12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20190506000.1A
Add Cu as Alternative Wire Base Metal for Selected Device(s)
Change Notification / Sample Request

Date: August 15, 2019
To: TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

Revision A is to announce the addition of new devices that were not included on the original PCN notification.

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 Team (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services

20190506000A
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
LM10011SD/NOPB	null
LMR16006XDDCT	null
LMR16006YDDCT	null
LV2842YDDCR	null
LM5160ADNTT	null
LMP91000SDE/NOPB	null
LM26420XSQ/NOPB	null
LM26420YSQ/NOPB	null
LM26420YSQX/NOPB	null
LM5160DNTR	null
LM5160DNTT	null
LMR14006XDDCR	null
LMP91002SDX/NOPB	null
LMR16006XDDCR	null
LMR14006XDDCT	null
ADS1293CISQ/NOPB	null
LM5117PSQ/NOPB	null
LP38798SDE-ADJ/NOPB	null
LMC6484AIMX/NOPB	null
LMR14006YDDCR	null
DAC161S997RGHT	null
LP38798SD-ADJ/NOPB	null
LMR16006YDDCR	null

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

PCN Number:	20190506000.1A	**PCN Date:**	Aug. 15, 2019
Title:	Add Cu as Alternative Wire Base Metal for Selected Device(s)		
Proposed 1st Ship Date:	Aug 15, 2019	**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 A is to announce the addition of new devices that were not included on the original PCN notification. These new devices are highlighted in Blue and **bolded** in the device list below. The expected first shipment date for these new devices will be 90 days from this notice (**Nov 15, 2019**) for these newly added devices only. The proposed 1st ship date of Aug 15, 2019 still applies for the original set of devices.

Texas Instruments is pleased to announce the qualification of new assembly material set to add Cu as an additional bond wire option for devices listed in "Product affected" section below. Devices will remain in current assembly facility and piece part changes as follows:

Group 1 Devices:

Material	Current	Proposed
Wire	Au	Cu

Note: Devices highlighted in Yellow will continue to use Au wire for Die to Die bonding

Group 2 Devices:

Material	Current	Proposed
Protective Overcoat	BCB/Glob Top	PI
Wire	Au	Cu

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.

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-Info website. There is no impact to the material meeting current regulatory compliance requirements with this PCN change.

Changes to product identification resulting from this PCN:

None.

Group 1 Product Affected:

