



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20101118003C**  
**Add Cu as Alternative Wire Base Metal for Selected Devices**  
**Final Change Notification / Sample Request**

**Date:** May 21, 2019  
**To:** PREMIER FARNELL PCN

Dear Customer:

The purpose of this version C is to retract devices from this change notification. The retraction is for select devices that were inadvertently included and are not affected by this change. We apologize for any inconvenience this may have caused.

This is an announcement of change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

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.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. If you wish to make a sample request please note that TI has the ability to deliver samples on any **Group 1** devices 30 days after sample request on limited quantities. Other devices will require a sample lead-time quote per device. Sample requests made after 30 days of this PCN may require a significantly longer lead-time due to manufacturing queuing and movement of sample inventory to meet production orders. Please see the schedule on the following pages for availability dates. You may contact the PCN Manager or your local Field Sales Representative to acknowledge this PCN and request samples.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process. Any negotiated alternative change requirements will be provided via the customer's defined process. Customers with previously negotiated, special requirements will be handled separately. Any inquiries should be directed to your local Field Sales Representative.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager ([PCN\\_ww\\_admin\\_team@list.ti.com](mailto:PCN_ww_admin_team@list.ti.com)).

Sincerely,

PCN Team  
SC Business Services  
Phone: +1(214) 480-6037  
Fax: +1(214) 480-6659

**20101118003C**  
**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.

<b>DEVICE</b>	<b>CUSTOMER PART NUMBER</b>
ISO721D	null
ISO721MD	null
ISO7230ADW	null
ISO7230CDW	null
ISO7230MDW	null
ISO7231CDW	null
ISO7231MDW	null
ISO7240ADW	null
ISO7242ADW	null
ISO7242CDW	null
ISO7242MDW	null
ISO7240CDW	null
ISO7240CFDW	null
ISO7240MDW	null
ISO7241ADW	null
ISO7241CDW	null
ISO7241MDW	null
ISO721DG4	null
ISO721MDG4	null

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

<b>PCN Number:</b>	20101118003C	<b>PCN Date:</b>	May 21, 2019
<b>Title:</b>	Add Cu as Alternative Wire Base Metal for Selected Devices		
<b>Change Type:</b>			
<input type="checkbox"/> Assembly Site	<input checked="" type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/> Assembly Materials
<input type="checkbox"/> Design	<input type="checkbox"/>	Electrical Specification	<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:

Revision C is to remove select devices in the Product Affected: Group 2 (with strikethrough) and highlighted in yellow. These devices were inadvertently added and not affected by this change.

Devices in the Product Affected Section (with strikethrough) and no highlight were retracted under Revision B of this PCN.

Texas Instruments is pleased to announce the qualification of Cu as an additional bond wire option for devices listed in "Product affected" section below. Devices will remain in the current assembly facility, the wire change as shown in the table below will be the only piece part change.

	Current Bond Wire (Au)	Additional Bond wire option (Cu)
Wire diameter (mils)	.7, .8, 1.15, 1.3, 2.0	.96, 1.3, 2.0

#### Reason for Change:

- 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: Group1 (samples available ~ 30 days upon receipt of sample request)

BQ24027DRCR	TLC5928DBQRG4	TPS2086DG4	TPS54231DRG4
BQ24027DRCRG4	TLC59401PWP	TPS2087D	TPS54232D
BQ24027DRCT	TLC59401PWPR	TPS2087DG4	TPS54232DR
BQ24027DRCTG4	TLC5940PWP	TPS2087DR	TPS54233D
BQ24081DRCR	TLC5940PWPG4	TPS2087DRG4	TPS54233DG4
BQ24081DRCRG4	TLC5940PWPR	TPS2090D	TPS54233DR
BQ24081DRCT	TLC5940PWPR-A	TPS2090DG4	TPS54233DRG4
BQ24081DRCTG4	TLC5940PWPR-AG4	TPS2090DR	TPS54331D
BQ24083DRCR	TLC5940PWPRG4	TPS2090DRG4	TPS54331D-P
BQ24083DRCRG4	TLC5941PWP	TPS2091D	TPS54331DG4
BQ24083DRCT	TLC5941PWPG4	TPS2091DG4	TPS54331DR
BQ24083DRCTG4	TLC5941PWPR	TPS2091DR	TPS54331DR-P
BQ24220RHLLT	TLC5941PWPRG4	TPS2091DRG4	TPS54331DRG4
BQ25010RHLLR	TLC5945PWP	TPS2092D	TPS61058DRCR
BQ25010RHLLRG4	TLC5945PWPG4	TPS2092DG4	TPS61058DRCRG4
BQ25012RHLLR	TLC5945PWPR	TPS2092DR	TPS61059DRCR
BQ25012RHLLRG4	TLC5945PWPRG4	TPS2092DRG4	TPS61059DRCRG4

