12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20151030001A
Add Cu as Alternative Wire Base Metal for Selected Device(s)
Change Notification / Sample Request

Date: 1/26/2016
To: TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

Revision A is to announce the retraction of select devices.

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 proposed first ship date is indicated on page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

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

20151030001
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
PCM5100APWR	null
PCM5101APWR	null

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

PCN Number:	20151030001A	**PCN Date:**	01/26/2016
Title:	Add Cu as Alternative Wire Base Metal for Selected Device(s)		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	02/02/2016	**Estimated Sample Availability:**	Date provided at sample request

Change Type:

☐	Assembly Site	☐	Design	☐	Wafer Bump Site
☒	Assembly Process	☐	Data Sheet	☐	Wafer Bump Material
☒	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☐	Test Site	☐	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

Revision A is to announce the retraction of select devices. These devices will continue to be manufactured as prior and will not be subjected to the change described in this notification. Affected devices are identified with a ~~**strikethrough**~~ and are highlighted in yellow in the Product Affected Section.

Texas Instruments is pleased to announce the qualification of Cu as an additional bond wire option for selected devices listed in "Product affected" section below. Devices will remain in current assembly facilities and there will be no other piece part changes:

Pkg Family	Current Wire	Additional Wire
VSSOP	Au, 1.0 mil & 1.3	Cu, 1.0 & 1.3
TQFP, PBGA, QFN, TSSOP, LQFP	Au, 0.96	Cu, 0.8
TSSOP (a)	Au, 1.97 & 1.98mil	Cu, 1.98 mil

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):

None

Anticipated impact on Material Declaration

☐	No Impact to the Material Declaration	☒	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 TI ECO website.

Changes to product identification resulting from this PCN:

None

Product Affected:

Device	Package Family	Device	Package Family
ADS5271IPFP	TQFP	PLM46001PWP	TSSOP (a)
ADS5271IPFPG4	TQFP	SN0408089DGQR	VSSOP
ADS5271IPFPT	TQFP	SN0408089DGQRG4	VSSOP
ADS5271IPFPTG4	TQFP	SN0805015DGQR	VSSOP
AM1705DPTP3	LQFP	SN0805015DGQRG4	VSSOP
AM1705DPTP4	LQFP	TLV320DAC3203IRGER	QFN
AM1705DPTPA3	LQFP	TLV320DAC3203IRGET	QFN
AM1707DZKB3	PBGA	TMS320C6743DPTP2	LQFP
AM1707DZKB4	PBGA	TMS320C6743DPTP3	LQFP
AM1707DZKBA3	PBGA	TMS320C6745DPTP3	LQFP
AM1707DZKBD4	PBGA	TMS320C6745DPTP4	LQFP
BQ24090DGQR	VSSOP	TMS320C6745DPTPA3	LQFP
BQ24090DGQT	VSSOP	TMS320C6745DPTPD4	LQFP
BQ24091DGQR	VSSOP	TMS320C6747DZKB3	PBGA
BQ24091DGQT	VSSOP	TMS320C6747DZKB4	PBGA
BQ24092DGQR	VSSOP	TMS320C6747DZKBA3	PBGA
BQ24092DGQT	VSSOP	TMS320C6747DZKBD4	PBGA
BQ24093DGQR	VSSOP	TMX320C6747DZKBA3	PBGA
BQ24093DGQT	VSSOP	TPS40000DGQ	VSSOP
D802K003BPFP250	TQFP	TPS40000DGQG4	VSSOP
D804K003BPFP250	TQFP	TPS40000DGQR	VSSOP
D805K003DPTP266	LQFP	TPS40000DGQRG4	VSSOP
D807K013DPTP266	LQFP	TPS40007DGQ	VSSOP
D808K003DPTP300	LQFP	TPS40007DGQG4	VSSOP
D808K003DPTP456	LQFP	TPS40007DGQR	VSSOP
D808K013DPTP300	LQFP	TPS40007DGQRG4	VSSOP
D808K013DPTP400	LQFP	TPS40009DGQ	VSSOP
D808K013DPTP456	LQFP	TPS40009DGQG4	VSSOP
D808K023DPTP400	LQFP	TPS40009DGQR	VSSOP
D80YK113DPTP400	LQFP	TPS40009DGQRG4	VSSOP
D80YK113DPTP5	LQFP	TPS5401DGQ	VSSOP
D810K003DZKB300	PBGA	TPS5401DGQR	VSSOP
D810K013DZKB400	PBGA	TPS5401DGQT	VSSOP
D810K013DZKB456	PBGA	TPS54040ADGQ	VSSOP