ADC16V130CISQ/NOPB	LMK03001DISQ/NOPB	LMC660AIM	UCC21520ADWR
ADC16V130CISQE/NOPB	LMK03001DISQE/NOPB	LMC660AIM/NOPB	UCC21520DW
ADC16V130CISQX/NOPB	LMK03001DISQX/NOPB	LMC660AIMX	UCC21520DWR
ADC31JB68RTAT	LMK03001ISQ/NOPB	LMC660AIMX/NOPB	UCC21521ADW
DS110DF111SQ/NOPB	LMK03002CISQ/NOPB	LMC660CM	UCC21521ADWR
DS110DF111SQE/NOPB	LMK03002CISQ/S7002367	LMC660CM/ELLI518	UCC21521CDW
DS125DF111SQ	LMK03002CISQX/NOPB	LMC660CM/NOPB	UCC21521CDWR
DS125DF111SQE	LMK03002ISQ/NOPB	LMC660CMX/NOPB	UCC21521DW
LDC6996AIME/NOPB	LMK03002ISQX/NOPB	LMH0318RTWR	UCC21521DWR
LDC6996AIMX/NOPB	LMK03033CISQ/NOPB	LMH0318RTWT	**LM10500SQ-0.8/NOPB**
LM10000SD/NOPB	LMK03033CISQE/NOPB	LMH0346SQ/NOPB	**LM10500SQ-1.0/NOPB**
LM10000SDE/NOPB	LMK03033CISQX/NOPB	LMH0346SQE/NOPB	**LM10500SQE-0.8/NOPB**
LM10000SDX/NOPB	LMK03033ISQ/NOPB	LMH0356SQ-40/NOPB	**LM10500SQE-1.0/NOPB**
LM10515SQ/NOPB	LMK03033ISQE/NOPB	LMH0356SQE-40/NOPB	**LM10500SQX-0.8/NOPB**
LM10515SQ-A/NOPB	LMK03033ISQX/NOPB	LMH1218RTWR	**LM10500SQX-1.0/NOPB**
LM10515SQE/NOPB	LMK03200ISQ/NOPB	LMH1218RTWT	**LM21305SQ/J7002843**
LM10515SQE-A/NOPB	LMK03200ISQE/NOPB	LMK01000ISQ/NOPB	**LM21305SQ/NOPB**
LM10515SQE-B/NOPB	LMK03200ISQX/NOPB	LMK01000ISQE/NOPB	**LM21305SQ/S7002839**
LM10515SQX/NOPB	LMK04000BISQ/NOPB	LMK01000ISQE/S7002207	**LM21305SQE/NOPB**
LM10515SQX-A/NOPB	LMK04000BISQE/NOPB	LMK01000ISQX/NOPB	**LM21305SQX/NOPB**
LM10515SQX-B/NOPB	LMK04000BISQX/NOPB	LMK01010ISQ/NOPB	**LM21305SQX/S7002839**
LM25085ASDX/NOPB	LMK04001BISQ/NOPB	LMK01010ISQE/NOPB	**LM26420XSQ/NOPB**
LM25101ASD-1/NOPB	LMK04001BISQE/NOPB	LMK01010ISQX/NOPB	**LM26420XSQ/S7002797**
LM25101ASDX/NOPB	LMK04001BISQX/NOPB	LMK04031BISQX/S7002381	**LM26420XSQX/NOPB**
LM25101CSD/NOPB	LMK04001BISQX/S7002440	LMK04033BISQ/NOPB	**LM26420YSQ/NOPB**
LM25115SDX/NOPB	LMK04002BISQ/NOPB	LMK04033BISQE/NOPB	**LM26420YSQX/NOPB**
LM2647LQ/NOPB	LMK04002BISQE/NOPB	LMK04033BISQE/S7002427	**LM27341SD/NOPB**
LM5001SDX/NOPB	LMK04002BISQX/NOPB	LMK04033BISQX/NOPB	**LM27342SD/NOPB**
LM5002SDX/NOPB	LMK04010BISQ/NOPB	LMK04100SQ/NOPB	**LM27342SDX/NOPB**
LM5025ASD/NOPB	LMK04010BISQE/NOPB	LMK04100SQE/NOPB	**LM2833XSD/NOPB**
LM5025ASDX/NOPB	LMK04010BISQX/NOPB	LMK04100SQX/NOPB	**LM2833ZSD/NOPB**
LM5025BSD/NOPB	LMK04011BISQ/NOPB	LMK04101SQ/NOPB	**LMR10530XSD/NOPB**
LM5025SD/NOPB	LMK04011BISQE/NOPB	LMK04101SQE/NOPB	**LMR10530XSDX/NOPB**
LM5027SQ-1/NOPB	LMK04011BISQX/NOPB	LMK04101SQX/NOPB	**LMR10530YSD/NOPB**
LM5035BSQX/NOPB	LMK04031BISQ/NOPB	LMK04102SQ/NOPB	**LMR10530YSDX/NOPB**
LM5035CSQ/NOPB	LMK04031BISQE/NOPB	LMK04102SQE/NOPB	**LMR12015XSDX/NOPB**
LM5035CSQX/NOPB	LMK04031BISQX/NOPB	LMK04102SQX/NOPB	**LMR12020XSD/NOPB**
LM5039SQ/NOPB	LM5101ASDX-1/NOPB	LMK04110SQ/NOPB	**LMR12020XSDX/NOPB**
LM5039SQX/NOPB	LM5102SD/NOPB	LMK04110SQE/NOPB	**LMR14006XDDCR**
LM5041ASD/NOPB	LM5102SDX/NOPB	LMK04110SQX/NOPB	**LMR14006XDDCT**

