12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20150505003B
Add Cu as Alternative Wire Base Metal for Selected Device(s)
Change Notification / Sample Request

Date: 10/11/2016
To: TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

Revision **B** is to announce the retraction of select devices.

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

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The proposed first ship date is indicated on page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

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.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services

20150505003
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.

DEVICE	CUSTOMER PART NUMBER
DS14C238WMX/NOPB	null

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

PCN Number:	20150505003B	**PCN Date:**	Oct 11 2016
Title:	Add Cu as Alternative Wire Base Metal for Selected Device(s)		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Aug 14 2015	**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:

Revision B is to announce the retraction of select devices. These devices will continue to be manufactured as prior and will not be subjected to the change described in this notification. Affected devices are identified above in Pg 2.

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 current assembly facilities and there will be no other piece part changes:

Pkg Family	Current Wire	Additional Wire
SOT23	Au, 1.0 mil	Cu, 0.96 mil
SOIC	Au, 1.0 mil	Cu, 0.96 mil
VSSOP	Au, 1.0 mil	Cu, 0.96 mil
TSSOP	Au, 1.0 mil	Cu, 0.96 mil
QFN	Au, 1.0 mil	Cu, 0.80 mil

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 Form, Fit, Function, Quality or Reliability (positive / negative):

None

Changes to product identification resulting from this PCN:

None

Product Affected:

See Page 2.

Qualification Report

0.96 mil Cu wire qual for SOT23 Packages

Product Attributes

Attributes	Qual Device: LM4041AIM3-1.2	Qual Device: LP3985IM5X-5.0	Qual Device: LMC7101AIM5NOPB	Qual Device: LM431CCM3NOPB
Assembly Site	TIEMA	TIEMA	TIEMA	TIEMA
Package Family	SOT	SOT	SOT	SOT
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	GFAB	MFAB	GFAB	GFAB
Wafer Fab Process	BPLFAST-1	CMOS7	P2CMOS	SLM

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LM4041AIM3-1.2	Qual Device: LP3985IM5X-5.0	Qual Device: LMC7101AIM5NOPB	Qual Device: LM431CCM3NOPB
PC	PreCon Level 1	Level 1-260C	3/693/0	3/462/0	3/693/0	3/462/0
HAST	Biased HAST, 130C/85%RH	96/hrs. @130C	3/231/0	-	3/231/0	-
AC	Autoclave 121C	96HRS	3/231/0	3/231/0	3/231/0	3/231/0
TC	Temperature Cycle, -65/150C	TMCL500X	3/231/0	3/231/0	3/231/0	3/231/0
HTSL	High Temp Storage Bake 150C	1000 hrs. @150C	1/77/0	-	1/77/0	1/77/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass
DPA	Destructive Physical Analysis Post 500 Temp Cycle	x-section and de process to examine assembly robustness, Check for stich bond and bond pad integrity	3/15/0	3/15/0	3/15/0	3/15/0
YLD	FTY and Bin Summary	Compare against baseline	Pass	Pass	Pass	Pass

Qualification Report

0.96 mil Cu wire qual for SOIC Packages

Product Attributes

Attributes	Qual Device: DS90CP22MXA1CL	Qual Device: LMV324MX	Qual Device: LP2995MXNOPB	Qual Device: LMC6482AIM/NOPB
Assembly Site	TIEMA	TIEMA	TIEMA	TIEMA
Package Family	SOIC	SOIC	SOIC	SOIC
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	MFAB	MFAB	MFAB	GFAB
Wafer Fab Process	CMOS7	CS80	CS65	P2CMOS

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: DS90CP22MXA1CL	Qual Device: LMV324MX	Qual Device: LP2995MXNOPB	Qual Device: LMC6482AIM/NOPB
PC	PreCon Level 1	Level 1-260C	3/462/0	-	3/462/0	3/693/0
HAST	Biased HAST, 130C/85%RH	96/hrs. @130C	-	-	-	3/231/0
AC	Autoclave 121C	96HRS	3/231/0	-	3/231/0	3/231/0
TC	Temperature Cycle, -65/150C	TMCL500X	3/231/0	-	3/231/0	3/231/0
HTSL	High Temp Storage Bake 150C	1000 hrs. @150C	-	-	-	1/77/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	-	Pass	Pass	Pass
DPA	Destructive Physical Analysis Post 500 Temp Cycle	x-section and de process to examine assembly robustness, Check for stich bond and bond pad integrity	3/15/0	-	3/15/0	3/15/0
YLD	FTY and Bin Summary	Compare against baseline	-	Pass	Pass	Pass

Qualification Report

0.96 mil Cu wire qual for VSSOP & TSSOP Packages

Product Attributes

Attributes	Qual Device: LMV852MMX	Qual Device: LMC6482IMM	Qual Device: LM93CIMT	Qual Device: LM5642MHX
Assembly Site	TIEMA	TIEMA	TIEMA	TIEMA
Package Family	VSSOP	VSSOP	TSSOP	TSSOP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	MFAB	GFAB	MFAB	MFAB
Wafer Fab Process	CMOS7	P2CMOS	CMOS7	ABCD150