D810K023DZKB456	PBGA	TPS54040ADGQR	VSSOP
D81YK113DZKB400	PBGA	TPS54040DGQ	VSSOP
D81YK113DZKB5	PBGA	TPS54040DGQR	VSSOP
D830K003DZKB300	PBGA	TPS54060ADGQ	VSSOP
D830K003DZKB400	PBGA	TPS54060ADGQR	VSSOP
D830K013DZKB400	PBGA	TPS54060DGQ	VSSOP
D830K013DZKB400Z	PBGA	TPS54060DGQR	VSSOP
D830K013DZKB456	PBGA	TPS54062DGKR	VSSOP
D830K023DZKB456	PBGA	TPS54140ADGQ	VSSOP
DH808K003DPTP300	LQFP	TPS54140ADGQR	VSSOP
LM43600PWP	TSSOP (a)	TPS54160ADGQ	VSSOP
LM43600PWPR	TSSOP (a)	TPS54160ADGQR	VSSOP
LM43600PWPT	TSSOP (a)	TPS54240DGQ	VSSOP
LM43601PWP	TSSOP (a)	TPS54240DGQR	VSSOP
LM43601PWPR	TSSOP (a)	TPS54260DGQ	VSSOP
LM43601PWPT	TSSOP (a)	TPS54260DGQR	VSSOP
LM46000PWP	TSSOP (a)	TPS54260DGQR-P	VSSOP
LM46000PWPR	TSSOP (a)	TPS61085DGKR	VSSOP
LM46000PWPT	TSSOP (a)	TPS61085DGKRG4	VSSOP
LM46001PWP	TSSOP (a)	TPS61085DGKT	VSSOP
LM46001PWPR	TSSOP (a)	TPS61085DGKTG4	VSSOP
LM46001PWPT	TSSOP (a)	TPS7A1601DGNR	VSSOP
OMAPL137DZKB3	PBGA	TPS7A1601DGNT	VSSOP
OMAPL137DZKB4	PBGA	TPS7A1633DGNR	VSSOP
OMAPL137DZKBA3	PBGA	TPS7A1633DGNT	VSSOP
OMAPL137DZKBD4	PBGA	TPS7A1650DGNR	VSSOP
~~PCM5100APW~~	TSSOP	TPS7A1650DGNT	VSSOP
~~PCM5100APWR~~	TSSOP	XD810K013DZKB400	PBGA
~~PCM5101APW~~	TSSOP	XOMAPL137DZKBA3	PBGA
~~PCM5101APWR~~	TSSOP		

Qualification Report

Qualify 1.0 and 1.3 mil PCC wire for MSOP for BOAC devices

Approve Date 14-Sep-2015

Product Attributes

Attributes	Qual Device: BQ24090DGQ	Qual Device: TPS54260DGQ	QBS Package Reference: TPS2062DGN
Assembly Site	UTAC	UTAC	UTAC
Package Family	VSSOP	VSSOP	VSSOP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	MIHO	DMOS5	DFAB
Wafer Process	LBC7	LBC5	LBC4

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL1-260CG: TPS54260DGQ, BQ24090DGQ