BQ25015RHRLR	TLC5951DAP	TPS2095D	TPS61120RSAR
BQ25015RHRLRG4	TLC5951DAPR	TPS2095DG4	TPS61120RSARG4
BQ25015RHHLT	TPA3002D2PHP	TPS2096D	TPS61130RSAR
BQ25015RHLTG4	TPA3002D2PHP-P	TPS2096DG4	TPS61130RSARG4
BQ25017RHRLR	TPA3002D2PHP-PG4	TPS2097D	TPS62021DRCCR
BQ25017RHRLRG4	TPA3002D2PHPG4	TPS2097DG4	TPS62021DRCRG4
BQ25017RHHLT	TPA3002D2PHPR	TPS2110APW	TPS62026DRCCR
BQ25017RHLTG4	TPA3002D2PHPRG4	TPS2110APWG4	TPS62026DRCRG4
DRV591VFP	TPA3003D2PFB	TPS2110APWR	TPS62042DRCCR
DRV591VFPG4	TPA3003D2PFBG4	TPS2110APWRG4	TPS62042DRCRG4
DRV591VFPR	TPA3003D2PFBR	TPS2110PW	TPS62043DRCCR
DRV591VFPRG4	TPA3003D2PFBRG4	TPS2110PWG4	TPS62043DRCRG4
DRV592VFP	TPA3004D2PHP-P	TPS2110PWR	TPS62044DRCCR
DRV593VFP	TPA3004D2PHP-PG4	TPS2110PWRG4	TPS62044DRCRG4
DRV593VFPR	TPA3004D2PHPR	TPS2111APW	TPS65040ZQE
DRV594VFP	TPA3004D2PHPRG4	TPS2111APWG4	TPS65040ZQER
DRV594VFPR	TPA3005D2PHP	TPS2111APWR	TPS65100RGER
DRV8201VFP	TPA3005D2PHPG4	TPS2111APWRG4	TPS65100RGERG4
DRV8201VFPR	TPA3005D2PHPR	TPS2111PW	TPS65140RGER
DRV8601ZQVR	TPA3005D2PHPRG4	TPS2111PWG4	TPS65140RGERG4
HPA00031PWPR	TPA3008D2PHP	TPS2111PWR	TPS65145RGER
HPA00054ZQVR	TPA3008D2PHPG4	TPS2111PWRG4	TPS65145RGERG4
HPA00158PWPR	TPA3008D2PHPR	TPS2112APW	TPS658622AZQZR
HPA00193PWPR	TPA3008D2PHPRG4	TPS2112APWG4	TPS658622AZQZT
HPA00201APWRG4	TPA3009D2PHP	TPS2112APWR	TPS79501DRBR
HPA00290PWPR	TPA3009D2PHPG4	TPS2112APWRG4	TPS79501DRBRG4
HPA00299DR	TPA3009D2PHPR	TPS2112PW	TPS92010D
HPA00339RHR	TPA3009D2PHPRG4	TPS2112PWG4	TPS92010DR
HPA00364PWPR	TPA6201A1DRB	TPS2112PWR	TPS92210D
HPA00365PWPR	TPA6201A1DRBG4	TPS2112PWRG4	TPS92210DR
HPA00488A1ZQVR	TPA6201A1GQVR	TPS2113APW	UCC27200D
HPA00533PWPR	TPA6201A1ZQVR	TPS2113APWG4	UCC27200DG4
HPA00534DBQR	TPA6201A1ZQVRG1	TPS2113APWR	UCC27200DR
HPA00537PWPRG4	TPA6202A1ZQVR	TPS2113APWRG4	UCC27200DRG4
HPA00568DR	TPA6202A1ZQVRG1	TPS2113PW	UCC27201D
HPA00608PHPR	TPA6203A1DRB	TPS2113PWG4	UCC27201DG4
HPA00638DAPR	TPA6203A1DRBG4	TPS2113PWR	UCC27201DR
HPA00656DR	TPA6203A1GQVR	TPS2113PWRG4	UCC27201DRG4
HPA00661DRBR	TPA6203A1ZQVR	TPS2114APW	UCC28089D
HPA00762RHR	TPA6203A1ZQVRG1	TPS2114APWG4	UCC28089DG4
HPA00932DR	TPA6204A1DRB	TPS2114APWR	UCC28089DR
HPA00933DR	TPA6204A1DRBG4	TPS2114APWRG4	UCC28089DRG4
HPA01021DR	TPA6205A1ZQVR	TPS2114PW	UCC28600D
OPA569AIDWPP	TPA6205A1ZQVRG1	TPS2114PWG4	UCC28600DG4
OPA569AIDWPG4	TPS2056AD	TPS2115ADRBR	UCC28600DR
OPA569AIDWPR	TPS2056ADG4	TPS2115ADRBRG4	UCC28600DRG4
OPA569AIDWPRG4	TPS2056ADR	TPS2115ADRB	UCC28610D
SN0210045PHPR	TPS2056ADRG4	TPS2115ADRB	UCC28610DR
SN0210045PHPRG4	TPS2057AD	TPS2115APW	UCC2891D
SN0403149PHP-P	TPS2057ADG4	TPS2115APWG4	UCC2891DG4
SN0403149PHP-PG4	TPS2057ADR	TPS2115APWR	UCC2891DR
SN0608063PWPR	TPS2057ADRG4	TPS2115APWRG4	UCC2891DRG4
SN0608063PWPRG4	TPS2058AD	TPS2115PW	UCC2892D

