

PCN Number:	20230125001.1A		PCN Date:	February 28, 2023	
Title:	Add Cu as Alternative Wire Base Metal for Selected Device(s)				
Customer Contact:	PCN Manager	Dept:	Quality Services		
Proposed 1st Ship Date:	May 25, 2023	Sample requests accepted until:	Mar. 26, 2023*		
*Sample requests received after (Mar. 26, 2023) will not be supported.					
Change Type:					
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site
<input checked="" type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Materials
				<input type="checkbox"/>	Wafer Fab Process
PCN Details					
Description of Change:					
Revision A is to remove select device in the Product Affected Section (in bold character with strikethrough . These devices are included on PCN20230125001.2.					
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 type	0.96mil, 1.15mil, 1.30mil, 2.0 mil Au	0.96mil, 1.30mil, 2.0 mil 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	
	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	
Changes to product identification resulting from this PCN:					
None.					
Product Affected:					

AM26LS31CN-NG	MPY634KP	TL064CN-NG	UC3823N
BQ2004EPN	NE5532P-NG	TL072CP-NG	UC3824N
BQ2004HPN	NE555P-NG	TL074IDR-NG	UC3825AN
BQ2004PN	OPA2134PA	TL075IDR	UC3825BN
CD14538BE-NG	OPA2241PA	TL082ACP-NG	UC3825N
CD4001BE-NG	OPA2244PA	TL082BCP-NG	UC3852N
CD4002BE-NG	OPA2251PA	TL084ACN-NG	UC3853N
CD40106BE-NG	OPA2337PA	TL084IDR-NG	UC3854AN
CD4011BE-NG	OPA241PA	TLC339MN	UC3854BN
CD4013BE-NG	OPA2705PA	TLC372MP	UC3854N
CD40174BE-NG	OPA27GP	TLC372QDRG4	UC3856N
CD4023BE-NG	OPA340PA	TLC555QDRNS	UC3861N
CD40257BE-NG	OPA344PA	TLC556MDR	UC3867N
CD4025BE-NG	OPA347PA	TLV2313IDR	UC3901N
CD4043BE-NG	OPA37GP	TLV2432AQD	UC3902N
CD4044BE-NG	OPA404KP	TLV2432AQDG4	UC3906N
CD4046BE-NG	OPA4131PA	TLV2432AQDRG4	UC3907N
CD4049UBE-NG	OPA4131PJ	TLV2432QD	UC80851N
CD4051BE-NG	OPA4227PA	TLV2772QD	UC81185N
CD4053BE-NG	OPA4228PA	TLV4316IDR	UC81186N
CD4068BE-NG	OPA4277PA	TLV6002IDR	UC81500AN
CD4072BE-NG	OPA4316ID	TPS2012D	UC81501AN
CD4073BE-NG	OPA4316IDR	TPS2012DR	UC81502AN
CD4077BE-NG	OPA703PA	TPS2014D	UC81521P
CD4078BE-NG	OPA705PA	TPS2014DR	UC81522P
CD4081BE-NG	PGA202KP	TPS2015D	UCC25701N
CD4082BE-NG	PGA203KP	TPS2015DR	UCC27282D
CD4093BE-NG	PGA206PA	TPS2030P	UCC27282DR
CD4098BE-NG	PGA2310PA	TPS40200GDR	UCC27288D
CD4502BE-NG	RC4580IDR- NF	TPS40200HDR	UCC27288DR
CD4532BE-NG	SE555P	TPS54331GDR	UCC27289D
CD74AC00E-NG	SN1011013D	UC2524AN	UCC27289DR
CD74AC02E-NG	SN1011013DR	UC2525AN	UCC2810N
CD74AC04E-NG	SN1102050DR	UC2525BN	UCC2817AN
CD74AC157E-NG	SN1605019DR	UC2527AN	UCC2817N
CD74AC163E-NG	SN2903DR	UC2705N	UCC2818AN
CD74AC74E-NG	SN65HVD265D	UC2706N	UCC2818N
CD74ACT32E-NG	SN65HVD265DR	UC2707N	UCC281DP-5
CD74HC132E-NG	SN65HVD266D	UC2708N	UCC281DP-ADJ
CD74HC14E-NG	SN65HVD266DR	UC2709N	UCC284DP-12
CD74HC4051E-NG	SN65HVD267D	UC2710N	UCC284DP-5
CD74HC73E-NG	SN65HVD267DR	UC28025N	UCC284DP-ADJ
CD74HC74E-NG	SN7406N-NG	UC2823N	UCC284DPT R-5
CD74HCT14E-NG	SN74ACT00N-NG	UC2824N	UCC284DPT R-ADJ
DAC714P	SN74ACT08N-NG	UC2825AN	UCC29950D
DAC716PK	SN74ACT32N-NG	UC2825BN	UCC29950DR
INA101HP	SN74F112N-NG	UC2825N	UCC35701N
INA103KP	SN74HC00N-NG	UC2846N	UCC3806N

