PCN Number:	20150122001	**PCN Date:**	02/12/2015
Title:	Qualification of ASESH for Alternate Assembly/Test and new material set for select MSOP Devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	05/12/2015	**Estimated Sample Availability:**	04/12/2015

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
		☐	Part number change		

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of ASESH as an alternate assembly and test site for selected MSOP devices listed below. The material set comparing the existing and new site is shown below.

	TIEM	ASESH
Mount Compound	8075531	**SID#EY1000063**
Mold Compound	4209002	**SID#EN2000515**
Lead Finish	Matte Sn	**NiPdAu**

Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.

Upon expiry of this PCN TI will combine lead free solutions in a single *standard part number*, for example; ***LDC4029MM/NOPB*** – can ship with both Matte Sn and NiPdAu/Ag.

Example:

- Customer order for 7500units of **LDC4029MM/NOPB** with 2500 units SPQ (Standard Pack Quantity per Reel).

- TI can satisfy the above order in one of the following ways.
  - I. 3 Reels of NiPdAu finish.
  - II. 3 Reels of Matte Sn finish
  - III. 2 Reels of Matte Sn and 1 reel of NiPdAu finish.
  - IV. 2 Reels of NiPdAu and 1 reel of Matte Sn finish.

Reason for Change:

Continuity of Supply

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

None

Changes to product identification resulting from this PCN:

Assembly Site		
TIEM-AT	Assembly Site Origin (22L)	ASO: CU6
ASESH	Assembly Site Origin (22L)	ASO: ASH

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
MADE IN: Malaysia
2DC: 2Q:

MSL 2 /260C/1 YEAR	SEAL DT
MSL 1 /235C/UNLIM	03/29/04

OPT:
ITEM: 39
LBL: 5A (L)T0:1750

Pb G4

(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T)LOT: 3959047MLA
(4W) TKY(1T) 7523483SI2
(P)
(2P) REV: (V) 0033317
(20L) CSO: SHE (21L) CCO:USA
(22L) ASO: MLA (23L) ACO: MYS

G4 = NiPdAu
G3= MATTE Sn

Topside Device marking:
Assembly site code for CU6= U
Assembly site code for ASH= A

Product Affected

LDC4029MM/NOPB	LM3476MMX/NOPB	LM3488MM/NOPB	LMV822MMX/NOPB
LDC4029MME/NOPB	LM3478MM/NOPB	LM3488MM/S7002334	LMV842MM/NOPB
LDC4029MMX/NOPB	LM3478MM/S7002338	LM3488MMX/NOPB	LMV842MMX/NOPB
LM3401MM/NOPB	LM3478MMX/NOPB	LM3489MM/NOPB	LMV852MM/NOPB
LM3401MM/S7002589	LM3481MM/NOPB	LM3489MMX/NOPB	LMV852MME/NOPB
LM3401MMX/NOPB	LM3481MMX/NOPB	LMV612MM/NOPB	LMV852MMX/NOPB
LM3401MMX/S7002590	LM3485MM/NOPB	LMV612MMX/NOPB	LMV932MM/NOPB
LM3476MM/NOPB	LM3485MMX/NOPB	LMV822MM/NOPB	LMV932MMX/NOPB

Qualification Data – Approved August, 2013

This qualification has been developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.

Qual Vehicle: LM3445MM/NOPB (MSL 1-260C)

Package Construction Details

Assembly Site:	ASESH	Mold Compound:	EN2000515
# Pins-Designator, Family:	10-DGS, VSSOP	Mount Compound:	EY1000063
Lead frame (Finish, Base):	NiPdAu, Cu	Bond Wire:	1.3 mil Au

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size/Fail	
		Lot#1	**Lot#2**
**Biased HAST	130C/85%RH 33.3psia (96 Hrs)	75/0	77/0
**Autoclave 121C	121C, 2 atm (96 Hrs)	76/0	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	75/0	77/0
Notes	**- Preconditioning sequence: Level 1-260C		

Qualification Plan – Estimated Completion: May, 2015

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: LM3401MMX/NOPB (MSL 1-260C)

Package Construction Details

Assembly Site:	ASESH	Mold Compound:	EN2000515
# Pins-Designator, Family:	8-DGK, VSSOP	Mount Compound:	EY1000063
Lead Finish:	NiPdAu, Cu	Bond Wire:	1.0 Mil Dia., Au

Qualification: ☒ **Plan** ☐ **Test Results**

Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
High Temp Operating Life	125C (168, 500, 1000 Hours)	77/0	--	--
Electrical Characterization	Side by side	15/0	--	--
**High Temp. Storage Bake	150C (500, 1000 Hrs)	77/0	--	--
**Biased HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0
**Autoclave 121C	121C, 2 ATM (96 hrs)	78/0	78/0	78/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	77/0	77/0	77/0

Notes: **Tests require preconditioning sequence: MSL1-260C

Qualification Plan – Estimated Completion: May, 2015

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: LM3478MM/NOPB (MSL 1-260C)

Package Construction Details

Assembly Site:	ASESH	Mold Compound:	EN2000515
# Pins-Designator, Family:	8-DGK, VSSOP	Mount Compound:	EY1000063
Lead Finish:	NiPdAu, Cu	Bond Wire:	1.3 Mil Dia., Au

