PCN Number:	PCN#20240418001.1	**PCN Date:**	April 18, 2024
Title:	Qualification of additional Assembly sites for select VSSOP (MSOP) devices		
Customer Contact:	Change Management Team	**Dept:**	Quality Services
Proposed 1st Ship Date:	July 17, 2024	**Sample requests accepted until:**	May 18, 2024*

***Sample requests received after May 18, 2024 will not be supported.**

Change Type:

☒	Assembly Site	☐	Design	☐	Wafer Bump Material
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Process
☒	Assembly Materials	☐	Part number change	☐	Wafer Fab Site
☐	Mechanical Specification	☐	Test Site	☐	Wafer Fab Material
☒	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing the qualification of additional Assembly sites for devices listed below in the product affected section. Construction information and all assembly sites are as follows:

VSSOP (MSOP) build sites	
Assembly Sites	ASESHAT, HFTFAT, HNA, TIEM, UTL, MLA
Lead Finish	NiPdAu; MatteSn
Mold Compound	SID#450179
	SID#EN2000507
	SID#EN2000631
	SID#EN2000763
	SID#R-30
	SID#R-31
	SID#R-32
	8096859
	4226323
Mount Compound	SID#400180
	SID#400194
	SID#A-18
	SID#EY1000063
	SID#PZ0031
	4147858
	8075531
Bond Wire	Au, Cu (0.8 mil, 1.0 mil, 1.3 mils, 2.0 mils)

Additionally, the mold cavity id will be included in the top marking for these devices as follows:

	Current	New
Visual		

Upon expiration of this PCN, TI will combine lead free solutions in a single ***standard part number***, for example; ***OPA2196IDGKR*** – can ship with both Matte Sn and NiPdAu. When available customers may specify NiPdAu finish by ordering the part with the G4 suffix, e.g. ***OPA2196IDGKR.***"

Reason for Change:

Continuity of Supply

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

None

Impact on Environmental Ratings

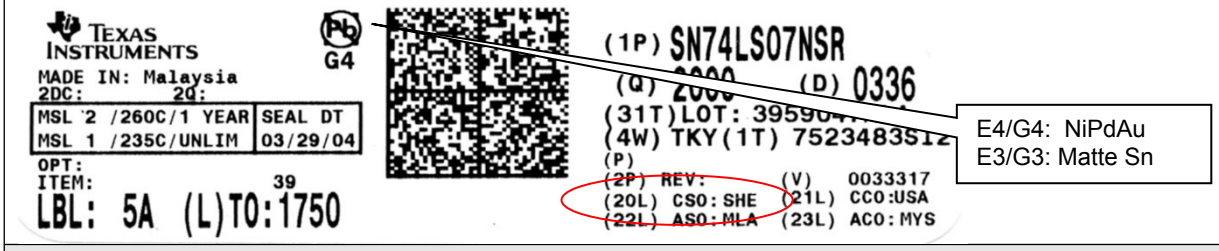
Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.

RoHS	REACH	Green Status	IEC 62474
☒ No Change	☒ No Change	☒ No Change	☒ No Change

Changes to product identification resulting from this PCN:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
ASESH	ASH	CHN	Shanghai
HFTF	HFT	CHN	Hefei
HANA	HNT	THA	Ayutthaya
UTL2	NS2	THA	Bangpakong, Chachoengsao
TIEM	CU6	MYS	Melaka
TI Malaysia	MLA	MYS	Kuala Lumpur

Sample product shipping label (not actual product label)



Product Affected:

ADS8317IBDGKR	OPA2192IDGKT	SN65EL16DGKR	TCA9801DGKR
ADS8317IBDGKT	OPA2196IDGKR	SN65ELT21DGKR	TCA9801DGKT
ADS8317IDGKR	OPA2196IDGKT	SN65ELT22DGKR	TCA9802DGKR
ADS8317IDGKT	OPA2197IDGKR	SN65ELT23DGKR	TCA9802DGKT
DAC8551IADGKR	OPA2197IDGKT	SN65EPT21DGKR	TCA9803DGKR
DAC8551IADGKT	OPA2375IDGKR	SN65EPT22DGKR	TCA9803DGKT
DAC8551IDGKR	OPA2607IDGKR	SN65EPT23DGKR	THVD1410DGKR
DAC8551IDGKT	OPA2990IDGKR	SN65HVD1471DGKR	THVD1450DGKR
DAC8560IADGKR	OPA2991IDGKR	SN65HVD1474DGKR	THVD1510DGKR
DAC8560IADGKT	OPA2992IDGKR	SN65HVD1477DGKR	THVD1550DGKR
DAC8560IBDGKR	REF5010AIDGKR	SN65HVD71DGKR	THVD1551DGKR
DAC8560IBDGKT	REF5010AIDGKT	SN65HVD72DGKR	TLV6742IDGKR
DAC8560ICDGKR	REF5010IDGKR	SN65HVD74DGKR	TLV9032DGKR
DAC8560ICDGKT	REF5010IDGKT	SN65HVD75DGKR	TLV9042IDGKR
DAC8560IDDGKR	REF5020AIDGKR	SN65HVD77DGKR	TLV9102IDGKR
DAC8560IDDGKT	REF5020AIDGKT	SN65HVD78DGKR	TLV9152IDGKR
INA159AIDGKR	REF5020IDGKR	SN65LVDM176DGKR	TLV9162IDGKR
INA159AIDGKT	REF5020IDGKT	SN65LVDM179DGKR	TLV9302IDGKR
INA200AIDGKR	REF5025AIDGKR	SN65LVDS100DGKR	TLV9352IDGKR
INA200AIDGKT	REF5025AIDGKT	SN65LVDS101DGKR	TLV9362IDGKR
INA201AIDGKR	REF5025IDGKR	SN65LVDS179DGKR	TMP401AIDGKR
INA201AIDGKT	REF5025IDGKT	SN65LVDS9637DGKR	TMP411ADGKR
INA202AIDGKR	REF5030AIDGKR	SN65LVDS9638DGKR	TMP411BDGKR
INA202AIDGKT	REF5030AIDGKT	SN65LVDS9638YDGKR	TMP411CDGKR
INA283AIDGKR	REF5030IDGKR	SN65LVDT100DGKR	TMP411EDGKR
INA283AIDGKT	REF5030IDGKT	SN65LVDT101DGKR	TMP431ADGKR
INA284AIDGKR	REF5040AIDGKR	SN65LVEL11DGKR	TMP431BDGKR
INA284AIDGKT	REF5040AIDGKT	SN65LVELT22DGKR	TMP431CDGKR
INA285AIDGKR	REF5040IDGKR	SN65LVELT23DGKR	TMP431DDGKR
INA286AIDGKR	REF5040IDGKT	SN65LVEP11DGKR	TMUX1121DGKR
INA286AIDGKT	REF5045AIDGKR	TCA4307DGKR	TMUX1122DGKR
LM2903BIDGKR	REF5045AIDGKT	TCA9509DGKR	TMUX1123DGKR
LM2904BIDGKR	REF5045IDGKR	TCA9511ADGKR	TMUX6219DGKR
LM358BIDGKR	REF5045IDGKT	TCA9517ADGKR	TMUX7219DGKR
LM393BIDGKR	REF5050AIDGKR	TCA9517DGKR	TPS24700DGKR
OPA2140AIDGKR	REF5050AIDGKT	TCA9617ADGKR	TPS24701DGKR
OPA2140AIDGKT	REF5050IDGKR	TCA9617BDGKR	TPS54062DGKR