SN0809040DR	TPS2058ADG4	TPS2115PWG4	UCC2892DG4
SN0810068PWP	TPS2080D	TPS2115PWR	UCC2892DR
SN0810068PWPR	TPS2080DG4	TPS2115PWRG4	UCC2892DRG4
SN0901026D	TPS2080DR	TPS2420RSAR	UCC2893D
SN0901026DR	TPS2080DRG4	TPS40140RHHR	UCC2893DG4
SN0907035D	TPS2081D	TPS40140RHHR/2801	UCC2893DR
SN0907035DR	TPS2081DG4	TPS40140RHHRG4	UCC2893DRG4
SN0907036D	TPS2082D	TPS40140RHHT	UCC2894D
SN0907036DR	TPS2082DG4	TPS40140RHHTG4	UCC2894DG4
SN0908049D	TPS2082DR	TPS40200D	UCC2894DR
SN0908049DR	TPS2082DRG4	TPS40200DG4	UCC2894DRG4
SN1002004DR	TPS2085D	TPS40200DR	UCL64010D
SNP2X41ADBR	TPS2085DG4	TPS40200DRG4	UCL64010DR
TLC5928DBQ	TPS2085DR	TPS54231D	
TLC5928DBQG4	TPS2085DRG4	TPS54231DG4	
TLC5928DBQR	TPS2086D	TPS54231DR	

**Product Affected: Group2 (delivery of samples will be greater than 30 days after receipt of sample request, delivery date to be negotiated upon receipt of sample request)**

HPA00231D	SN65HVD1050DR	SN65HVD53DRG4	TPS2211AIDBG4
HPA00231DR	SN65HVD1050DRG4	SN65HVD54D	TPS2211AIDBR
ISO721D	SN65HVD1780D	SN65HVD54DG4	TPS2211AIDBRG4
ISO721DG4	SN65HVD1780DG4	SN65HVD54DR	TPS2220ADB
ISO721DR	SN65HVD1780DR	SN65HVD54DRG4	TPS2220ADBG4
ISO721DRG4	SN65HVD1780DRG4	SN65HVD55D	TPS2220ADBR
ISO721MD	SN65HVD1781D	SN65HVD55DG4	TPS2220ADBRG4
ISO721MDG4	SN65HVD1781DG4	SN65HVD55DR	TPS2220BDB
ISO721MDR	SN65HVD1781DR	SN65HVD55DRG4	TPS2220BDBG4
ISO721MDRG4	SN65HVD1781DRG4	SN65HVD61D	TPS2220BDBR
ISO722D	SN65HVD1782D	SN65HVD61DG4	TPS2220BDBRG4
ISO722DG4	SN65HVD1782DG4	SN65HVD61DR	TPS2223ADB
ISO722DR	SN65HVD1782DR	SN65HVD61DRG4	TPS2223ADBG4
ISO722DRG4	SN65HVD1782DRG4	SN65HVD78D	TPS2223ADBR
ISO722MD	SN65HVD1785D	SN65HVD78DR	TPS2223ADBRG4
ISO722MDG4	SN65HVD1785DG4	SN65HVD96D	TPS2223DB
ISO722MDR	SN65HVD1785DR	SN65HVD96DR	TPS2223DBG4
ISO722MDRG4	SN65HVD1785DRG4	SN65LBC170DB	TPS2223DBR
ISO7230ADW	SN65HVD1786D	SN65LBC170DBG4	TPS2223DBRG4
ISO7230ADWG4	SN65HVD1786DG4	SN65LBC170DBR	TPS2224ADB
ISO7230ADWR	SN65HVD1786DR	SN65LBC170DBRG4	TPS2224ADBG4
ISO7230ADWRG4	SN65HVD1786DRG4	SN65LBC170DW	TPS2224ADBR
ISO7230CDW	SN65HVD1787D	SN65LBC170DWG4	TPS2224ADBRG4
ISO7230CDWG4	SN65HVD1787DG4	SN65LBC171DB	TPS2224DB
ISO7230CDWR	SN65HVD1787DR	SN65LBC171DBG4	TPS2224DBG4
ISO7230CDWRG4	SN65HVD1787DRG4	SN65LBC171DBR	TPS2224DBR
ISO7230MDW	SN65HVD1791D	SN65LBC171DBRG4	TPS2224DBRG4
ISO7230MDWG4	SN65HVD1791DG4	SN65LBC171DW	TPS2226ADB
ISO7230MDWR	SN65HVD1791DR	SN65LBC171DWG4	TPS2226ADBG4
ISO7230MDWRG4	SN65HVD1791DRG4	SN65LBC171DWR	TPS2226ADBR
ISO7231ADW	SN65HVD1792D	SN65LBC171DWRG4	TPS2226ADBRG4
ISO7231ADWG4	SN65HVD1792DR	SN65LBC172A16DW	TPS2226DB
ISO7231ADWR	SN65HVD1793D	SN65LBC172A16DWG4	TPS2226DBG4
ISO7231ADWRG4	SN65HVD1793DR	SN65LBC172A16DWR	TPS2226DBR

