PCN Number:	20131108000	PCN Date:	11/13/2013
Title:	Qualification of Cu as Additional Wire Base Metal Option for Select BGA Package Devices		
Customer Contact:	PCN_ww_admin_team@list.ti.com	Phone:	+1(214)480-6037
Dept:	Quality Services		
Proposed 1st Ship Date:	02/13/2014	Estimated Sample Availability:	Date provided at sample request.

Change Type:

☐	Assembly Site	☐	Assembly Process	☒	Assembly Materials
☐	Design	☐	Electrical Specification	☐	Mechanical Specification
☐	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☐	Wafer Fab Site	☐	Wafer Fab Materials	☐	Wafer Fab Process
		☐	Part number change		

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of Cu as an additional bond wire option for select devices listed in "Product affected" section below. Devices will remain in current assembly facility. Following identifies the material differences for the Product Affected list:

Material Set	Current Assembly Au wire	Cu Bond wire option
Wire diam (Mils)	0.96	0.80

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: Group 1- Devices that will have no change on wire diameter

MSP430F5358IZQWR	MSP430F5658IZQWR	MSP430F6458IZQWR	MSP430F6658IZQWR
MSP430F5358IZQWT	MSP430F5658IZQWT	MSP430F6458IZQWT	MSP430F6658IZQWT
MSP430F5359IZQWR	MSP430F5659IZQWR	MSP430F6459IZQWR	MSP430F6659IZQWR
MSP430F5359IZQWT	MSP430F5659IZQWT	MSP430F6459IZQWT	MSP430F6659IZQWT

Qualification Data : Approved 11/06/2013

This qualification has been specifically developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.

Qual Vehicle : MSP430F6659IZQW (MSL 3-260C)

Package Construction Details

Assembly Site:	TAI	Mold Compound:	4205867
# Pins-Designator, Family:	113-ZQW, BGA	Mount Compound:	4200047
Solder Ball composition	SnAgCu	Bond Wire:	0.80Mil Cu

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size/Fail
** Autoclave	121C (96, 192hrs)	77/0
**High Temp. Storage Bake	170C (420 hrs)	80/0
**Temperature Cycle	-55C/+125C (700 Cyc)	80/0
Notes **- Preconditioning sequence: Level 3-260C.		

Reference Qualification Data:

Qual Vehicle : MSP430F5528IZQE (MSL 3-260C)

Package Construction Details

Assembly Site:	TAI	Mold Compound:	4205867
# Pins-Designator, Family:	80-ZQE, BGA	Mount Compound:	4111062
Solder Ball composition	SnAgCu	Bond Wire:	0.80Mil Cu

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size/Fail		
		Lot#1	Lot#2	Lot#3
**High Temp. Storage Bake	170C (420 hrs)	77/0	77/0	77/0
** Autoclave	121C (96hrs)	77/0	77/0	77/0
**Temperature Cycle	-55C/+125C (500 Cyc)	77/0	77/0	77/0
Manufacturability		Pass	Pass	Pass
Notes **- Preconditioning sequence: Level 3-260C.				

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