LM5041SD	LM5104SD/NOPB	LMK04111SQ/NOPB	**LMR14006YDDCR**
LM5041SD/NOPB	LM5104SDX/NOPB	LMK04111SQE/NOPB	**LMR14006YDDCT**
LM5041SDX/NOPB	LM5105SD/NOPB	LMK04111SQX/NOPB	**LMR14010ADDCR**
LM5085SDX/NOPB	LM5105SDX/NOPB	LMK04131SQ/NOPB	**LMR14010ADDCT**
LM5100ASD/NOPB	LM5107SD/NOPB	LMK04131SQE/NOPB	**LMR16006XDDCR**
LM5100BSD/NOPB	LM5109ASDX/NOPB	LMK04131SQX/NOPB	**LMR16006XDDCT**
LM5101ASD	LM5109BSDX/NOPB	LMK04133SQ/NOPB	**LMR16006YDDCR**
LM5101ASD/NOPB	LM5115SD/NOPB	LMK04133SQE/NOPB	**LMR16006YDDCT**
LM5101ASD-1/NOPB	LM5115SDX/NOPB	LMK04133SQX/NOPB	**LV2832Y3DDCR**
LM5101ASDX	LM5161PWPR	LP3972SQ-0514/NOPB	**LV2832Y3DDCT**
LM5101ASDX/NOPB	LM5161PWPT	LP3972SQ-5810/NOPB	**LV2832Y5DDCR**
LMK01020ISQ/NOPB	LMC6024IM/NOPB	LP3972SQ-A413/NOPB	**LV2832Y5DDCT**
LMK01020ISQE/NOPB	LMC6024IMX/NOPB	LP3972SQ-A514/NOPB	**LV2832YDDCR**
LMK01020ISQX/NOPB	LMC6034IM	LP3972SQ-E514/NOPB	**LV2832YDDCT**
LMK02000ISQ/NOPB	LMC6034IM/NOPB	LP3972SQ-I414/NOPB	**LV2842XLVDDCR**
LMK02002ISQ/NOPB	LMC6034IMX/NOPB	LP3972SQ-I514/NOPB	**LV2842XLVDDCT**
LMK02002ISQX/NOPB	LMC6036IM/NOPB	LPC660AIM/NOPB	**LV2842YDDCR**
LMK03000CISQ/NOPB	LMC6036IMX/NOPB	LPC660AIMX/NOPB	**LV2842YDDCT**
LMK03000CISQX/NOPB	LMC6044AIM	LPC660IM/NOPB	**LV2843DDCR**
LMK03000DISQ/NOPB	LMC6044AIM/NOPB	LPC660IMX/NOPB	**LV2843DDCT**
LMK03000DISQE/NOPB	LMC6044AIMX/NOPB	SM74104SDE/NOPB	**LV2862XLVDDCR**
LMK03000DISQX/NOPB	LMC6044IM/NOPB	SM74104SDX/NOPB	**LV2862XLVDDCT**
LMK03000ISQ/NOPB	LMC6044IMX/NOPB	UCC20520DW	**LV2862YDDCR**
LMK03001CISQ/NOPB	LMC6484AIMX	UCC20520DWR	**LV2862YDDCT**
LMK03001CISQX/NOPB	LMC6484AIMX/SL163019	UCC21520ADW	**LMC6484AIMX/NOPB**

Group 2 Product Affected:

LMP92066PWP	**LM25119PSQ/NOPB**	**LM5160DNTR**	**LMP92064SDX/NOPB**
LMP92066PWPR	**LM25119PSQE/NOPB**	**LM5160DNTT**	**LMV7231SQ/NOPB**
ADS1293CISQ/NOPB	**LM25119PSQX/NOPB**	**LMP91000SD/NOPB**	**LMV7231SQE/NOPB**
ADS1293CISQE/NOPB	**LM27403SQ/NOPB**	**LMP91000SDE/NOPB**	**LMV7231SQX/NOPB**
ADS1293CISQX/NOPB	**LM27403SQE/NOPB**	**LMP91000SDX/NOPB**	**LP38788SD-ADJ/NOPB**
DAC161P997CISQ/NOPB	**LM27403SQX/NOPB**	**LMP91001SD/NOPB**	**LP38788SDE-ADJ/NOPB**
DAC161P997CISQX/NOPB	**LM34937PSQ/NOPB**	**LMP91001SDX/NOPB**	**LP38788SDX-ADJ/NOPB**
DAC161S055CISQ/NOPB	**LM34937PSQX/NOPB**	**LMP91002SD/NOPB**	**LP38798SD-ADJ/NOPB**
DAC161S055CISQE/NOPB	**LM3754SQ/NOPB**	**LMP91002SDE/NOPB**	**LP38798SDE-ADJ/NOPB**
DAC161S055CISQX/NOPB	**LM3754SQX/NOPB**	**LMP91002SDX/NOPB**	**LP38798SDX-ADJ/NOPB**
DAC161S997RGHR	**LM5117PSQ/NOPB**	**LMP91300NHZJ**	**SN1311034SQE/NOPB**
DAC161S997RGHT	**LM5117PSQE/NOPB**	**LMP91300NHZR**	**SN1311034SQX/NOPB**
FDC1004DSCJ	**LM5117PSQX/NOPB**	**LMP91300NHZT**	**SN1402039SQE/NOPB**
FDC1004DSCR	**LM5119PSQ/NOPB**	**LMP92001SQE/NOPB**	**SN1402039SQX/NOPB**
FDC1004DSCT	**LM5119PSQE/NOPB**	**LMP92001SQX/NOPB**	**SN1405006SQE/NOPB**
LM10011SD/NOPB	**LM5119PSQX/NOPB**	**LMP92018SQ/NOPB**	**SN1405006SQX/NOPB**
LM10011SDX/NOPB	**LM5160ADNTJ**	**LMP92018SQE/NOPB**	
LM25117PSQ/NOPB	**LM5160ADNTR**	**LMP92018SQX/NOPB**	
LM25117PSQE/NOPB	**LM5160ADNTT**	**LMP92064SD/NOPB**	
LM25117PSQX/NOPB	**LM5160DNTJ**	**LMP92064SDE/NOPB**	