OPA2188AIDGKR	REF5050IDGKT	TCA9800DGKR	TS3A4741DGKR
OPA2188AIDGKT	SN65CML100DGKR	TCA9800DGKT	TS3A4742DGKR
OPA2192IDGKR			

VSSOP Qualification Report

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

	Stress Test	Duration	HFTF LM5008MM/NOPB	ASESHAT THS4304DGK
TC	Temperature Cycling -65/150C	500 Cycles	3/231/0	3/231/0
HAST	Biased HAST 130C/85%RH	96 hours	3/231/0	3/231/0
THB	Temperature Humidity Bias, 85C/85%RH	1000 hours	-	-
HTSL	High Temp. Storage Bake 150C	1000 hours	-	-
HTSL	High Temp. Storage Bake 170C	420 hours	3/231/0	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 hours	3/231/0	-
AC	Autoclave 121C	96 hours	-	3/231/0
SD	Solderability	8 Hour Steam age or 155C Dry Bake	3/66/0 (PGA308AIDGSR)	3/66/0 (THS4304DGK)
WBP	Wire Bond Pull	Wires	3/228/0	3/228/0
WBS	Wire Bond Shear	Wires	3/228/0	3/228/0
MQ	Manufacturability	-	Pass	Pass

	Stress Test	Duration	HNA TPS77301DGK	TIEMA LM3489QMM
TC	Temperature Cycling -65/150C	500 Cycles	3/231/0	3/231/0
HAST	Biased HAST 130C/85%RH	96 hours	3/231/0	-
THB	Temperature Humidity Bias, 85C/85%RH	1000 hours	-	3/231/0
HTSL	High Temp. Storage Bake 150C	1000 hours	3/231/0	1/77/0
HTSL	High Temp. Storage Bake 170C	420 hours	-	-
UHAST	Unbiased HAST, 130C/85%RH	96 hours	-	-
AC	Autoclave 121C	96 hours	3/231/0	3/231/0
SD	Solderability	8 Hour Steam age or 155C Dry Bake	3/66/0 (TS5A23160DGSR)	3/66/0 (LM2660MM/NOPB)
WBP	Wire Bond Pull	Wires	3/228/0	3/228/0
WBS	Wire Bond Shear	Wires	3/228/0	3/228/0
MQ	Manufacturability	-	Pass	Pass

	Stress Test	Duration	MLA OPA2206ADGK OPA2205ADGK OPA2145IDGK	UTL2 TPS22958DGK
TC	Temperature Cycling -65/150C	500 Cycles	3/231/0	3/231/0
HAST	Biased HAST 130C/85%RH	96 hours	3/231/0	3/231/0 (Note a)
THB	Temperature Humidity Bias, 85C/85%RH	1000 hours	-	-
HTSL	High Temp. Storage Bake 150C	1000 hours	-	-

	Stress Test	Duration	MLA OPA2206ADGK OPA2205ADGK OPA2145IDGK	UTL2 TPS22958DGK
HTSL	High Temp. Storage Bake 170C	420 hours	3/231/0	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 hours	3/231/0	-
AC	Autoclave 121C	96 hours	-	3/231/0
SD	Solderability	8 Hour Steam age or 155C Dry Bake	3/66/0 (LMH5485DGKSEP)	3/66/0 (TPS61085TDGKRQ1)
WBP	Wire Bond Pull	Wires	3/228/0	3/228/0
WBS	Wire Bond Shear	Wires	3/228/0	3/228/0
MQ	Manufacturability	-	Pass	Pass

LM5008MM/NOPB, THS4304DGK, TPS77301DGK, LM3489QMM, TPS22958DGK, INA159AIDGK are qualified at L1-260C MSL rating.
OPA2206ADGK, OPA2205ADGK, OPA2145IDGK are qualified at L2-260C MSL rating.

Note a – 2 lots of Biased HAST were collected on INA159AIDGK

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, and HTSL, as applicable
- The following are equivalent HTSL options based on activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours

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 Change Management team or your local Field Sales Representative.