INA105KP	SN74HC02N-NG	UC2852N	UCC3810N
INA106KP	SN74HC04N-NG	UC2854AN	UCC3817AN
INA111AP	SN74HC08N-NG	UC2854BN	UCC3817N
INA111BP	SN74HC10N-P2	UC2854N	UCC3818AN
INA114AP	SN74HC125N-NG	UC2856N	UCC3818N
INA114BP	SN74HC132N-NG	UC2901N	UCC381DP-3
INA117P	SN74HC139N-NG	UC2902N	UCC381DP-5
INA2134PA	SN74HC14N-NG	UC2906N	UCC381DP-ADJ
INA2137PA	SN74HC32N-NG	UC2907N	UCC381DPT R-5
INA240A1D	SN74HC368N-NG	UC3524AN	UCC381DPT R-ADJ
INA240A1DR	SN74HC4066N-NG	UC3525AN	UCC384DP-12
INA240A2D	SN74HC590AN-NG	UC3525BN	UCC384DP-5
INA240A2DR	SN74HC595N-NG	UC3527AN	UCC384DP-ADJ
INA240A3D	SN74HC74N-NG	UC3610N	UCC384DPT R-12
INA240A3DR	SN74LS00N-NG	UC3611N	UCC384DPT R-5
INA240A4D	SN74LS08N-NG	UC3705N	UCC384DPT R-ADJ
INA240A4DR	SN74LS14N-NG	UC3706N	ULN2003AN-NG
LM2903DR-NG	SN74LS161AN-NG	UC3708N	ULN2004AN-NG
LM293P-NG	SN74LS32N-NG	UC3709N	VFC110AP
LM311P-NG	SN74LS595N-NG	UC3710N	VFC32KP
LM339N-NG	SN74LS74AN-NG	UC3717AN	XTR101AP
LM393P-NG	SN75176BP-NG	UC3770AN	XTR110KP
LP1763DR	SN75452BP-P	UC3770BN	
LT1014CN-NG	TL054IDR-NG	UC3823AN	

Qualification Report

Approve Date 17-Oct-2011

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>CD4053BM96</u>	Qual Device: <u>LM358DR</u>	Qual Device: <u>TL494IDR</u>	Qual Device: <u>ULN2003ADR</u>
AC	Autoclave 121C	96 Hours	1/77/0	1/77/0	3/231/0	3/231/0
ED	Electrical Characterization, side by side	Per Datasheet Parameters	Pass	Pass	Pass	Pass
FLAM	Flammability (IEC 695-2-2)	--	-	-	3/15/0	-
FLAM	Flammability (UL 94V-0)	--	-	-	3/15/0	-
FLAM	Flammability (UL-1694)	--	-	-	3/15/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	1/77/0	1/77/0	3/229/0	1/77/0
HTOL	Life Test, 150C	300 Hours	1/77/0	1/77/0	3/231/0	1/77/0
HTSL	High Temp Storage Bake 170C	600 Hours	1/77/0	1/77/0	3/231/0	3/231/0
LI	Lead Pull	Leads	1/22/0	1/22/0	3/66/0	3/66/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass
MSL	Moisture Sensitivity, JEDEC	Level 1-260C	-	3/36/0	3/36/0	3/36/0
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0	3/231/0	3/231/0

Type	Test Name / Condition	Duration	Qual Device: <u>CD4053BM96</u>	Qual Device: <u>LM358DR</u>	Qual Device: <u>TL494IDR</u>	Qual Device: <u>ULN2003ADR</u>
TS	Thermal Shock -65/150C	500 Cycles	1/77/0	3/231/0	3/231/0	3/231/0
VM	Visual / Mechanical	(per mfg. Site specification)	Pass	Pass	Pass	Pass
WBP	Bond Strength	Wires	1/76/0	1/76/0	3/228/0	1/76/0
XRAY	X-ray	(top side only)	1/5/0	1/5/0	3/15/0	3/15/0

- QBS: Qual By Similarity

- Qual Device CD4053BM96, LM358DR, TL494IDR, ULN2003ADR are 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 30-Aug-2013

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>ADS1131IDR</u>	Qual Device: <u>RC4558DR</u>	Qual Device: <u>SN65MLVD207DR</u>	Qual Device: <u>SN74AHC138DR</u>	Qual Device: <u>UCC28061DR</u>
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0	3/227/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0	3/227/0

- QBS: Qual By Similarity

- Qual Device ADS1131IDR is qualified at LEVEL2-260C

- Qual Device RC4558DR, SN65MLVD207DR, SN74AHC138DR, UCC28061DR are 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

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