12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20200929003.1B
Add Cu as Alternative Wire Base Metal for Selected Device(s)
Change Notification / Sample Request

Date: December 21, 2020
To: TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

Revision B is being re-issued to correct the expected first shipment date for rev A & to add LMV324IDRG4 device which was not included on the original PCN notification.

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

20200929003.1B
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
LM3150MHX/NOPB	null
LM98714BCMTX/NOPB	null
LMV324IDR	null
LM5050MK-1/NOPB	null
LMV358IDR	null
TPS543C20RVFT	null
TPS546C23RVFR	null
TPS549B22RVFR	null
LM3150MHE/NOPB	null
LM98725CCMT/NOPB	null
LMK00804BPW	null
LM5051MAX/NOPB	null
TPS548D22RVFR	null
LMK00725PW	null
LM3150MH/NOPB	null
LM5050MKX-1/NOPB	null
TPS549D22RVFR	null
TPS549D22RVFT	null
TPS543B20RVFR	null

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

PCN Number:	20200929003.1B	**PCN Date:**	Dec. 21, 2020
Title:	Add Cu as Alternative Wire Base Metal for Selected Device(s)		
Proposed 1st Ship Date:	Dec 31, 2020	**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 being re-issued to correct the expected first shipment date for rev A & to add LMV324IDRG4 device which was not included on the original PCN notification.

Revision A is to announce the addition of new devices that were not included on the original PCN notification. These new devices are under **Group 2** device in the Product affected section below. The expected first shipment date for these new devices will be 90 days from this notice **(~~Feb 14, 2021~~ Mar 21, 2021)** for these newly added devices only. The proposed 1st ship date of Dec 31, 2020 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:

Material	Current	Proposed
Wire type	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.

Product Affected: Group 1

LM22670TJ-5.0/NOPB	LM22676TJ-5.0/NOPB	LM22677TJE-ADJ/J7002402	LM22679TJE-5.0/NOPB
LM22670TJ-ADJ/NOPB	LM22676TJ-ADJ/J7002452	LM22677TJE-ADJ/NOPB	LM22679TJE-ADJ/NOPB
LM22670TJE-5.0/NOPB	LM22676TJ-ADJ/NOPB	LM22678TJ-5.0/NOPB	LV13603ATJ-ADJ/NOPB
LM22670TJE-ADJ/NOPB	LM22676TJE-5.0/NOPB	LM22678TJ-ADJ/J7002567	LV13603ATJ-H/NOPB
LM22673TJ-5.0/NOPB	LM22676TJE-ADJ/J7002453	LM22678TJ-ADJ/NOPB	LV13603BTJ-ADJ/NOPB
LM22673TJ-ADJ/J7002341	LM22676TJE-ADJ/NOPB	LM22678TJE-5.0/NOPB	LV13603BTJ-H/NOPB
LM22673TJ-ADJ/NOPB	LM22677TJ-5.0/NOPB	LM22678TJE-ADJ/J7002566	LV13603CTJ-ADJ/NOPB
LM22673TJE-5.0/NOPB	LM22677TJ-ADJ/J7002401	LM22678TJE-ADJ/NOPB	LV13603CTJ-H/NOPB
LM22673TJE-ADJ/J7002342	LM22677TJ-ADJ/NOPB	LM22679TJ-5.0/NOPB	LV13605TJ-ADJ/NOPB
LM22673TJE-ADJ/NOPB	LM22677TJE-5.0/NOPB	LM22679TJ-ADJ/NOPB	LV13605TJ-H/NOPB