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: BQ24090DGQ	Qual Device: TPS54260DGQ	QBS Package Reference: TPS2062DGN
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/78/0
HTOL	Life Test, 150C	300 Hours	-	-	3/119/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	3/231/0
HTSL	High Temp. Storage Bake, 175C	500 Hours	3/231/0	3/231/0	-
TC	Temperature Cycle, -55/125C	750 Cycles	-	-	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/230/0
TS	Thermal Shock -65/150C	500 Cycles	-	-	3/231/0
WBP	Bond Pull	Wires	3/228/0	3/228/0	-
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0	-

- 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

Qualification Report
PTP and ZKB packages
Copper wire qualification

Report compiled 8th August 2015

Qualification Information			
Qual Type:	Major Change	**Affected Sites:**	Wafer fab : TSMC-14 A/T : TI PHILIPPINES
Affected business:	TI DSP products	**Status:**	Released
Project Reference:			
The qualification was based on TI QSS 009-401 and Automotive Electronic Council AEC-Q100 rev G where test groups A and C were conducted to prove the change.			

CONSTRUCTION INFORMATION

Package Attributes: PTP Package			
Assembly Site	PHI	**Mold Compound**	4211649
Bond Wire Composition	Cu	**Package Designator**	PTP
Moisture Sensitivity Level	LEVEL3-260C	**Package Size**	24 x 24 mm
Mount Compound	4208458	**Pin Count**	176
Package Family	PowerPad LQFP	**Leadframe Finish**	NiPdAu

Package Attributes: ZKB Package			
Assembly Site	PHI	**Mold Compound**	4205443
Bond Wire Composition	Cu	**Package Designator**	ZKB
Moisture Sensitivity Level	LEVEL3-260C	**Package Size**	17 x 17 mm
Mount Compound	4205412	**Pin Count**	256
Package Family	PBGA	**Solder Ball Composition**	SnAgCu

QUALIFICATION RESULTS : PTP PACKAGE

Tests groups A and C only were run for this change.

Test Type	Duration / Stress /Test	Lots	Results	Fail	Qualification vehicle
AEC Q100: TEST GROUPS A – ACCELERATED ENVIRONMENT STRESS TESTS					
PC : Preconditioning	MSL3/ 260C	3 lots : All units prior to AC, TC, HTSL	0 / 864		TMS320C6743PTP
	CSAM inspection after Preconditioning	864 units	Validated no internal delamination observed		TMS320C6743PTP
UHAST: Unbiased HAST	110C/2ATM/264 hours	3 lots x 77 units	0/231 @ 264 hours		TMS320C6743PTP
Temperature Cycle	-65C/150C for 500 cycles	3 lots x 77 units	0/231 @ 500 cycles		TMS320C6743PTP
HTSL : High temp storage	150C for 1000 hours	1 lots x 45 units	0/231 @ 1000 hours		TMS320C6743PTP
Reliability data on Biased Humidity testing is QBS to 52C1RFPT that share same x021 bond pad / bonding process/ package BOM.					
THB : Biased Humidity*	85C/85% RH 1000 hours	3 lots x 77 units	0/231 @ 1000 hours		52C1RFPT
*=devices were preconditioned to MSL3/260C prior to THB					
AEC Q100: TEST GROUPS C – PACKAGE INTEGRITY TESTS					
WBP: Wire Bond pull	Cpk > 1.67	1 lot x 5 parts x 30 bonds	Pass		x021 QFP family data
WBS: Wire Bond Shear	Cpk > 1.67	1 lot x 5 parts x 30 bonds	Pass		x021 QFP family data
Data taken post group A reliability testing on x021 QFP devices show no change after package reliability testing					

