PCN Number:	20130306001A			**PCN Date:**	07/24/2013
Title:	Qualification of copper wire as alternate bonding material for selected products in SOIC Package				
Customer Contact:	PCN Manager	**Phone:**	+1(214)480-6037	**Dept:**	Quality Services
Proposed 1st Ship Date:	04/20/2013	**Estimated Sample Availability:**			03/20/2012
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

PCN Details

Description of Change:

Revision A is to announce the retraction of select devices. These will continue to be assembled using gold bond wire. These retracted devices are identified with a ~~**strikethrough**~~ and are highlighted in yellow in the Product Affected Section.

To qualify Cu wire as alternative bond material for selected products in SOIC package. All the devices in this notification were included in Forecast PCN20123202 published on March 17, 2012 which was issued from the National Semiconductor PCN system.

	From	To
Wire	Au, 0.9mil & 1.0mil	Cu, 0.96 mil or Au, 0.9mil & 1.0mil
Mold Compound	8096859	8096859
Mount Compound	8080598	8080598
Leadframe Finish	Matte Sn or SnPB	Matte Sn or SnPB

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:

ADC08831IM	DS91C180TMAX	~~LM63CIMA/NOPB~~	LMV324MX
ADC08831IM/NOPB	DS91C180TMAX/NOPB	~~LM63CIMAX~~	LMV324MX/E7001889
ADC08831IMX	DS91D176TMA/NOPB	~~LM63CIMAX/NOPB~~	LMV324MX/E7002869
ADC08831IMX/NOPB	DS91D176TMAX	~~LM63DIMA~~	LMV324MX/NOPB
ADC08832IM	DS91D176TMAX/NOPB	~~LM63DIMA/NOPB~~	LMV339M
ADC08832IM/NOPB	DS91D180TMA	~~LM63DIMAX~~	LMV339M/NOPB
ADC08832IMX	DS91D180TMA/NOPB	~~LM63DIMAX/NAK2~~	LMV339MX
ADC08832IMX/NOPB	DS91D180TMAX	~~LM63DIMAX/NOPB~~	LMV339MX/NOPB
ADCV08832CIMX	DS91D180TMAX/NOPB	~~LM74CIM-3~~	LMV342MA
ADCV08832CIMX/NOPB	DS91M047TMA/NOPB	~~LM74CIM-3/NOPB~~	LMV342MA/NOPB
CLC001AJE	DS91M047TMAX/NOPB	~~LM74CIM-5~~	LMV342MAX
CLC001AJE-TR13	DS91M124TMA/NOPB	~~LM74CIM-5/NOPB~~	LMV342MAX/E7002870
CLC001AJE-TR13/NOPB	DS91M124TMAX/NOPB	~~LM74CIMX-3~~	LMV342MAX/J7002023
CLC001AJE/NOPB	DS91M125TMA/NOPB	~~LM74CIMX-3/NOPB~~	LMV342MAX/NOPB
DS10CP152TMA/NOPB	DS91M125TMAX/NOPB	~~LM74CIMX-5~~	LMV342MAX/S7002483
DS10CP152TMAX/NOPB	DS92001TMA	~~LM74CIMX-5/E7000843~~	LMV344MA
DS36C200M	DS92001TMA/NOPB	~~LM74CIMX-5/NOPB~~	LMV344MA/NOPB
DS36C200M/NOPB	DS92001TMA/S5001568	~~LM74CIMX-5/S7001825~~	LMV344MAX
DS36C200MX	DS92001TMAX	~~LM75AIM/NOPB~~	LMV344MAX/NOPB
DS36C200MX/NOPB	DS92001TMAX/NOPB	~~LM75AIMX/NOPB~~	LMV344MAX/S5000800
DS90C031BTM	DS92LV010ATM	~~LM75BIM-3~~	LMV344MAX/S7002582
DS90C031BTM/NAK2	DS92LV010ATM/NOPB	~~LM75BIM-3/NOPB~~	LMV358M
DS90C031BTM/NOPB	DS92LV010ATMX	~~LM75BIM-5~~	LMV358M/NOPB
DS90C031BTMX	DS92LV010ATMX/NOPB	~~LM75BIM-5/NOPB~~	LMV358MX
DS90C031BTMX/NOPB	LM4808M	~~LM75BIMX-3~~	LMV358MX/DRSN
DS90C031TM	LM4808M/NOPB	~~LM75BIMX-3/NAK2~~	LMV358MX/E7002867
DS90C031TM/NOPB	LM4808MX	~~LM75BIMX-3/NOPB~~	LMV358MX/MESN
DS90C031TMX	LM4808MX/NOPB	~~LM75BIMX-5~~	LMV358MX/NOPB
DS90C031TMX/NOPB	~~LM4818MX~~	~~LM75BIMX-5/NOPB~~	LMV393M
DS90C032BTM	~~LM4818MX/NOPB~~	~~LM76CHM-5~~	LMV393M/NOPB
DS90C032BTM/NOPB	~~LM4819MX~~	~~LM76CHM-5/NOPB~~	LMV393MX
DS90C032BTMX	~~LM4819MX/NOPB~~	~~LM76CHMX-5~~	LMV393MX/NOPB
DS90C032BTMX/NOPB	LM4860M	~~LM76CHMX-5/NOPB~~	LMV393MX/S5000873
DS90C032TM	LM4860M/NOPB	~~LM77CIM-3~~	LMV722M
DS90C032TM/NAK2	LM4860MX	~~LM77CIM-3/NOPB~~	LMV722M/NOPB
DS90C032TM/NOPB	LM4860MX/NOPB	~~LM77CIM-5~~	LMV722MX
DS90C032TMX	~~LM4861M~~	~~LM77CIM-5/NOPB~~	LMV722MX/NOPB
DS90C032TMX/NOPB	~~LM4861M/NOPB~~	~~LM77CIMX-3~~	LMV761MA
DS90C401M	~~LM4861MX~~	~~LM77CIMX-3/NOPB~~	LMV761MA/NOPB
DS90C401M/NOPB	~~LM4861MX/NOPB~~	~~LM77CIMX-5~~	LMV761MAX
DS90C401MX	~~LM4862M~~	~~LM77CIMX-5/NOPB~~	LMV761MAX/NOPB
DS90C401MX/NOPB	~~LM4862M/NOPB~~	~~LM86CIM~~	LMV762MA
DS90C402M	~~LM4862MX~~	~~LM86CIM/NOPB~~	LMV762MA/NOPB
DS90C402M/NOPB	~~LM4862MX/NOPB~~	~~LM86CIMX~~	LMV762MAX
DS90C402MX	~~LM4864M~~	~~LM86CIMX/NAK2~~	LMV762MAX/NOPB
DS90C402MX/NOPB	~~LM4864M/NOPB~~	~~LM86CIMX/NOPB~~	LMV772MA
DS90CP22M-8	~~LM4864MX~~	~~LM89-1CIM~~	LMV772MA/NOPB
DS90CP22M-8/NOPB	~~LM4864MX/NAK2~~	~~LM89-1CIMX~~	LMV772MAX
DS90CP22MX-8	~~LM4864MX/NOPB~~	~~LM89CIMX~~	LMV772MAX/E5002752