Product Affected: Group 2

SN1602003RVFR	TPS549D22RVFT	LM98714CCMT/NOPB	LM98722CCMT/NOPB
SN1602003RVFT	TPS549D23RVFR	LM98714CCMTX/NOPB	LM98722CCMTX/NOPB
SN1812002RVFR	LM3152MHE-3.3/NOPB	LM98714CCMTX/S7002154	LM98725CCMT/NOPB
TPS543B20RVFR	LM3152MHX-3.3/NOPB	LM98714CCMTX/S7003074	LM98725CCMTX/NOPB
TPS543B20RVFT	LM3153MH-3.3/NOPB	TPS549D23RVFT	LMH6673MAX/NOPB
TPS543C20RVFR	LM3153MHE-3.3/NOPB	LMV324IDR	LMH681MAX/NOPB
TPS543C20RVFT	LM3153MHX-3.3/NOPB	LMV358IDR	LMK00725PW
TPS546C20ARVFR	LM5045SQ/NOPB	OPA2836IDR	LMK00725PWR
TPS546C20ARVFT	LM5045SQX/NOPB	LM25101AMR/NOPB	LMK00804BPW
TPS546C20RVFR	LM5050MK-1/NOPB	LM25101AMRX/NOPB	LMK00804BPWR
TPS546C20RVFT	LM5050MK-2/NOPB	LM2742MTC/NOPB	LMK00804PW
TPS546C23RVFR	LM5050MKX-1/NOPB	LM2748MTC/NOPB	LMK00804PWR
TPS546C23RVFT	LM5050MKX-2/NOPB	LM3150MH/J7002526	LMV321M7X-S
TPS546C23ZRVFR	LM5050PMK-2/NOPB	LM3150MH/NOPB	SN1304024D
TPS546C23ZRVFT	LM5051MA/NOPB	LM3150MHE/J7002596	SN1304024DR
TPS548D21RVFR	LM5051MAE/NOPB	LM3150MHE/NOPB	TPS92314AD/NOPB
TPS548D21RVFT	LM5051MAX/NOPB	LM3150MHX/J7002527	TPS92314ADR/NOPB
TPS548D22RVFR	LM5100AMR/NOPB	LM3150MHX/NOPB	TPS92314D/NOPB
TPS548D22RVFT	LM5101AMR/NOPB	LM3151MH-3.3/NOPB	TPS92314DR/NOPB
TPS549B22RVFR	LM5101AMRX/NOPB	LM3151MHE-3.3/NOPB	TPS92660PWP/NOPB
TPS549B22RVFT	LM98714BCMT/NOPB	LM3151MHX-3.3/NOPB	TPS92660PWPR/NOPB
TPS549D22RVFR	LM98714BCMTX/NOPB	LM3152MH-3.3/NOPB	LMV324IDRG4

Group 1 Qualification Report

Approved on 18-Sep-2020

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LM22670TJ5M64Y	QBS Package Reference: TPS92613QNDRRQ1
AC	Autoclave 121C	96 hours	3/231/0	-
HAST	Biased HAST, 130C/85%RH	96	QBS	3/231/0
HTSL	High Temp Storage Bake 150C	1000hrs	QBS	1/45/0
TC	Temperature Cycle, -65/150C	500 cycles	3/231/0	-

- QBS: Qual By Similarity
- Qual Device LM22670TJ5M64Y is qualified at LEVEL1-260C

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle 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

Qualification Data

Approved on 10/15/2020

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TPS543B20RVF	Qual Device: TPS543C20RVF	Qual Device: TPS546C20RVF	Qual Device: TPS548D22RVF	QBS Package Reference: CSD95372AQ5M	QBS Package Reference: TPS544C24RVFR
ED	Electrical Characterization	-	Pass	Pass	Pass	Pass	-	-
HAST	Biased HAST, 110C/85%RH	264 Hours	-	-	3/231/0	-	-	-
HAST	Biased HAST, 110C/85%RH	528 Hours	-	-	3/231/0	-	-	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	3/231/0	-	-	-
TC	Temperature Cycle, -55/125C	700 Cycles	3/231/0	-	3/231/0	1/77/0	-	2/169/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	3/231/0	-	3/231/0	1/77/0	-	-
YLD	FTY and Bin Summary	-	Pass	Pass	Pass	Pass	-	-