QUALIFICATION RESULTS : ZKB PACKAGE Tests groups A and C only were run for this change where change qualified on TMS4MUFB63I1ZKBQ – same silicon node and BOM.					
Test Type	Duration / Stress /Test	Lots	Results	Fail	Qualification vehicle
AEC Q100: TEST GROUPS A – ACCELERATED ENVIRONMENT STRESS TESTS					
PC : Preconditioning	MSL3/ 260C	3 lots : All units prior to UHAST, THB and TC	0 / 693		TMS4MUFB63I1ZKBQ
	CSAM inspection after Preconditioning	693 units	Validated no internal delamination observed		TMS4MUFB63I1ZKBQ
THB: Temperature Humidity Bias	85C/85C% RH @ Vmax for 1000 hours	3 lots x 77 units	0/231 @ 1000 hours		TMS4MUFB63I1ZKBQ
AC: Autoclave	121C/ 96 hours	3 lots x 77 units	0/231 @ 96 hours		TMS4MUFB63I1ZKBQ
Temperature Cycle	-65C/150C for 500 cycles	3 lots x 77 units	0/231 @ 500, 1000		TMS4MUFB63I1ZKBQ
HTSL : High temp storage	150C for 1000 hours	1 lots x 45 units	0/231 @ 1000 hours		TMS4MUFB63I1ZKBQ
AEC Q100: TEST GROUPS C – PACKAGE INTEGRITY TESTS					
WBP: Wire Bond pull	Cpk > 1.67	1 lot x 5 parts x 30 bonds	Pass		x021 BGA family data
WBS: Wire Bond Shear	Cpk > 1.67	1 lot x 5 parts x 30 bonds	Pass		x021 BGA family data
Data taken post group A reliability testing on x021 BGA devices show no change after package reliability testing					

Qualification Report

Copper wire bonding Qualification on Aluminum Bond Pads

Approved 07/07/2011

Product Attributes

Attributes	Qual Device: ADS1230IPW	Qual Device: DRV590GQC	Qual Device: F741900APFB	Qual Device: SN75DP139RGZ	Qual Device: THS7303PW	Qual Device: TPA5050RSA	Qual Device: TSB12LV21BPGF	Qual Device: TSB81BA3EPFP	Qual Device: TVAIC3106IZQER
Assembly Site	TAI	TAI	TAI	MLA	TAI	MLA	PHI	TAI	PHI
Package Family	TSSOP	JRBGA	TQFP	VQFN	TSSOP	VQFN	LQFP	TQFP	JRBGA
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Site	DMOS5	DFAB	DMOS5	FFAB	FFAB	DMOS5	DMOS5	DMOS5	DMOS5
Wafer Fab Process	50HPA07X3	LBC3S	1833C05X4	BICOM3XL	BICOM3	1833C05X4	33C12X3	1833C05X4	1833C05.24LRD

- QBS: Qual By Similarity

- Qual Devices qualified at LEVEL2-260C: ADS1230IPW, SN75LVDS84ADGG, THS7303PW, TPA5050RSA
- Qual Device DRV590GQC is qualified at LEVEL2A-235C
- Qual Devices qualified at LEVEL3-250C: F741900APFB, SN75DP139RGZ, TSB81BA3EPFP, TVAIC3106IZQER

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: ADS1230IPW	Qual Device: DRV590GQC	Qual Device: F741900APFB	Qual Device: SN75DP139RGZ	Qual Device: THS7303PW	Qual Device: TPA5050RSA	Qual Device: TSB12LV21BPGF	Qual Device: TSB81BA3EPFP	Qual Device: TVAIC3106IZQER
AC	Autoclave 121C	96 Hours	3/231/0	-	-	1/77/0	-	3/230/0	-	3/231/0	-
UHAST	Unbiased HAST 110C/85%RH	264 Hours	-	-	-	-	-	-	-	-	3/231/0
UHAST	Unbiased HAST 130C/85%RH	96 Hours	-	-	-	-	-	-	-	-	-
TC	Temperature Cycle, -55/125C	700 Cycles	-	1/77/0	-	-	-	-	3/231/0	-	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	-	3/231/0	1/77/0	3/231/0	3/231/0	3/231/0	3/231/0	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-	-	-	-	-	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	-	3/231/0	1/77/0	3/231/0	3/231/0	3/270/0	3/231/0	-

- 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

Qualification Report

Copper wire bonding on Aluminum Bond Pads - (VQFN, VSON & WSON Packages)