ISO7231CDW	SN65HVD1794D	SN65LBC172A16DWRG4	TPS2226DBRG4
ISO7231CDWG4	SN65HVD1794DR	SN65LBC172ADW	TPS2228DB
ISO7231CDWR	SN65HVD179D	SN65LBC172ADWG4	TPS2228DBG4
ISO7231CDWRG4	SN65HVD179DG4	SN65LBC172ADWR	TPS2228DBR
ISO7231MDW	SN65HVD179DR	SN65LBC172ADWRG4	TPS2228DBRG4
ISO7231MDWG4	SN65HVD179DRG4	SN65LBC174A16DW	TPS5410D
ISO7231MDWR	SN65HVD252D	SN65LBC174A16DWG4	TPS5410D-P
ISO7231MDWRG4	SN65HVD252DR	SN65LBC174A16DWR	TPS5410DG4
ISO7240ADW	SN65HVD253D	SN65LBC174A16DWRG4	TPS5410DR
ISO7240ADWG4	SN65HVD253DR	SN65LBC174ADW	TPS5410DRG4
ISO7240ADWR	SN65HVD3086ED	SN65LBC174ADWG4	TPS5420D
ISO7240ADWRG4	SN65HVD3086EDR	SN65LBC174ADWR	TPS5420D-P
ISO7240CDW	SN65HVD30D	SN65LBC174ADWRG4	TPS5420DG4
ISO7240CDWG4	SN65HVD30DG4	SN75LBC170DB	TPS5420DR
ISO7240CDWR	SN65HVD30DR	SN75LBC170DBG4	TPS5420DR-P
ISO7240CDWRG4	SN65HVD30DRG4	SN75LBC170DBR	TPS5420DRG4
ISO7240CFDW	SN65HVD31D	SN75LBC170DBRG4	UCC28510DW
ISO7240CFDWG4	SN65HVD31DG4	SN75LBC171DB	UCC28510DWG4
ISO7240CFDWR	SN65HVD31DR	SN75LBC171DBG4	UCC28511DW
ISO7240CFDWRG4	SN65HVD31DRG4	SN75LBC171DW	UCC28511DWG4
ISO7240MDW	SN65HVD32D	SN75LBC171DWG4	UCC28511DWR
ISO7240MDWG4	SN65HVD32DG4	SN75LBC172A16DW	UCC28511DWRG4
ISO7240MDWR	SN65HVD32DR	SN75LBC172A16DWG4	UCC28512DW
ISO7240MDWRG4	SN65HVD32DRG4	SN75LBC172A16DWR	UCC28512DWG4
ISO7241ADW	SN65HVD33D	SN75LBC172A16DWRG4	UCC28512DWR
ISO7241ADWG4	SN65HVD33DG4	SN75LBC172ADW	UCC28512DWRG4
ISO7241ADWR	SN65HVD33DR	SN75LBC172ADWG4	UCC28513DW
ISO7241ADWRG4	SN65HVD33DRG4	SN75LBC172ADWR	UCC28513DWG4
ISO7241CDW	SN65HVD34D	SN75LBC172ADWRG4	UCC28513DWR
ISO7241CDWG4	SN65HVD34DG4	SN75LBC174A16DW	UCC28513DWRG4
ISO7241CDWR	SN65HVD34DR	SN75LBC174A16DWG4	UCC28514DW
ISO7241CDWRG4	SN65HVD34DRG4	SN75LBC174A16DWR	UCC28514DWG4
ISO7241MDW	SN65HVD35D	SN75LBC174A16DWRG4	UCC28514DWR
ISO7241MDWG4	SN65HVD35DG4	SN75LBC174ADW	UCC28514DWRG4
ISO7241MDWR	SN65HVD35DR	SN75LBC174ADWG4	UCC28515DW
ISO7241MDWRG4	SN65HVD35DRG4	SN75LBC174ADWR	UCC28515DWG4
ISO7242ADW	SN65HVD379D	SN75LBC174ADWRG4	UCC28515DWR
ISO7242ADWG4	SN65HVD379DG4	SNP1X21DBR	UCC28515DWRG4
ISO7242ADWR	SN65HVD379DR	SNP1X21DBRG4	UCC28516DW
ISO7242ADWRG4	SN65HVD379DRG4	TLC5928DW	UCC28516DWG4
ISO7242CDW	SN65HVD50D	TLC5928DWR	UCC28516DWR
ISO7242CDWG4	SN65HVD50DG4	TLC7135CDW	UCC28516DWRG4
ISO7242CDWR	SN65HVD50DR	TLC7135CDWG4	UCC28517DW
ISO7242CDWRG4	SN65HVD50DRG4	TLC7135CDWR	UCC28517DWG4
ISO7242MDW	SN65HVD51D	TLC7135CDWRG4	UCC28517DWR
ISO7242MDWG4	SN65HVD51DG4	TPS2074DB	UCC28517DWRG4
ISO7242MDWR	SN65HVD51DR	TPS2074DBG4	UCC28521DW
ISO7242MDWRG4	SN65HVD51DRG4	TPS2075DB	UCC28521DWG4
SN200707060DR	SN65HVD52D	TPS2075DBG4	UCC28521DWR
SN200707060DRG4	SN65HVD52D-P	TPS2075DBR	UCC28521DWRG4
SN65HVD1040D	SN65HVD52DG4	TPS2075DBRG4	UCC28528DW
SN65HVD1040DG4	SN65HVD52DR	TPS2206ADB	UCC28528DWG4
SN65HVD1040DR	SN65HVD52DRG4	TPS2206ADBG4	UCC28528DWR