DS90CP22MX-8/NOPB	LM4865M	~~LM89CIMX/NAK2~~	LMV772MAX/E7002744
DS90LV001TM	LM4865M/NOPB	~~LM89CIMX/NOPB~~	LMV772MAX/NOPB
DS90LV001TM/J7001651	LM4865MX	~~LM92CIM~~	LMV822M
DS90LV001TM/NOPB	LM4865MX/NOPB	~~LM92CIM/NOPB~~	LMV822M/NOPB
DS90LV001TMX	~~LM4871M~~	~~LM92CIMX~~	LMV822MX
DS90LV001TMX/J7001652	~~LM4871M/NOPB~~	~~LM92CIMX/NOPB~~	LMV822MX/NOPB
DS90LV001TMX/NAK2	~~LM4871MX~~	~~LM95245CIM~~	LMV822MX/S5002129
DS90LV001TMX/NOPB	~~LM4871MX/NOPB~~	~~LM95245CIM/NOPB~~	LMV824M
DS90LV017ATM	LM4875M	~~LM95245CIMX~~	LMV824M/NOPB
DS90LV017ATM/NOPB	LM4875M/NOPB	~~LM95245CIMX/NOPB~~	LMV824MX
DS90LV017ATMX	LM4875MX	LME49721MA/NOPB	LMV824MX/NOPB
DS90LV017ATMX/E7001864	LM4875MX/NOPB	LME49721MAX/NOPB	LMV824MX/S5000461
DS90LV017ATMX/NAK2	~~LM4876M~~	LMH0002MA	LMV824MX/S7002283
DS90LV017ATMX/NOPB	~~LM4876M/NOPB~~	LMH0002MA/NOPB	LMV824MX/S7002463
DS90LV019TM	~~LM4876MX~~	LMH0002MAX	~~LMV932MA~~
DS90LV019TM/NOPB	~~LM4876MX/NOPB~~	LMH0002MAX/NOPB	~~LMV932MA/NOPB~~
DS90LV019TMX	~~LM4880M~~	LMH0002TMA	~~LMV932MAX~~
DS90LV019TMX/NOPB	~~LM4880M/NOPB~~	LMH0002TMA/NOPB	~~LMV932MAX/J7002026~~
DS90LV027AHM	~~LM4880MX~~	LMH0002TMAX	~~LMV932MAX/NOPB~~
DS90LV027AHM/NOPB	~~LM4880MX/NOPB~~	LMH0002TMAX/NOPB	LMV934MA
DS90LV027AHMX	~~LM4881M~~	LMP2011MA	LMV934MA/NOPB
DS90LV027AHMX/NOPB	~~LM4881M/NOPB~~	LMP2011MA/NOPB	LMV934MAX
DS90LV027ATM	~~LM4881MX~~	LMP2011MAX	LMV934MAX/J7002007
DS90LV027ATM/NOPB	~~LM4881MX/NOPB~~	LMP2011MAX/NOPB	LMV934MAX/NOPB
DS90LV027ATMX	~~LM4889MA~~	LMP2012MA	LP2995M
DS90LV027ATMX/NAK2	~~LM4889MA/NOPB~~	LMP2012MA/NOPB	LP2995M/J7001142
DS90LV027ATMX/NOPB	~~LM4889MAX~~	LMP2012MAX	LP2995M/NOPB
DS90LV027M	~~LM4889MAX/NOPB~~	LMP2012MAX/NOPB	LP2995MX
DS90LV027M/NOPB	~~LM4890M~~	~~LMP8358MA/NOPB~~	LP2995MX/J5000192
DS90LV027MX	~~LM4890M/NOPB~~	~~LMP8358MAX/NOPB~~	LP2995MX/J7001045
DS90LV027MX/NOPB	~~LM4890MX~~	LMV2011MA	LP2995MX/NOPB
DS91C176TMA	~~LM4890MX/NOPB~~	LMV2011MA/NOPB	LPV324MX
DS91C176TMA/NOPB	LM4991MA	LMV2011MAX	LPV324MX/NOPB
DS91C176TMAX	LM4991MA/NOPB	LMV2011MAX/NOPB	LPV358M
DS91C176TMAX/NOPB	LM4991MAX	LMV324M	LPV358M/NOPB
DS91C180TMA	LM4991MAX/NOPB	LMV324M/NAK2	LPV358MX
DS91C180TMA/NOPB	~~LM63CIMA~~	LMV324M/NOPB	LPV358MX/NOPB

