12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20150624005A
Qualify New Assembly Material set for Selected Device(s)
Change Notification / Sample Request

Dear Customer:

The purpose of this version A is to retract devices from this change notification. The retraction is for select devices that were inadvertently included and are not affected by this change. We apologize for any inconvenience this may have caused.

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

20150624005A
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.

TPS40210DGQ
TPS40210DGQR

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

PCN Number:	20150624005A	PCN Date:	06/21/2016
Title:	Qualify New Assembly Material set for Selected Device(s)		
Customer Contact:	PCN Manager	Dept:	Quality Services

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 remove select devices in the Product Affected Section (with ~~strikethrough~~) and highlighted in yellow. These devices were inadvertently added and not affected by this change.

Texas Instruments is pleased to announce the qualification of new assembly material set to add Cu as an additional bond wire option for devices listed in “Product affected” section below. Devices will remain in current assembly facility and piece part changes as follows:

Material	Current	Proposed
Wire	Au	Cu

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

None.

Changes to product identification resulting from this PCN:

None.

Product Affected:

ADS5263IRGCR	TLV320AIC3007IRSBT	TLV7113318DDSET	TPS54040ADRCT
ADS5263IRGCT	TLV320AIC3107IRSBR	TLV71133285DDSER	TPS54060ADRCR
ADS61B23IRHBR	TLV320AIC3107IRSBT	TLV7113330DDSER	TPS54060ADRCT
ADS61B23IRHBT	TLV7103318DSER	TLV7113333DDSER	TPS54140ADRCR
AFE7222IRGCR	TLV7103318DSET	TLV7113333DDSET	TPS54140ADRCT
AFE7222IRGCT	TLV7111323DDSER	TLV71211DSER	TPS54160ADRCR
AFE7225IRGCR	TLV7111518DDSER	TPL0202-10MRTER	TPS54160ADRCT
AFE7225IRGCT	TLV7111518DDSET	TPS3838K33DRVR	TPS61166DSKR
CDCE62002RHBR	TLV7111833DDSER	TPS3838K33DRVT	TPS61166DSKT
CDCE62002RHBT	TLV7111833DDSET	TPS386000RGPR	TPS72011DRVR
DAC3152IRGZR	TLV7112525DDSER	TPS386000RGPT	TPS72011DRVT
DAC3152IRGZT	TLV7112525DDSET	TPS386040RGPR	TPS728120150DRVR
DAC3162IRGZR	TLV7112525DSER	TPS386040RGPT	TPS728120150DRVT
DAC3162IRGZT	TLV7112525DSET	TPS40090RHDT	TPS728185315DRVR
SN1402005IRGCR	TLV71128518DDSER	TPS40091RHDR	TPS728185315DRVT

SN65LVPE504RUAR	TLV711285285DDSER	TPS40091RHDT	TUSB1106RGTR
TLV320AIC3005IRGZR	TLV711285285DDSET	~~TPS40210DGQ~~	TUSB2551RGTR
TLV320AIC3005IRGZT	TLV7113030DDSER	~~TPS40210DGQR~~	
TLV320AIC3007IRSBR	TLV7113318DDSER	TPS54040ADRCR	

Qualification Report

UTAC (NSE): QFN, conversion to 1.0mil Cu-wire bond on Al-Pad devices

Product Attributes

Attributes	Qual Device: DAC5682ZIRGCR	Qual Device: REG71050DRVR	Qual Device: TPS3808G25DRVR	Qual Device: TPS62560DRVR	Qual Device: TS3L500RHUR
Assembly Site	UTAC (NSE)	UTAC (NSE)	UTAC (NSE)	UTAC (NSE)	UTAC (NSE)
Package Family	VQFN	WSON	WSON	WSON	WQFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	RFAB	TSMC-WF2	FR-BIP-1	UMC-F8AB	FR-BIP-1
Wafer Fab Process	1833C05X5	0.60UM-TSMC	3370A12X3	LBC7X3	ASLC10

- QBS: Qual By Similarity
- Qual Device DAC5682ZIRGCR is qualified at LEVEL3-260C
- Qual Device REG71050DRVR is qualified at LEVEL2-260C
- Qual Devices qualified at LEVEL1-260C: TPS3808G25DRVR, TPS62560DRVR, TS3L500RHUR

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: DAC5682ZIRGCR	Qual Device: REG71050DRVR	Qual Device: TPS3808G25DRVR	Qual Device: TPS62560DRVR	Qual Device: TS3L500RHUR
PC	PreCon Level 1	Level 1-260C	-	-	-	3/693/0	3/246/0
PC	PreCon Level 3	Level 3-260C	3/495/0	-	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	3/215/0
AC	Autoclave 121C	96 Hours	3/256/0	-	-	3/231/0	-
UHAST	Unbiased HAST 130C/85%RH	96 Hours	3/256/0	-	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/247/0	-	-	3/231/0	-
HTSL	High Temp Storage Bake 175C	350 Hours	-	-	-	3/231/0	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	-	1/76/0
ED	Electrical Characterization	Per Datasheet Parameters	-	Pass	-	Pass	Pass
DPA	Destructive Physical Analysis	-	-	Pass	-	-	-
DPA	Destructive Physical Analysis	Post-96 Hours BHAST	-	-	-	-	3/6/0
DPA	Destructive Physical Analysis	Post-96 Hours Autoclave	3/6/0	-	-	3/6/0	-

DPA	Destructive Physical Analysis	Post-500 Temp-Cycles	3/6/0	-	-	3/6/0	-
MQ	Manufacturability (Assembly)	with Crater Check	Pass	-	-	-	-
MQ	Manufacturability (Assembly)	with crater-check	-	Pass	Pass	Pass	Pass
MSL	Thermal Path Integrity	Level 1-260C	-	-	1/12/0	3/36/0	-
MSL	Thermal Path Integrity	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