Approved 07/01/2011

Product Attributes

Attributes	Qual Device: DRV401AIRGW	Qual Device: SN75DP122ARTQ	Qual Device: TLVDAC32IRHBR	Qual Device: TPA2005D1DRB	Qual Device: TPS51217DSCR	Qual Device: TPS51621RHA
Assembly Site	CLARK-AT	CLARK-AT	CLARK-AT	CLARK-AT	CLARK-AT	CLARK-AT
Package Family	VQFN	VQFN	VQFN	VSON	WSON	VQFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	Class UL94-V0	UL 94 V-0	UL 94 V-0
Wafer Fab Site	DMOS5	FFAB	DMOS5	FR-BIP-1	RFAB	DFAB
Wafer Fab Process	50HPA07	50BICOM3XL	1833C05X4	3370A12X3	LBC7	LBC4

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL2-260C: DRV401AIRGW, TLVDAC32IRHBR, TPA2005D1DRB, TPS51217DSCR, TPS51217DSC
- Qual Devices qualified at LEVEL3-260C: SN75DP122ARTQ, TPS51621RHA

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: DRV401AIRGW	Qual Device: SN75DP122ARTQ	Qual Device: TLVDAC32IRHBR	Qual Device: TPA2005D1DRB	Qual Device: TPS51217DSCR	Qual Device: TPS51621RHA
AC	Autoclave 121C	96 Hours	3/229/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
TC	Temperature Cycle -65/150C	500 Cycles	3/230/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
BHAST	Bias HAST 130C 85%RH	96 Hours	-	-	-	-	3/231/0	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass	Pass

- 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

Qualification Report

Qualification 0.95 mils Wire Diameter- Cu

Approved 09/19/2012

Product Attributes

Attributes	Qual Device: MAX232DR	Qual Device: RC4558DR	Qual Device: SN74LV14ADR	Qual Device: ULN2003ADR
Assembly Site	MLA (TIM)	MLA (TIM)	MLA (TIM)	MLA (TIM)
Package Family	SOIC	SOIC	SOIC	SOIC
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Site	SFAB	SFAB	SFAB	SFAB
Wafer Fab Process	LBC3S	JI1-Lin	EPIC1-S_SLM	JI-SLM

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL1-260C: MAX232DR, RC4558DR, SN74LV14ADR, ULN2003ADR

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: MAX232DR	Qual Device: RC4558DR	Qual Device: SN74LV14ADR	Qual Device: ULN2003ADR
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	1/77/0	1/77/0	1/77/0
AC	Autoclave 121C	96 Hours	3/231/0	1/77/0	1/77/0	1/77/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0
HTSL	High Temp Storage Bake 150C	1000 Hours	-	3/231/0	3/231/0	-
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	-	-	3/231/0
HTOL	Life Test, 150C	300 Hours	3/231/0	1/77/0	1/77/0	1/77/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	Pass	Pass
	Bond Strength	Wires	3/228/0	1/76/0	1/76/0	1/76/0
DPA	Lead Pull to Destruction	Leads	3/66/0	1/22/0	1/22/0	1/22/0
FLAM	Flammability (IEC 695-2-2)	--	3/15/0	1/5/0	1/5/0	-
FLAM	Flammability (UL 94V-0)	--	3/15/0	1/5/0	1/5/0	-
FLAM	Flammability (UL-1694)	--	3/15/0	1/5/0	1/5/0	-

MQ	Manufacturability	(per mfg. Site specification)	Pass	Pass	Pass	Pass
MSL	Moisture Sensitivity, JEDEC	Level 1-260C	3/36/0	3/36/0	3/36/0	3/36/0
XRAY	X-ray	(top side only)	3/15/0	1/5/0	1/5/0	1/5/0