Qualification Data: Approved 12/30/2012

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.

Qualification Device: DS90CP22MX-8 (MSL 1-260c)

Package Construction Details

Assembly Site:	TIEM	Mold Compound:	8096859
# Pins-Designator, Family:	16-D, SOIC	Mount Compound:	8075531
Leadframe (Finish, Base):	Matte Sn, Cu	Bond Wire:	0.96 Mil Dia., Cu

Qualification: ☐ **Plan** ☒ **Test Results**				
Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
**T/C -65C/150C	JESD22-A104 (500 Cyc)	80/0	80/0	80/0
**ACLV 121C/100%RH, 2ATM	JESD22-A102 (96 Hrs)	80/0	80/0	79/0
Notes: **Tests received preconditioning sequence: MSL1-260C				

Qualification Data: Approved 2/06/2013

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.

Qualification Device: LP2995MX/NOPB (MSL 1-260c)

Package Construction Details

Assembly Site:	TIEM	Mold Compound:	8095179
# Pins-Designator, Family:	8-D, SOIC	Mount Compound:	8080598
Leadframe (Finish, Base):	Matte Sn, Cu	Bond Wire:	0.96 Mil Dia., Cu

Qualification: ☐ **Plan** ☒ **Test Results**				
Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
**Autoclave 121C	121C, 2 ATM (96 hrs)	79/0	80/0	80/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	80/0	80/0	80/0
Destructive Physical Analysis	Post Temp Cycle	pass	pass	pass
Manufacturability (Assembly)	(per mfg. Site specification)	pass	pass	pass
CSAM/TSAM	Post Temp Cycle	pass	pass	pass
Notes: **Tests received preconditioning sequence: MSL1-260C				

Reference Qualification Data: Approved 9/09/2012

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.

Qualification Device: LM93CIMT/NOPB (MSL 2-260c)

Package Construction Details

Assembly Site:	TIEM	Mold Compound:	8095181
# Pins-Designator, Family:	56-DGG, TSSOP	Mount Compound:	8080598
Leadframe (Finish, Base):	Matte Sn, Cu	Bond Wire:	0.96 Mil Dia., Cu

Qualification: ☐ **Plan** ☒ **Test Results**				
Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
High Temp. Storage Bake	150C (500, 1000 Hrs)	77/0	--	--
**Biased HAST	130C/85%RH/33.3 psia (96 hrs)	80/0	80/0	80/0
Notes: **Tests received preconditioning sequence: MSL2-260C				

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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