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LMV852MMX	Qual Device: LMC6482IMM	Qual Device: LM93CIMT	Qual Device: LM5642MHX
PC	PreCon Level 1	Level 1-260C	3/462/0	3/462/0	-	3/231/0
PC	PreCon Level 2	Level 2-260C	-	-	3/693/0	-
HAST	Biased HAST, 130C/85%RH	96/hrs. @130C	-	-	3/231/0	-
AC	Autoclave 121C	96HRS	3/231/0	3/231/0	3/231/0	-
TC	Temperature Cycle, -65/150C	TMCL500X	3/231/0	3/231/0	3/231/0	3/231/0
HTSL	High Temp Storage Bake 150C	1000 hrs. @150C	-	-	1/77/0	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	-	-
DPA	Destructive Physical Analysis Post 500 Temp Cycle	x-section and de process to examine assembly robustness, Check for stich bond and bond pad integrity	3/15/0	3/15/0	-	3/15/0
YLD	FTY and Bin Summary	Compare against baseline	Pass	Pass	-	-

Qualification Report

0.96 mil Cu wire qual for TSSOP Packages

Product Attributes

Attributes	Qual Device: LMH0346MH	Qual Device: LM5037MT	Qual Device: LM3657MH/NOPB	Qual Device: SCANSTA111MTX
Assembly Site	TIEMA	TIEMA	TIEMA	TIEMA
Package Family	TSSOP	TSSOP	TSSOP	TSSOP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	MFAB	GFAB	MFAB	MFAB
Wafer Fab Process	BICMOS8B+	ABCD150	CMOS7	CMOS7

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LMH0346MH	Qual Device: LM5037MT	Qual Device: LM3657MH/NOPB	Qual Device: SCANSTA111MTX
PC	PreCon Level 1	Level 1-260C	-	3/693/0	3/462/0	-
PC	PreCon Level 2	Level 2-260C	-	-	-	3/462/0
PC	PreCon Level 3	Level 3-260C	3/231/0	-	-	-
THBT	THBT 85C, 85%RH	1000/hrs. @85C	-	3/231/0	-	-
AC	Autoclave 121C	96HRS	-	3/231/0	3/231/0	3/231/0
TC	Temperature Cycle, -65/150C	TMCL500X	3/231/0	3/231/0	3/231/0	3/231/0
HTSL	High Temp Storage Bake 150C	1000 hrs. @150C	-	1/77/0	-	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass
DPA	Destructive Physical Analysis Post 500 Temp Cycle	x-section and de process to examine assembly robustness, Check for stich bond and bond pad integrity	3/15/0	3/15/0	3/15/0	3/15/0
YLD	FTY and Bin Summary	Compare against baseline	Pass	Pass	Pass	Pass

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
- 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

0.8 mils Cu wire qual on BC13, CMOS9T and CMOS7 in WQFN and WSON Packages

Approved 09/23/2014

Product Attributes

Attributes	Qual Device: DP83848TSQ	Qual Device: DS91M040TSQAW2	Qual Device: DS100DX410EL16	Qual Device: DS80PCI402A2TT	Qual Device: LMH0366SQENOPB	Qual Device: LMH0394SQ/NOPB
Assembly Site	TIEM-AT	TIEM-AT	TIEM-AT	TIEM-AT	TIEM-AT	TIEM-AT
Package Family	WQFN	WQFN	WQFN	WQFN	WQFN	QFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	MAINEFAB	MAINEFAB	MAINEFAB	MAINEFAB	MAINEFAB	MAINEFAB
Wafer Fab Process	CMOS9T	CMOS7	BICMOS13	BICMOS13	BICMOS13	BICMOS13

- QBS: Qual By Similarity
- Qual Device DS100DX410EL16 is qualified at LEVEL3-260C
- Qual Device DS80PCI402A2TT is qualified at LEVEL2-260C
- Qual Device LMH0366SQENOPB is qualified at LEVEL1-260C
- Qual Device LMH0394SQ/NOPB is qualified at -
- Qual Device LMH0394SQ/NOPB REV A is qualified at LEVEL3-260C

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: DP83848TSQ	Qual Device: DS91M040TSQAW	Qual Device: DS100DX410EL16	Qual Device: DS80PCI402A2TT	Qual Device: LMH0366SQENOPB	Qual Device: LMH0394SQ/NOPB
PC	PreCon Level 1	Level 1-260C					3/720/0	
PC	PreCon Level 2	Level 2-260C	3/1079/0		-	3/720/0	-	-
PC	PreCon Level 3	Level 3-260C	-	1/255/0	3/720/0	-	-	3/231/0
HAST	Biased HAST, 130C/85%RH	96/hrs. @130C	-	-	-	-	-	3/231/0
AC	Autoclave 121C	96HRS	3/231/0	1/77/0	3/231/0	3/231/0	3/231/0	-
UHAST	Unbiased HAST 130C/85%RH	unHAST-96 HRS/-	3/231/0	1/77/0	3/231/0	3/231/0	3/231/0	-
TC	Temperature Cycle, -65/150C	TMCL500X	3/231/0	1/77/0	3/231/0	3/231/0	3/231/0	-
HTSL	High Temp Storage Bake 170C	420 hrs. @170C	3/231/0	-	-	3/231/0	-	-

ED	Side By Side Electrical Characterization.	Per Datasheet Parameters	1/30/0	1/30/0	1/30/0	1/30/0	1/30/0	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass	Pass
MSL	Thermal Path Integrity	Level 2-260C	3/30/0	1/22/0	3/66/0	3/66/0	3/66/0	-
DPA	Destructive Physical Analysis Post 500 Temp Cycle	x-section and de process to examine assembly robustness, Check for stich bond and bond pad integrity	3/3/0	-	3/15/0	3/15/0	3/15/0	1/5/0 Post 96 hours HAST
YLD	FTY and Bin Summary	Compare against baseline	Pass	Pass	Pass	Pass	Pass	Pass

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
- 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
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com