12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20220928001.1
Add Cu as Alternative Wire Base Metal for Selected Device(s)
Change Notification / Sample Request

The PCN is re-issued to correct the Proposed 1st Ship date.

Date: October 13, 2022
To: Newark/Farnell 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.

Texas Instruments requires acknowledgement of 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 samples or additional data are required, requests must be received within **30 days** of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date 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 or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the PCN Team (PCN_ww_admin_team@list.ti.com). For sample requests or sample related questions, contact your local Field Sales Representative.

Sincerely,

PCN Team
SC Business Services

20220928001.1
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
SN74LVC1G07DBVR	null
SN74LVC1G32DBVR	null

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

PCN Number:	20220928001.1	PCN Date:	October 13, 2022
Title:	Add Cu as Alternative Wire Base Metal for Selected Device(s)		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Jan. 11, 2023	Sample requests accepted until:	Nov. 11, 2022

*Sample requests received after (Nov. 11, 2022) will not be supported.

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:

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:

Group 1 Devices:

Material	Current	Proposed
Wire type	0.6mil, 0.8mil, 1.0mil Au	0.8mil, 1.0mil Cu

Group 2 Devices:

Material	Current	Proposed
Wire Diameter	1.0mil Cu	0.8mil 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.

Impact on Environmental Ratings

Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.

RoHS	REACH	Green Status	IEC 62474
☒ No Change	☒ No Change	☒ No Change	☒ No Change

Changes to product identification resulting from this PCN:

None.

Group 1 Product Affected:

SN1604051DBVR	TLV314IDBVT	TLV71325PDBVR	TLV73325PDBVT
SN74AUC1G17DBVR	TLV316IDBVR	TLV71325PDBVT	TLV733285PDBVR
SN74AUP1G00DBVR	TLV316IDBVT	TLV713285PDBVR	TLV733285PDBVT
SN74AUP1G00DBVT	TLV333IDBVR	TLV713285PDBVT	TLV73328PDBVR
SN74AUP1G08DBVT	TLV333IDBVT	TLV71328PDBVR	TLV73328PDBVT
SN74AUP1G125DBVR	TLV379IDBVR	TLV71328PDBVT	TLV73330PDBVR
SN74AUP1G125DBVT	TLV379IDBVT	TLV71330PDBVR	TLV73330PDBVT
SN74AUP1G32DBVR	TLV70213DBVR	TLV71330PDBVT	TLV73333PDBVR
SN74AUP1G32DBVT	TLV70213DBVT	TLV71333PDBVR	TLV73333PDBVT
SN74AUP1G79DBVR	TLV71310PDBVR	TLV71333PDBVT	TPS70919DBVR
SN74LVC1G125DBVR	TLV71310PDBVT	TLV73310PDBVR	TPS70919DBVT
SN74LVC1G125DBVT	TLV71311PDBVR	TLV73310PDBVT	TPS70930DBVR
TLV170IDBVR	TLV71311PDBVT	TLV73311PDBVR	TPS70930DBVT
TLV170IDBVT	TLV71312PDBVR	TLV73311PDBVT	TPS70933DBVR
TLV171IDBVR	TLV71312PDBVT	TLV73312PDBVR	TPS70933DBVT
TLV171IDBVT	TLV71315PDBVR	TLV73312PDBVT	TPS70936DBVR
TLV172IDBVR	TLV71315PDBVT	TLV73315PDBVR	TPS70936DBVT
TLV172IDBVT	TLV713185PDBVR	TLV73315PDBVT	TPS70950DBVR
TLV313IDBVR	TLV713185PDBVT	TLV73318PDBVR	TPS70950DBVT
TLV313IDBVT	TLV71318PDBVR	TLV73318PDBVT	
TLV314IDBVR	TLV71318PDBVT	TLV73325PDBVR	

Group 2 Product Affected:

LPV821DBVR	SN74LVC1G06DBVT	SN74LVC1G240DBVR	SN74LVC1G80DBVT
SN74AUC1G32DBVR	SN74LVC1G07DBVR	SN74LVC1G240DBVT	SN74LVC1G86DBVR
SN74AUP1G08DBVR	SN74LVC1G07DBVT	SN74LVC1G32DBVR	SN74LVC1G86DBVT
SN74CBTLV1G125DBVR	SN74LVC1G08DBVR	SN74LVC1G32DBVT	SN74LVC1GU04DBVR
SN74LVC1G00DBVR	SN74LVC1G08DBVT	SN74LVC1G38DBVR	SN74LVC1GU04DBVT
SN74LVC1G00DBVT	SN74LVC1G126DBVR	SN74LVC1G38DBVT	TLV8541DBVR
SN74LVC1G04DBVR	SN74LVC1G126DBVT	SN74LVC1G79DBVR	
SN74LVC1G04DBVT	SN74LVC1G132DBVR	SN74LVC1G79DBVT	
SN74LVC1G06DBVR	SN74LVC1G132DBVT	SN74LVC1G80DBVR	