Qualification: ☒ **Plan** ☐ **Test Results**

Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
High Temp Operating Life	125C (168, 500, 1000 Hours)	77/0	--	--
Electrical Characterization	Side by side	30/0	--	--
**Biased Temp. Humidity	85C/85%RH (168, 500, 1000 Hours)	77/0	77/0	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	77/0	77/0	77/0

Notes: **Tests require preconditioning sequence: MSL1-260C

Qualification Plan – Estimated Completion: May, 2015

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: LM3481MM/NOPB (MSL 1-260C)

Package Construction Details

Assembly Site:	ASESH	Mold Compound:	EN2000515
# Pins-Designator, Family:	10-DGK, VSSOP	Mount Compound:	EY1000063
Lead Finish:	NiPdAu, Cu	Bond Wire:	1.3 Mil Dia., Au

Qualification: ☒ **Plan** ☐ **Test Results**

Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
High Temp Operating Life	125C (168, 500, 1000 Hours)	77/0	--	--
Electrical Characterization	Side by side	30/0	--	--
**High Temp. Storage Bake	170C (420 Hours)	77/0	--	--
**Biased HAST	130C/85%RH (96 Hours)	77/0	77/0	77/0
**Autoclave 121C	121C, 2 atm (96 Hours)	77/0	77/0	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	77/0	77/0	77/0

Notes: **Tests require preconditioning sequence: MSL1-260C

Qualification Plan – Estimated Completion: May, 2015

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: LM3485MM/NOPB (MSL 1-260C)

Package Construction Details

Assembly Site:	ASESH	Mold Compound:	EN2000515
# Pins-Designator, Family:	8-DGK, VSSOP	Mount Compound:	EY1000063
Lead Finish:	NiPdAu, Cu	Bond Wire:	1.0 Mil Dia., Au

Qualification: ☒ **Plan** ☐ **Test Results**

Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
Electrical Characterization	Side by side	30/0	--	--
**High Temp. Storage Bake	150C (500, 1000 Hours)	77/0	--	--
**Biased Temp. Humidity	85C/85%RH (168, 500, 1000 Hours)	77/0	--	--
**Unbiased HAST	130C/85%RH (96 Hours)	77/0	77/0	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	77/0	77/0	77/0

Notes: **Tests require preconditioning sequence: MSL1-260C

Qualification Plan – Estimated Completion: May, 2015

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: LMV822MM/NOPB (MSL 1-260C)

Package Construction Details

Assembly Site:	ASESH	Mold Compound:	EN2000515
# Pins-Designator, Family:	8-DGK, VSSOP	Mount Compound:	EY1000063
Lead Finish:	NiPdAu, Cu	Bond Wire:	1.0 Mil Dia., Au

Qualification: ☒ **Plan** ☐ **Test Results**

Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
Electrical Characterization	Side by side	30/0	--	--
**Biased Temp. Humidity	85C/85%RH (168, 500, 1000 Hours)	77/0	--	--
**Unbiased HAST	130C/85%RH (96 Hours)	77/0	--	--
**T/C -65C/150C	-65C/+150C (500 Cyc)	77/0	77/0	77/0

Notes: **Tests require preconditioning sequence: MSL1-260C

Qualification Plan – Estimated Completion: May, 2015

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: LMV842MMX/NOPB (MSL 1-260C)

Package Construction Details

Assembly Site:	ASESH	Mold Compound:	EN2000515
# Pins-Designator, Family:	8-DGK, VSSOP	Mount Compound:	EY1000063
Lead Finish:	NiPdAu, Cu	Bond Wire:	1.0 Mil Dia., Au

Qualification: ☒ **Plan** ☐ **Test Results**

Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
Electrical Characterization	Side by side	30/0	--	--
**High Temp. Storage Bake	150C (500, 1000 Hours)	77/0	--	--
**Biased Temp. Humidity	85C/85%RH (168, 500, 1000 Hours)	77/0	--	--
**Unbiased HAST	130C/85%RH (96 Hours)	77/0	--	--
**T/C -65C/150C	-65C/+150C (500 Cyc)	77/0	77/0	77/0

Notes: **Tests require preconditioning sequence: MSL1-260C

Qualification Plan – Estimated Completion: May, 2015

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: LMV852MMX/NOPB (MSL 1-260C)

Package Construction Details

Assembly Site:	ASESH	Mold Compound:	EN2000515
# Pins-Designator, Family:	8-DGK, VSSOP	Mount Compound:	EY1000063
Lead Frame (Finish/Base):	NiPdAu, Cu	Bond Wire:	1.0 Mil Dia., Au

Qualification: ☒ **Plan** ☐ **Test Results**

Reliability Test	Conditions	Sample Size / Fail
High Temp Operating Life	125C (125C (168,500,1000 Hours)	77/0
Electrical Characterization	Side by Side	30/0
**Unbiased HAST	130C/85%RH (96 Hours)	77/0
**T/C -65C/150C	-65C/+150C (500 Cyc)	77/0

Notes: **Tests require preconditioning sequence: MSL1-260C

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
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