SN65HVD1040DRG4	SN65HVD53D	TPS2206ADBR	UCC28528DWRG4
SN65HVD1050D	SN65HVD53DG4	TPS2206ADBRG4	
SN65HVD1050DG4	SN65HVD53DR	TPS2211AIDB	

### 0.96 Mil Cu Wire Qualification Data: Approved 09/01/2009

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

#### Qualification Device(s) Construction Details:

**Qual Vehicle 1: TPA6132A2RTE (MSL=LEVEL2-260C)**

#### Package Construction Details

Assembly Site:	MLA	Mold Compound:	4208625-0004
# Pins-Designator, Family:	16-RTE, QFN	Mount Compound:	4205846-0001
Die Size (mm):	1.09 x 1.09	Bond Wire:	0.96 Mil Dia. Cu
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN

**Qualification:**     Plan     Test Results

Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	77/0
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	77/0
Autoclave*	+121C, 96 Hrs.	77/0	77/0	77/0
Thermal Shock*	-65/150C, 1000 Cycles	77/0	77/0	77/0
Manufacturability (Assembly)	As per assembly site spec	Pass	Pass	Pass

\* - Test requires Moisture Preconditioning

**Qual Vehicle 2: TPS51117RGY (MSL=LEVEL2-260C)**

#### Package Construction Details

Assembly Site:	MLA	Mold Compound:	4208625-0004
# Pins-Designator, Family:	16-RGY, QFN	Mount Compound:	4205846-0001
Die Size (mm):	1.48 x 1.45	Bond Wire:	0.96 Mil Dia. Cu
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN

**Qualification:**     Plan     Test Results

Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	77/0
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	77/0
Autoclave*	+121C, 96 Hrs.	77/0	77/0	77/0
Thermal Shock*	-65/150C, 1000 Cycles	77/0	77/0	77/0
Manufacturability (Assembly)	As per assembly site spec	Pass	Pass	Pass