- QBS: Qual By Similarity
- Qual Devices TPS543C20RVF, TPS546C20RVF, TPS548D22RVF, and TPS543B20RVF are qualified at LEVEL2-260C
- Devices TPS543C20RVF, TPS546C20RVF, TPS548D22RVF, and TPS543B20RVF contain 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 Data

Approved on 08/30/2013

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: ADS1131IDR	Qual Device: RC4558DR	Qual Device: SN65MLVD207DR	Qual Device: SN74AHC138DR	Qual Device: UCC28061DR
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0	3/227/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0	3/227/0

- QBS: Qual By Similarity
- Qual Device ADS1131IDR is qualified at LEVEL2-260C
- Qual Device RC4558DR, SN65MLVD207DR, SN74AHC138DR, UCC28061DR are qualified at LEVEL1-260C

- 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 Data

Approved on 10/17/2011

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: CD4053BM96	Qual Device: LM358DR	Qual Device: TL494IDR	Qual Device: ULN2003ADR
AC	Autoclave 121C	96 Hours	1/77/0	1/77/0	3/231/0	3/231/0
ED	Electrical Characterization, side by side	Per Datasheet Parameters	Pass	Pass	Pass	Pass
FLAM	Flammability (IEC 695-2-2)	--	-	-	3/15/0	-
FLAM	Flammability (UL 94V-0)	--	-	-	3/15/0	-
FLAM	Flammability (UL-1694)	--	-	-	3/15/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	1/77/0	1/77/0	3/229/0	1/77/0
HTOL	Life Test, 150C	300 Hours	1/77/0	1/77/0	3/231/0	1/77/0
HTSL	High Temp Storage Bake 170C	600 Hours	1/77/0	1/77/0	3/231/0	3/231/0
LI	Lead Pull	Leads	1/22/0	1/22/0	3/66/0	3/66/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass
MSL	Moisture Sensitivity, JEDEC	Level 1-260C	-	3/36/0	3/36/0	3/36/0
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0	3/231/0	3/231/0

Type	Test Name / Condition	Duration	Qual Device: CD4053BM96	Qual Device: LM358DR	Qual Device: TL494IDR	Qual Device: ULN2003ADR
TS	Thermal Shock -65/150C	500 Cycles	1/77/0	3/231/0	3/231/0	3/231/0
VM	Visual / Mechanical	(per mfg. Site specification)	Pass	Pass	Pass	Pass
WBP	Bond Strength	Wires	1/76/0	1/76/0	3/228/0	1/76/0
XRAY	X-ray	(top side only)	1/5/0	1/5/0	3/15/0	3/15/0

- QBS: Qual By Similarity
- Qual Device CD4053BM96, LM358DR, TL494IDR, ULN2003ADR are qualified at LEVEL1-260C

- 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 Data

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 Data

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 Data

Approved on 17-Sept-2015

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LMV7275MG/NOPB	Supporting QBS: LM4041AIM3-1.2 (TL)	Supporting QBS: LM4041AIM3-1.2 (TL)
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	3/231/0
AC	Autoclave 121C	96 Hours	-	3/231/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	-	-
TC	Temperature Cycle, -65/150C	1000 Cycles	-	3/231/0	-
HTSL	High Temp Storage Bake 150C	500 Hours	1/77/0	2/154/0	1/77/0
HTSL	High Temp Storage Bake 150C	1000 Hours	1/77/0	2/154/0	1/79/0
MQ	Manufacturability (Assembly)	---	1/pass	1/pass	1/pass

- QBS: Qual By Similarity
- Qual Device LMV7275MG/NOPB is qualified at LEVEL1-260C

- 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 Data

Approved on 10-Nov-2012

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

- 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 Data

Approved on 26-Aug-2012

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	-	-

- 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 Data

Approved on 15-Oct-2012

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
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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.

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USA	PCNAmericasContact@list.ti.com
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