

PCN Number:	20220309004.1	PCN Date:	May 11, 2022								
Title:	Add Cu as Alternative Wire Base Metal for Selected Device(s)										
Customer Contact:	PCN Manager	Dept:	Quality Services								
Proposed 1st Ship Date:	Aug 11, 2022	Sample requests accepted until:	June 10, 2022								
*Sample requests received after (June 10, 2022) will not be supported.											
Change Type:											
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design								
<input checked="" type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet								
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change								
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site								
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process								
		<input type="checkbox"/>	Wafer Bump Site								
		<input type="checkbox"/>	Wafer Bump Material								
		<input type="checkbox"/>	Wafer Bump Process								
		<input type="checkbox"/>	Wafer Fab Site								
		<input type="checkbox"/>	Wafer Fab Materials								
		<input type="checkbox"/>	Wafer Fab Process								
PCN Details											
Description of Change:											
<p>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:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Material</th> <th style="text-align: center;">Current</th> <th style="text-align: center;">Proposed</th> </tr> </thead> <tbody> <tr> <td>Wire type</td> <td style="text-align: center;">0.96 mil Au</td> <td style="text-align: center;">1.00 mil Cu</td> </tr> </tbody> </table>				Material	Current	Proposed	Wire type	0.96 mil Au	1.00 mil Cu		
Material	Current	Proposed									
Wire type	0.96 mil Au	1.00 mil Cu									
Reason for Change:											
<p>Continuity of supply.</p> <ol style="list-style-type: none"> 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											
<p>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.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">RoHS</th> <th style="text-align: center;">REACH</th> <th style="text-align: center;">Green Status</th> <th style="text-align: center;">IEC 62474</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/> No Change</td> <td style="text-align: center;"><input checked="" type="checkbox"/> No Change</td> <td style="text-align: center;"><input checked="" type="checkbox"/> No Change</td> <td style="text-align: center;"><input checked="" type="checkbox"/> No Change</td> </tr> </tbody> </table>				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
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:											
TPS62172DSGR		TPS62172DSGT									

Qualification Report

Approve Date 6-May-2022

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>TPS62172DSGR</u>	QBS Product Reference: <u>TPS62172DSGR</u>	QBS Product Reference: <u>TPS62160DSGR</u>	QBS Package Reference: <u>TPS65680RSN</u>	QBS Process Reference: <u>TPS62110RSA</u>
ED	Electrical Characterization	Per Datasheet Parameters	-	Pass	Pass	Pass	Pass
HBM	ESD - HBM	3000 V	-	-	1/3/0	2/6/0	-
CDM	ESD - CDM	1500 V	-	-	1/3/0	2/6/0	-
LU	Latch-up	(Per JESD78)	-	-	1/6/0	2/12/0	3/15/0
HTOL	Life Test, 150C	300 Hours	-	-	-	3/231/0	-
HTOL	Life Test, 140C	480 Hours	-	-	-	-	3/231/0
HTOL	Life Test, 125C	1000 Hours	-	-	-	-	-
ELFR	Early Life Failure Rate, 140C	48 Hours	-	-	-	-	3/1881/0
HTSL	High Temp Storage Bake, 170C	420 Hours	-	-	-	2/154/0	3/231/0
HTSL	High Temp Storage Bake, 150C	1000 Hours	-	-	-	1/77/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	3/231/0	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	-	3/231/0	-
AC	Autoclave 121C	96 Hours	-	-	-	-	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	-	3/231/0	-
TC	Temperature Cycle, -55/125C	700 Cycles	-	-	-	-	3/231/0
FTY	Final Test Yield	-	Pass	-	-	-	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	-	-	-

- QBS: Qual By Similarity

- Qual Device TPS62172DSGR is qualified at MSL2 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

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

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