\* - Test requires Moisture Preconditioning

<b>Qual Vehicle 3: TPS51125RGE (MSL=LEVEL2-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	MLA	Mold Compound:	4208625-0004	
# Pins-Designator, Family:	24-RGE, VQFN	Mount Compound:	4205846-0001	
Die Size (mm):	2.03 x 2.25	Bond Wire:	0.96 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	77/0
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	77/0
Autoclave*	+121C, 96 Hrs.	77/0	77/0	77/0
Thermal Shock*	-65/150C, 1000 Cycles	77/0	77/0	77/0
Manufacturability (Assembly)	As per assembly site spec	Pass	Pass	Pass
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 4: TPS51200DRC (MSL=LEVEL3-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	MLA	Mold Compound:	4208625-0004	
# Pins-Designator, Family:	10-DRC, VSON	Mount Compound:	4205846-0001	
Die Size (mm):	1.35 x 0.78	Bond Wire:	0.96 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	77/0
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	77/0
Autoclave*	+121C, 96 Hrs.	77/0	77/0	77/0
Thermal Shock*	-65/150C, 1000 Cycles	77/0	77/0	77/0
Manufacturability (Assembly)	As per assembly site spec	Pass	Pass	Pass
* - Test requires Moisture Preconditioning				



<b>Qual Vehicle 5: SN0508073PW (MSL=LEVEL1-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	MLA	Mold Compound:	4206193-0003	
# Pins-Designator, Family:	28-PW, TSSOP	Mount Compound:	4042500-0011	
Die Size (mm):	1.48 x 1.45	Bond Wire:	0.96 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> <b>Test Results</b>				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	77/0
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	77/0
Manufacturability (Assembly)	As per assembly site spec	Pass	Pass	Pass
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 6: TPA6011A4PWP (MSL=LEVEL2-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	MLA	Mold Compound:	4205443-0002	
# Pins-Designator, Family:	28-PWP, TSSOP	Mount Compound:	4042504-0007	
Die Size (mm):	1.12 x 2.19	Bond Wire:	0.96 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	8KAOX/9KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> <b>Test Results</b>				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	77/0
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	77/0
Manufacturability (Assembly)	As per assembly site spec	Pass	Pass	Pass
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 7: TPS51117PW (MSL=LEVEL1-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	MLA	Mold Compound:	4206193-0003	
# Pins-Designator, Family:	14-PW, TSSOP	Mount Compound:	4042500-0011	
Die Size (mm):	1.48 x 1.45	Bond Wire:	0.96 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	77/0
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	77/0
Autoclave*	+121C, 96 Hrs.	77/0	77/0	77/0
Thermal Shock*	-65/150C, 1000 Cycles	77/0	77/0	77/0
Manufacturability (Assembly)	As per assembly site spec	Pass	Pass	Pass
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 8: TPA3007D1PW (MSL=LEVEL2-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	TAI / TITL	Mold Compound:	4206193-0001	
# Pins-Designator, Family:	24-PW, TSSOP	Mount Compound:	4042500-0007	
Die Size (mm):	2.082 x 4.184	Bond Wire:	0.96 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	77/0
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	77/0
Autoclave*	+121C, 96 Hrs.	77/0	77/0	77/0
Thermal Shock*	-65/150C, 1000 Cycles	77/0	77/0	77/0
Moisture Sensitivity	(level 2 @ 260C +5/-0C)	12/0	12/0	12/0
Manufacturability (Assembly)	As per assembly site spec	Pass	Pass	Pass
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 9: TPA6030A4PWP (MSL=LEVEL4-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	TAI / TITL	Mold Compound:	4205443-0009	
# Pins-Designator, Family:	28-PWP, HTSSOP	Mount Compound:	4206201-0001	
Die Size (mm):	1.914 x 3.762	Bond Wire:	0.96 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	77/0
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	77/0
Autoclave*	+121C, 96 Hrs.	77/0	77/0	77/0
Thermal Shock*	-65/150C, 1000 Cycles	77/0	77/0	77/0
Moisture Sensitivity	(level 2 @ 260C +5/-0C)	12/0	12/0	12/0
Manufacturability (Assembly)	As per assembly site spec	Pass	Pass	Pass
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 10: TPA6203A1GQV (MSL=LEVEL2A-235C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	TAI / TITL	Mold Compound:	4200591-0002	
# Pins-Designator, Family:	8-GQV, BGA	Mount Compound:	4111062-1005	
Die Size (mm):	0.98 x 0.98	Bond Wire:	0.96 Mil Dia. Cu	
Solder ball Composition:	SnPb	Die Protective Coating:	12KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
High Temp Storage Bake	+150C, 1000 Hrs.	77/0	-	-
Unbiased HAST*	130C/85%RH/33.3 PSIA, 96 Hrs	77/0	-	-
Temp Cycle*	-55/+125C, 1000 cycles	77/0	-	-
Bond Strength	Min 3 Units	76/0	-	-
Moisture Sensitivity	(level 2 @ 235C +5/-0C)	12/0	-	-
Manufacturability (Assembly)	As per assembly site spec	Pass	-	-
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 11: TPA6205A1ZQV (MSL=LEVEL3-250C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	TAI / TITL	Mold Compound:	4200591-0001	
# Pins-Designator, Family:	8-ZQV, BGA	Mount Compound:	4111062-1005	
Die Size (mm):	0.98 x 0.98	Bond Wire:	0.96 Mil Dia. Cu	
Solder ball Composition:	SnAgCu	Die Protective Coating:	12KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
High Temp Storage Bake	+150C, 1000 Hrs.	77/0	-	-
High Temp Operating Life	125C , 1000 Hrs, VCC Max	77/0	-	-
Unbiased HAST*	130C/85%RH/33.3 PSIA, 96 Hrs	77/0	-	-
Temp Cycle*	-55/+125C, 1000 cycles	77/0	-	-
Bond Strength	Min 3 Units	76/0	-	-
Moisture Sensitivity	(level 2 @ 235C +5/-0C)	12/0	-	-
Manufacturability (Assembly)	As per assembly site spec	Pass	-	-
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 12: TPS65850ZQZ (MSL=LEVEL3-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	TAI / TITL	Mold Compound:	4205867-0001	
# Pins-Designator, Family:	120-ZQZ, BGA	Mount Compound:	4111062-1010	
Die Size (mm):	4.67 x 5.47	Bond Wire:	0.96 Mil Dia. Cu	
Solder ball Composition:	SnAgCu	Die Protective Coating:	8KAOXYN\10KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
High Temp Storage Bake	+150C, 1000 Hrs.	77/0	-	-
High Temp Operating Life	125C , 1000 Hrs, VCC Max	77/0	-	-
Unbiased HAST*	130C/85%RH/33.3 PSIA, 96 Hrs	77/0	-	-
Temp Cycle*	-55/+125C, 1000 cycles	77/0	-	-
Bond Strength	Min 3 Units	76/0	-	-
Moisture Sensitivity	(level 2 @ 235C +5/-0C)	12/0	-	-
Manufacturability (Assembly)	As per assembly site spec	Pass	-	-
* - Test requires Moisture Preconditioning				