Qualification Report

Qualify QFN devices with Al bond at CRS using 0.8 and 1.0mil Cu wire

Product Attributes

Attributes	Qual Device: ADS-8484IBRGZ	Qual Device: SN74CBTLV3245ARGYR	Qual Device: TLV320AIC3104IRHBR	Qual Device: TPA6130A2RTJR	Qual Device: TPS65192RHDR
Assembly Site	CRS	CRS	CRS	CRS	CRS
Package Family	VQFN	VQFN	VQFN	WQFN	VQFN
Wafer Fab Supplier	DP1-DM5	FFAB	DP1-DM5	MH8	UMC8AB
Wafer Fab Process	50HPA07X3	ASL3C	1833C05X4	LBC7X3	LBC5

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL2-260C: ADS-8484IBRGZ, SN74CBTLV3245ARGYR, TLV320AIC3104IRHBR, TPA6130A2RTJR, TPS65192RHDR

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: ADS-8484IBRGZ	Qual Device: SN74CBTLV3245ARGYR	Qual Device: TLV320AIC3104IRHBR	Qual Device: TPA6130A2RTJR	Qual Device: TPS65192RHDR
PC	PreCon Level 2	Level 2-260C	2/360/0	12/984/0	4/1079/0	2/154/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	4/316/0	-	-	-
AC	Autoclave 121C	96 Hours	-	4/318/0	4/360/0	-	-
AC	Post Autoclave SAM	96 Hours	-	1/10/0	3/30/0	-	-
TC	Post Temp Cycle SAM	500 Cycles		1/10/0	3/30/0	1/10/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	2/154/0	4/317/0	4/394/0	2/154/0	-
HTSL	High Temp Storage Bake 170C	420 Hours	-	-	4/320/0	-	-
HTSL	High Temp Storage Bake 175C	363 Hours	2/154/0	-	-	-	-
HTOL	Life Test, 125C	168 Hours	-	5/318/0	-	-	-
WBP	Post Temp Cycle Bond Pull	500 Cycles	-	1/5/0	3/15/0	1/5/0	-

ED	Electrical Characterization	Per Datasheet Parameters	-	-	3/30/0	-	Pass
DPA	Destructive Physical Analysis- Post Temp Cycle	500 Cycles	Pass	-	Pass	-	-
MQ	Manufacturability	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass
MSL	Post Temp Cycle Thermal Path Integrity	Level 2-260C	-	4/48/0	-	-	-
MSL	Thermal Path Integrity	Level 2-260C	-	-	2/24/0	-	-
YLD	FTY and Bin Summary	--	-	-	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

ASESH: Conversion of selected MSOP devices to Cu-wire bond on Al pads (>0.5ums)

Product Attributes

Attributes	Qual Device: ADS1244IDGSR	Qual Device: LM393ADGKR	Qual Device: PGA308AIDGSR	Qual Device: THS4521IDGKR	Qual Device: TPS40211DGQR
Assembly Site	ASESH	ASESH	ASESH	ASESH	ASESH
Package Family	VSSOP	VSSOP	VSSOP	VSSOP	VSSOP
Flammability Rating	UL 94 V-0	-	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	TSMC FAB2A	SHE	DMOS5	FFAB	DFAB
Wafer Process	0.35 DPTM	JI1	50HPA07	BICOM3X	LBC4

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL2-260C: ADS1244IDGSR, PGA308AIDGSR, THS4521IDGKR
- Qual Devices qualified at LEVEL1-260C: LM393ADGKR, TPS40211DGQR

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: ADS1244IDGSR	Qual Device: LM393ADGKR	Qual Device: PGA308AIDGSR
DPA	Destructive Physical Analysis	POST-MSL: W/B (1st & 2nd), Pad Damage,Mold die adhesion, saw damage	Pass	-	Pass
ED	Electrical Characterization.	Compare ATE Datalogs against Au-Control	Pass	-	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	3/231/0
HTOL	Life Test, 125C	1000 Hours	-	-	3/231/0
HTSL	High Temp. Storage Bake. 150C	1000 Hours	3/231/0	-	3/231/0
MQ	Manufacturability	(per mfg. Site specification)	Pass	Pass	Pass
MSL	Post HTOL CSAM	1000 Hour (Cisco requirement)	-	-	3/15/0
MSL	Moisture Sensitivity	Level 2-260C	3/36/0	-	3/36/0

MSL	Thermal Path Integrity	Level 1-260C	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	3/231/0	-	3/231/0
YLD	FTY and Bin Summary	Compare Cu-vs-Au: Fail rates by bin number	Pass	-	Pass

Type	Test Name / Condition	Duration	Qual Device: THS4521IDGKR	Qual Device: TPS40211DGQR
DPA	Destructive Physical Analysis	POST-MSL: W/B (1st & 2nd), Pad Damage,Mold die adhesion, saw damage	Pass	Pass
ED	Electrical Characterization.	Compare ATE Datalogs against Au-Control	Pass	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-
HTOL	Life Test, 125C	1000 Hours	-	-
HTSL	High Temp. Storage Bake. 150C	1000 Hours	3/231/0	3/231/0
MQ	Manufacturability	(per mfg. Site specification)	Pass	Pass
MSL	Post HTOL CSAM	1000 Hour (Cisco requirement)	-	-
MSL	Moisture Sensitivity	Level 2-260C	3/36/0	-
MSL	Thermal Path Integrity	Level 1-260C	-	3/36/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	3/230/0	3/231/0
YLD	FTY and Bin Summary	Compare Cu-vs-Au: Fail rates by bin number	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

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