PCN Number:	20160807000	PCN Date:	08/11/2016
Title:	Add Cu as Alternative Wire Base Metal plus new Mount Compound for Selected Device(s)		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	11/11/2016	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:

Texas Instruments is pleased to announce the qualification of Cu as an additional bond wire option and a new mount compound for selected devices listed in "Group 1" & "Group 2" device lists section below. For the devices listed in "Group 3" device list below, only the mount compound will be changing. Devices will remain in current assembly facilities and there will be no other piece part changes:

Group 1 Devices:

What	Current	Additional
Bond Wire	Au, 0.96 mils	Cu, 0.8 mils
Mount Compound #2	4212088	4221460

Group 2 Devices:

What	Current	Additional
Bond Wire	Au, 0.96 mils	Cu, 0.8 mils
Mount Compound #1	4207768	4207123
Mount Compound #2	4212088	4221460

Group 3 Devices:

What	Current	Additional
Mount Compound #2	4212088	4221460

Reason for Change:

Continuity of supply
1) To align with world technology trends and use wiring & mount compound with enhanced mechanical, thermal, 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:

Group 1 Device list:

BQ28Z610DRZR	BQ40Z453RSMR	BQ40Z60RHBR	BQ9003RSMR
BQ27750DRZR	BQ40Z453RSMT	BQ40Z60RHBT	BQ9003RSMR-L1
BQ27750DRZT	BQ40Z50RSMR	BQ40Z695ARSMR	BQ9003RSMT
BQ28Z610DRZT	BQ40Z50RSMR-R1	BQ40Z695ARSMT	BQ9003RSMT-L1
BQ40320RSMR	BQ40Z50RSMT	BQ40Z696ARSMR	BQ9010RHBR
BQ40320RSMR-R1	BQ40Z50RSMT-R1	BQ40Z696ARSMT	BQ9010RHBT
BQ40320RSMT	BQ40Z551RSMR	BQ40Z795ARSMR	PBQ27750DRZR
BQ40320RSMT-R1	BQ40Z551RSMT	BQ40Z795ARSMT	PBQ27750DRZT
BQ40370RSMR	BQ40Z552RSMR	BQ78Z100DRZR	PBQ40Z370RSMR
BQ40370RSMT	BQ40Z552RSMT	BQ78Z100DRZT	PBQ40Z370RSMT
BQ4050RSMR	BQ40Z555RSMR	BQ9000RSMR-D1	SN9000RSMR
BQ4050RSMT	BQ40Z555RSMT	BQ9000RSMR-D2	SN9000RSMT
BQ40696ARSMR	BQ40Z556RSMR	BQ9000RSMR-L1	SN9002DRZR
BQ40696ARSMT	BQ40Z556RSMT	BQ9000RSMT-D1	SN9002DRZT
BQ40Z370RSMR	BQ40Z557RSMR	BQ9000RSMT-D2	SN9003RSMR
BQ40Z370RSMT	BQ40Z557RSMT	BQ9000RSMT-L1	SN9003RSMT
BQ40Z451RSMR	BQ40Z55RSMR	BQ9002DRZR	SN9010RHBR
BQ40Z451RSMT	BQ40Z55RSMT	BQ9002DRZT	SN9010RHBT

Group 2 Device List:

DRV91168RHF	DRV91168RHFR

Group 3 Device List:

BQ9000RSMR	BQ9000RSMT

Qualification Report

Qualification of .8 mil Cu wire on stacked die devices mount for BQ9000RSM, Stacked die product, 4x4mm QFN

Approve Date 19-Jul-2016

Product Attributes

Attributes	Qual Device: BQ28Z610DRZ	Qual Device: BQ40Z60RHB	Qual Device: BQ9000RSM
Assembly Site	CLARK	CLARK	CLARK
Package Family	QFN (SON)	QFN	QFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	RFAB, TSMC 3	RFAB, TSMC FAB 3	RFAB, TSMC FAB 10
Wafer Process	0.18UM EFLASH, LBC7	0.18UM EFLASH, LBC7	0.18UM-28L-EFLASH, LBC7

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL2-260C: BQ40Z60RHB, BQ9000RSM
- Devices contain multiple dies: BQ40Z60RHB, BQ9000RSM

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: BQ28Z610DRZ	Qual Device: BQ40Z60RHB	Qual Device BQ9000RSM
AC	Autoclave 121C	96 Hours	-	-	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-	Pass
HAST	Biased HAST, 110C/85%RH	264 Hours	-	-	1/77/0
HTOL	Life Test, 140C	480 Hours	-	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	3/231/0
WBP	Bond Pull	Wires	Pass	-	Pass
WBS	Ball Bond Shear	Wires	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

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

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USA	PCNAmericasContact@list.ti.com
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