### 1.3 Mil Cu Wire Qualification Data (Approved 02/13/2009):

This qualification has been developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.				
<b>Qualification Device(s) Construction Details:</b>				
<b>Qual Vehicle 1: TAS5182DCA (MSL=LEVEL3-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	TAI	Mold Compound:	4205443-0009	
# Pins-Designator, Family:	56-DCA, TSSOP	Mount Compound:	4206201-0001	
Die Size (mm):	2.408 x 3.792	Bond Wire:	1.3 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	-	-
High Temp Storage Bake	+170C, 420 Hrs.	77/0	-	-
Autoclave*	+121C, 96 Hrs.	77/0	-	-
Thermal Shock*	-65/150C, 1000 Cycles	77/0	-	-
Manufacturability (Assembly)	As per assembly site spec	Pass	-	-
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 2: TPS40057PWP (MSL=LEVEL2-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	TAI	Mold Compound:	4205443-0009	
# Pins-Designator, Family:	16-PWP, TSSOP	Mount Compound:	4042504-0007	
Die Size (mm):	2.207 x 2.055	Bond Wire:	1.3 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	-	-
High Temp Storage Bake	+170C, 420 Hrs.	77/0	-	-
Autoclave*	+121C, 96 Hrs.	77/0	-	-
Thermal Shock*	-65/150C, 1000 Cycles	77/0	-	-
Manufacturability (Assembly)	As per assembly site spec	Pass	-	-
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 3: TPS65161PWP (MSL=LEVEL2-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	TAI	Mold Compound:	4205443-0009	
# Pins-Designator, Family:	28-PWP, TSSOP	Mount Compound:	4042504-0007	
Die Size (mm):	3.454 x 2.083	Bond Wire:	1.3 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 1000 cycles	77/0	-	-
High Temp Storage Bake	+170C, 420 Hrs.	77/0	-	-
Autoclave*	+121C, 96 Hrs.	77/0	-	-
Thermal Shock*	-65/150C, 1000 Cycles	77/0	-	-
Manufacturability (Assembly)	As per assembly site spec	Pass	-	-
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 4: UCC2891PW (MSL=LEVEL1-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	MLA	Mold Compound:	4206193-0003	
# Pins-Designator, Family:	16-PW, TSSOP	Mount Compound:	4042500-0011	
Die Size (mm):	2.029 x 2.642	Bond Wire:	1.3 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10.50KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	-	-
High Temp Storage Bake	+170C, 420 Hrs.	77/0	-	-
Autoclave*	+121C, 96 Hrs.	77/0	-	-
Thermal Shock*	-65/150C, 1000 Cycles	77/0	-	-
Manufacturability (Assembly)	As per assembly site spec	Pass	-	-
* - Test requires Moisture Preconditioning				