Qualification Report

Approve Date 10-Nov-2021

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TLV9061IDBVR	QBS Package Reference: TLV9061IDBVR (NiPdAu)	QBS Package Reference: TPS76933DBVR (PHI)
AC	Autoclave 121C	96 Hours	-	-	-
ED	Electrical Characterization, side by side	Per Datasheet Parameters	-	Pass	-
FLAM	Flammability (UL 94V-0)	--	-	-	3/15/0
FLAM	Flammability (UL-1694)	-	-	3/15/0	-

Type	Test Name / Condition	Duration	Qual Device: TLV9061IDBVR	QBS Package Reference: TLV9061IDBVR (NiPdAu)	QBS Package Reference: TPS76933DBVR (PHI)
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-	-
HTOL	Life Test, 150C	300 Hours	3/231/0	-	-
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	-	-
LI	Lead Fatigue	Leads	3/54/0	-	-
LI	Lead Pull	Leads	3/66/0	-	-
MISC	Salt Atmosphere	-	3/66/0	-	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	-	-
PD	Physical Dimensions	(per mechanical drawing)	3/15/0	-	-
PKG	Lead Finish Adhesion	Leads	3/54/0	-	-
SD	Solderability	Pb Free	3/66/0	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	-	-
UHAST	Unbiased HAST 130C/85%RH	96 Hours	3/231/0	-	-
VM	Visual / Mechanical	(per mfg. Site specification)	3/984/0	-	-
WBP	Bond Pull	Wires	3/228/0	-	-
WBS	Ball Bond Shear	Wires	3/228/0	-	-

- QBS: Qual By Similarity
- Qual Device TLV9061IDBVR is qualified at LEVEL1-260C

- 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
Approve Date 22-Jun-2022

Qualification Results

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

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: 3840PH30DBVRQ1
Test Group A – Accelerated Environment Stress Tests							
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	Level 1-260C	No Fails
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	3/231/0

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: 3840PH30DBVRQ1
UHAST	A3	JEDEC JESD22-A102	3	77	Unbiased HAST 130C/85%RH	96 Hours	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	3/231/0
TC-WBP	A4	MIL-STD883 Method 2011	1	60	Post Temp Cycle Bond Pull	Wires	3/108/0
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A
HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 150C	1000 Hours	3/231/0
Test Group B – Accelerated Lifetime Simulation Tests							
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	3/231/0
EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A
Test Group C – Package Assembly Integrity Tests							
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear, Cpk>1.67	Wires	3/90/0
WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull, Cpk>1.67	Wires	3/90/0
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability	Pb Free Solder	3/45/0
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability	Pb Solder	3/45/0
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	3/30/0
LI	C6	JEDEC JESD22-B105	1	50	Lead Fatigue	Leads	3/66/0
LI	C6	JEDEC JESD22-B105	1	50	Lead Pull to Destruction	Leads	3/66/0
Test Group D – Die Fabrication Reliability Tests							
EM	D1	JESD61	-	-	Electromigration	-	Completed Per Process Technology Requirements
TDDB	D2	JESD35	-	-	Time Dependant Dielectric Breakdown	-	Completed Per Process Technology Requirements
HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	-	Completed Per Process Technology Requirements
NBTI	D4	-	-	-	Negative Bias Temperature Instability	-	Completed Per Process Technology Requirements
SM	D5	-	-	-	Stress Migration	-	Completed Per Process Technology Requirements
Test Group E – Electrical Verification Tests							
ED	E5	AEC Q100-009	3	30	Auto Electrical Distributions	Cpk>1.67 Room, hot, and cold test	3/90/0

- QBS: Qual By Similarity

- Qual Device 3840PH30DBVRQ1 is qualified at LEVEL1-260CG

A1 (PC): Preconditioning:
Performed for THB, Biased HAST, AC, uHAST, TC & PTC samples, as applicable.

Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40°C to +150°C
Grade 1 (or Q): -40°C to +125°C
Grade 2 (or T): -40°C to +105°C
Grade 3 (or I) : -40°C to +85°C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):
Room/Hot/Cold : HTOL, ED
Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
Room : AC/uHAST

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
WW PCN Team	PCN_ww_admin_team@list.ti.com