- 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

TEXAS INSTRUMENTS

TI Information
Selective Disclosure

Qualification Report

0.8mils PCC wire qualification for QFN package in MLA using C05 PR Tech

Approved 03/20/2015

Product Attributes

Attributes	Qual Device: ADS6445IRGCR	Qual Device: K3LVDS315RGER
Assembly Site	MLA	MLA
Package Family	VQFN	VQFN
Flammability Rating	UL 94 V-0	UL 94 V-0
Wafer Fab Site	DMOS5	DMOS5
Wafer Fab Process	1833C05X5	1833C05X4

- QBS: Qual By Similarity
- Qual Devices are qualified at LEVEL3-260C: ADS6445IRGCR, K3LVDS315RGER

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: ADS6445IRGCR	Qual Device: K3LVDS315RGER
AC	Autoclave 121C	96 Hours	-	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	-	3/231/0
	Crater check	50 pads/lot	Pass	Pass
MQ	Manufacturability	(per mfg Site specification)	Pass	Pass
MSL	Moisture Sensitivity, JEDEC	Level 3-260C	-	3/36/0

- 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

Change Number: C1011084
TI Qualification ID: 20120723-62865

Qualification Report

LM46001PWP
Approved 02/26/2015

Product Attributes

Attributes	Qual Device: LM46001PWP	QBS Product: LM46002PWP	QBS Package: LM43603PWP
Assembly Site	TITL (TAI)	TITL (TAI)	TITL (TAI)
Package Family	PWP	PWP	PWP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Site	DMOS5	DMOS5	DMOS5
Wafer Fab Process	LBC8	LBC8	LBC8

- QBS: Qual By Similarity
- Qual Device LM46002PWP is qualified at LEVEL2-260C

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

Type	Test Name / Condition	Duration	Qual Device: LM46001PWP	QBS Product: LM46002PWP	QBS Package: LM43603PWP
PC	PreCon Level 2	260C	-	3/616/0	3/536/0
HAST	Biased HAST, 110C/85%RH	264 hours	-	3/231/0	-
THB	Biased Temperature and Humidity, 85C/85%RH	1000 hours	-	1/77/0	-
AC	Autoclave 121C	96 hours	-	1/77/0	3/230/0
TC	Temperature Cycle, -65/150C	500 cycles	-	3/231/0	3/230/0
HTSL	High Temp Storage Bake 150C	1000 hours	-	-	1/76/0
HTOL	Life Test, 150C	300 hours	1/77/0	4/308/0	-
HBM	ESD - HBM	2500V	1/3/0	1/3/0	-
CDM	ESD - CDM	1000V	1/3/0	1/3/0	-
LU	Latch-up	25C	1/6/0	1/6/0	-
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-

- 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/

Qualification Report

LM46002PWP
Approved 02/26/2015

Product Attributes

Attributes	Qual Device: LM46002PWP	QBS Package: LM43603PWP
Assembly Site	TITL (TAI)	TITL (TAI)
Package Family	PWP	PWP
Flammability Rating	UL 94 V-0	UL 94 V-0
Wafer Fab Site	DMOS5	DMOS5
Wafer Fab Process	LBC8	LBC8

- QBS: Qual By Similarity
- Qual Device LM46002PWP is qualified at LEVEL2-260C

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LM46002PWP	QBS Package: LM43603PWP
PC	PreCon Level 2	260C	3/616/0	3/536/0
HAST	Biased HAST, 110C/85%RH	264 hours	3/231/0	-
THB	Biased Temperature and Humidity, 85C/85%RH	1000 hours	1/77/0	-
AC	Autoclave 121C	96 hours	1/77/0	3/230/0
TC	Temperature Cycle, -65/150C	500 cycles	3/231/0	3/230/0
HTSL	High Temp Storage Bake 150C	1000 hours	-	1/76/0
HTOL	Life Test, 150C	300 hours	4/308/0	-
HBM	ESD - HBM	2500V	1/3/0	-
CDM	ESD - CDM	1000V	1/3/0	-
LU	Latch-up	25C	1/6/0	-
ED	Electrical Characterization	Per Datasheet Parameters	Pass	-

- 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

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