<b>Qual Vehicle 5: UCC2897PW (MSL=LEVEL1-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	MLA	Mold Compound:	4206193-0002	
# Pins-Designator, Family:	20-PW, TSSOP	Mount Compound:	4042500-0011	
Die Size (mm):	2.029 x 2.642	Bond Wire:	1.3 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10.5 KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	-
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	-
Autoclave*	+121C, 96 Hrs.	77/0	77/0	-
Thermal Shock*	-65/150C, 1000 Cycles	77/0	77/0	-
Manufacturability (Assembly)	As per assembly site spec	Pass	Pass	-
* - Test requires Moisture Preconditioning				
<b>Qual Vehicle 6: SN0701013DRC (MSL=LEVEL2-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	MLA	Mold Compound:	4208625-0001	
# Pins-Designator, Family:	10-DRC, SON	Mount Compound:	4205846-0001	
Die Size (mm):	1.648 x 1.336	Bond Wire:	1.3 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10KACN	
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	77/0
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	77/0
Autoclave*	+121C, 96 Hrs.	77/0	77/0	77/0
Manufacturability (Assembly)	As per assembly site spec	Pass	-	-
* - Test requires Moisture Preconditioning				
<b>Qual Vehicle 7: TPA6040A4RHB (MSL=LEVEL3-260C)</b>				
<b>Package Construction Details</b>				
Assembly Site:	MLA	Mold Compound:	4208625-0001	
# Pins-Designator, Family:	32-RHB, QFN	Mount Compound:	4205846-0001	
Die Size (mm):	2.443 x 2.149	Bond Wire:	1.3 Mil Dia. Cu	
Leadframe (Finish, Base):	NiPdAu, Cu	Die Protective Coating:	10.5 KACN	
<b>Qualification:</b> <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Temp Cycle*	-65/+150C, 500 cycles	77/0	77/0	77/0
High Temp Storage Bake	+170C, 420 Hrs.	77/0	77/0	77/0
Autoclave*	+121C, 96 Hrs.	77/0	77/0	77/0
Thermal Shock*	-65/150C, 1000 Cycles	77/0	77/0	77/0
Manufacturability (Assembly)	As per assembly site spec	Pass	-	-
* - Test requires Moisture Preconditioning				

## 2.0 MILL Cu wire Qualification Data: Approved 09/23/2008

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

### Qualification Device(s) Construction Details:

#### Qual Vehicle 1: TPS2231RGP (MSL=L2/260)

Package		Die	
Assembly Site:	TI Malaysia	Wafer Fab Site:	HFAB
Pin Count, Package Family:	20, QFN	Wafer Process:	LBC4X
Mold Compound:	4208625	Die Type:	Wire Bond
Mount Compound:	4205846	Die Size (mils):	99.76 X 54.76
Leadframe – Finish, Base:	NiPdAu, Cu	Metals	TiW/AICu.5
Bond Wire:	1.97 Mil Diameter Cu	Passivation:	10KACN

Qualification:     Plan     Test Results

Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Life Test	155C, 240 Hrs.	116/0	-	-
Autoclave*	121C, 96 Hrs.	77/0	77/0	77/0
Temp Cycle*	-65/+150C, 500 Cycles	77/0	107/0	107/0
Thermal Shock*	-65/150C, 1000 Cycles	77/0	77/0	77/0
High Temp Storage Bake*	170C, 420 Hrs.	77/0	77/0	77/0
Manufacturability (Assembly)		Pass		

Notes:

1. \* Test requires Moisture Preconditioning
2. Qualification tests "pass" on zero fails for each test

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	<a href="mailto:PCNAmericasContact@list.ti.com">PCNAmericasContact@list.ti.com</a>
Europe	<a href="mailto:PCNEuropeContact@list.ti.com">PCNEuropeContact@list.ti.com</a>
Asia Pacific	<a href="mailto:PCNAsiaContact@list.ti.com">PCNAsiaContact@list.ti.com</a>
Japan	<a href="mailto:PCNJapanContact@list.ti.com">PCNJapanContact@list.ti.com</a>