Group 1 Qualification Report

Qualification Report

Approved on 11-Nov-2013

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

- 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

Approved on 23-Sep-2014

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

- 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

- 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

Approved on 27-Dec-2018

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: UCC21520QDWR
AC	Autoclave 121C	96 Hours	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/77/0
HTOL	Life Test, 125C	1000 Hours	1/77/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0

- Qual Device UCC21520QDWR is qualified at LEVEL2-260C
- Device UCC21520QDWR contains multiple dies.
- 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

Qualification Report

Approved on 25-Apr-2019

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LMX2581ESQJTYY	Qual Device: LP3971SQ2GZ85K
HAST	Biased HAST, 110C/85%RH	264 Hours	3/231/0	3/231/0
HAST	Biased HAST, 110C/85%RH	528 Hours (for info only)	3/231/0	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0
UHAST	Unbiased HAST 110C/85%RH	264 Hours	-	3/231/0
WBP	Bond Pull	Wires	3/228/0	3/228/0
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0

- Qual Device LMX2581ESQJTYY is qualified at LEVEL3-260CG
- Qual Device LP3971SQ2GZ85K is qualified at LEVEL1-260CG
- 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

Qualification Report

Approved on 03-Jul-2019

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LM10500SQE10NO
HAST	Biased HAST, 110C/85%RH	264 Hours	1/77/0
HTSL	High Temp Storage Bake, 170C	420 Hours	1/77/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0
UHAST	Unbiased HAST 110C/85%RH	264 Hours	1/77/0

Type	Test Name / Condition	Duration	Qual Device: LM10500SQE10NO
WBP	Bond Pull	Wires	1/90/0
WBS	Bond Shear	Wires	1/90/0

- QBS: Qual By Similarity
- Qual Device LM10500SQE10NO is qualified at LEVEL1-260CG

- 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

Qualification Report

Approved on 27-May-2019

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LMP91300NHZJ
HTSL	High Temp Storage Bake, 170C	420 Hours	3/231/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	3/Pass
TC	Temperature Cycle, -55/125C	700 Cycles	3/231/0
UHAST	Unbiased HAST 110C/85%RH	264 Hours	3/231/0
WBP	Bond Pull	Wires	3/90/0
WBS	Bond Shear	Wires	3/90/0

- QBS: Qual By Similarity
- Qual Device LMP91300NHZJ is qualified at LEVEL3-260CG

- 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

Qualification Report

Approved on 18-Jun-2019

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LMR16006XDDCR
AC	Autoclave 121C	96 Hours	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	3/Pass
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0
WBP	Bond Pull	Wires	3/90/0
WBS	Bond Shear	Wires	3/90/0

- QBS: Qual By Similarity
- Qual Device LMR16006XDDCR is qualified at LEVEL1-260CG

- 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

Group 2 Qualification Report

Approved on 26-Mar-2019

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LMP92066PWPR
AC	Autoclave 121C	96 Hours	3/231/0
HTOL	Life Test, 125C	1000 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
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass

- QBS: Qual By Similarity
- Qual Device LMP92066PWPR is qualified at LEVEL1-260CG

- 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

Qualification Report

Approved on 27-May-2019

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LMP91300NHZJ
HTSL	High Temp Storage Bake, 170C	420 Hours	3/231/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	3/Pass
TC	Temperature Cycle, -55/125C	700 Cycles	3/231/0
UHAST	Unbiased HAST 110C/85%RH	264 Hours	3/231/0
WBP	Bond Pull	Wires	3/90/0
WBS	Bond Shear	Wires	3/90/0

- QBS: Qual By Similarity
- Qual Device LMP91300NHZJ is qualified at LEVEL3-260CG

- 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
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Green/Pb-free Status:
Qualified Pb-Free(SMT) and Green

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