package revision not a silicon revision.

Netra Amkor-K4 Assembly Site Qualification Data:

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:**		**End:**	July 24, 2012

Qualification Device Construction Details:

	Device 1	Device 2	Device 3	Device 4
Device:	Netra 2.1 Amkor K4	Netra 2.1 TI Philippines	Turbo Nyquist (QBS Vehicle)	Appleton (QBS Vehicle)
Wafer Fab:	TSMC12	TSMC12	TSMC12	TSMC12
Wafer Technology:	C014.P	C014.P	C014.P	C014.P
Assembly Site:	AMKOR-K4	TIPI	AMKOR-K4	AMKOR-K4
Package Type/Code:	FCBGA/CYG	FCBGA/CYG	FCBGA/CYP	FCBGA/CYP
Package Pins:	1031	1031	841	900
Package Size (mm x mm):	25 x 25	25 x 25	24 x 24	25 x 25
Moisture Level:	MSL4/245C	MSL4/245C	MSL4/245C	MSL4/245C

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

Qual Test	Conditions	Device	Sample Size	Results	Comment
Temp Cycle[1]	-40°C / 125°C, 850 cycles	Device 1	3 Lots	129 / 0	Pass
Temp Cycle[1]	-40°C / 125°C, 850 cycles	QBS to Device 3	3 Lots	228 / 0	Pass
Temp Cycle[1]	-40°C / 125°C, 850 cycles	QBS to Device 4	3 Lots	228 / 0	Pass
THB[1]	85°C / 85% RH, 1000 hrs	QBS to Device 3	3 Lots	76 / 0	Pass
Unbiased HAST[1]	110°C, 85% RH, 264 hrs	QBS to Device 3	3 Lots	228 / 0	Pass
Storage Bake[1]	150°C, 600 hrs	QBS to Device 3	3 Lots	234 / 0	Pass
ESD-CDM[2]	+250V, All Pins	QBS Devices 2 & 4	3 Units	3 / 0	Pass
	-250V, All Pins but SerDes TX		3 Units	3 / 0	Pass
	≥-150V, SerDes TX Pins		3 Units	3 / 0	Pass
Board Level Testing					
Temp Cycle	0C / 100C (Virgin Units)	QBS Device 2 & 3, Daisy Chain	32	44 / 0 thru 3500 Cyc	Pass
Temp Cycle	0C / 100C (Rework Units)		12		Pass

1. Includes IPC/JEDEC MSL4 at 245C peak reflow moisture precondition.
2. Includes data from Netra 1.1 and Rev 2.x. Netra 2.1 includes minor logic updates and bug fixes.

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or to 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