PCN Number:	20130903003B	PCN Date:	10/15/2014
Title:	Qualification of ASESH, TITL and JCAP as Additional Assembly / Test Site for Select Devices		
Customer Contact:	PCN_ww_admin_team@list.ti.com	Phone:	+1(214)480-6037
Dept:	Quality Services		

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:

Revision B is to remove select devices in the Product Affected Section (with ~~strikethrough~~) and highlighted in yellow under Group 1 Device. These devices were inadvertently added and not affected by this change.

Devices with ~~strikethrough~~ and not highlighted in yellow has been retracted under rev A.

Texas Instruments Incorporated is announcing the qualification of ASESH, TITL and JCAP as additional assembly/test site for select devices listed in the "Product Affected" Section. Current assembly sites are indicated in the "Changes to Product Identification" tables below. Assembly differences are as follows:

Group 1 Device: HNT to ASESH

	HNT	ASESH
Wire type	1.0 Mil Au	1.0 Mil Cu
Mold Compound	450179	EN2000515

Group 2 Device: AMKOR K1 to TITL

	AMKOR K1	TITL
Lead finish	Matte Sn	NiPdAu
Mold Compound	101319570	4205442

Group 3 Device: STS to JCAP

	STS-AT	JCAP-AT
Bump Site	STS-BP	JCAP-FAB

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

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:

Group 1 Device: HNT to ASESH

Assembly Site		
Hana Thailand	Assembly Site Origin (22L)	ASO: HNT
ASE Shanghai	Assembly Site Origin (22L)	ASO: ASH

ASSEMBLY SITE CODES: HNT =H, ASESH = A

Group 2 Device: AMKOR K1 to TITL

Assembly Site		
AMKOR Korea K1	Assembly Site Origin (22L)	ASO: AMN
TI Taiwan	Assembly Site Origin (22L)	ASO: TAI

ASSEMBLY SITE CODES: AMN =7, TITL = T

Group 3 Device: SCS to JCAP

Assembly Site		
STATS ChipPAC-AT	Assembly Site Origin (22L)	ASO: STS
JCAP-AT	Assembly Site Origin (22L)	ASO: JCP

ASSEMBLY SITE CODES: STS =G, JCAP = P

Sample product shipping label (not actual product label)

Product Affected: Group 1 Device

OPA1632DGN	THS3202DGNG4	THS4121IDGN	THS4150CDGNG4
OPA1632DGNG4	THS3202DGNR	THS4121IDGNG4	THS4150CDGNR
OPA1632DGNR	THS3202DGNRG4	THS4121IDGNR	THS4150CDGNRG4
OPA1632DGNRG4	THS4011CDGN	THS4121IDGNRG4	THS4150IDGN
THS3001CDGN	THS4011CDGNG4	~~THS4130CDGK~~	THS4150IDGNG4
THS3001CDGNG4	THS4011CDGNR	~~THS4130CDGKG4~~	THS4150IDGNR
THS3001CDGNR	THS4011CDGNRG4	THS4130CDGN	THS4150IDGNRG4
THS3001CDGNRG4	THS4011IDGN	THS4130CDGNG4	THS4151CDGK
THS3001HVCDGN	THS4011IDGNG4	THS4130CDGNR	THS4151CDGKG4
THS3001HVCDGNG4	THS4011IDGNR	THS4130CDGNRG4	THS4211DGK
THS3001HVIDGN	THS4011IDGNRG4	~~THS4130IDGK~~	THS4211DGKG4
THS3001HVIDGNG4	THS4022IDGN	~~THS4130IDGKG4~~	THS4211DGN
THS3001IDGN	THS4022IDGNG4	~~THS4130IDGKR~~	THS4211DGNG4
THS3001IDGNG4	THS4022IDGNR	~~THS4130IDGKRG4~~	THS4211DGNR
THS3001IDGNR	THS4022IDGNRG4	THS4130IDGN	THS4211DGNRG4
THS3001IDGNRG4	THS4031CDGN	THS4130IDGNG4	THS4222DGK
THS3062DGN	THS4031CDGNG4	THS4130IDGNR	THS4222DGKG4
THS3062DGNG4	THS4031CDGNR	THS4130IDGNRG4	THS4222DGN
THS3110IDGN	THS4031CDGNRG4	~~THS4131CDGK~~	THS4222DGNG4
THS3110IDGNG4	THS4031IDGN	~~THS4131CDGKG4~~	THS4222DGNR
THS3110IDGNR	THS4031IDGNG4	~~THS4131CDGKR~~	THS4222DGNRG4

THS3110IDGNRG4	THS4031IDGNR	~~THS4131CDGKRG4~~	THS4500IDGK
THS3111CDGNR	THS4031IDGNRG4	THS4131CDGN	THS4500IDGKG4
THS3111CDGNRG4	THS4032CDGN	THS4131CDGNG4	THS4500IDGN
THS3111IDGN	THS4032CDGNG4	THS4131CDGNR	THS4500IDGNG4
THS3111IDGNG4	THS4032IDGN	THS4131CDGNRG4	THS4500IDGNR
THS3111IDGNR	THS4032IDGNG4	~~THS4131IDGK~~	THS4500IDGNRG4
THS3111IDGNRG4	THS4032IDGNR	~~THS4131IDGKG4~~	~~THS4504DGK~~
THS3120CDGN	THS4032IDGNRG4	~~THS4131IDGKR~~	~~THS4504DGKG4~~
THS3120CDGNG4	~~THS4121CDGK~~	~~THS4131IDGKRG4~~	THS4504DGN
THS3120CDGNR	~~THS4121CDGKG4~~	THS4131IDGN	THS4504DGNG4
THS3120CDGNRG4	~~THS4121CDGKR~~	THS4131IDGNG4	THS4504DGNR
THS3120IDGN	~~THS4121CDGKRG4~~	THS4131IDGNR	THS4504DGNRG4
THS3120IDGNG4	THS4121CDGN	THS4131IDGNRG4	~~THS4505DGK~~
THS3121IDGN	THS4121CDGNG4	THS4140CDGN	~~THS4505DGKG4~~
THS3121IDGNG4	THS4121CDGNR	THS4140CDGNG4	THS4505DGN
THS3202DGK	THS4121CDGNRG4	THS4140IDGN	THS4505DGNG4
THS3202DGKG4	~~THS4121IDGK~~	THS4140IDGNG4	THS4505DGNR
THS3202DGKR	~~THS4121IDGKG4~~	THS4140IDGNR	THS4505DGNRG4
THS3202DGKRG4	~~THS4121IDGKR~~	THS4140IDGNRG4	~~THS6072IDGNR~~
THS3202DGN	~~THS4121IDGKRG4~~	THS4150CDGN	~~THS6072IDGNRG4~~

Product Affected: Group 2 Device

MSP430V250IPZ

Product Affected: Group 3 Device

CDC3RL02YFPR	TPS22932BYFPR	TPS22932BYFPT

Qualification Data: Group 1

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.

Qual Vehicle : THS3202DGK (MSL1-260C)

Package Construction Details

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

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

Reliability Test	Conditions	Sample Size / Fail
Electrical Characterization	-	Pass
**Temperature Cycle	-65C/+150C (500 Cyc)	77/0
Manufacturability (MQ)	(per mfg. Site specification)	Pass
Moisture Sensitivity	L1-260C	12/0

Notes **- Preconditioning sequence: Level 1-260C.

Reference Qualification

Qual Vehicle : LM358ADGKR (MSL1-260C)

Package Construction Details

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

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

Reliability Test	Conditions	Sample Size / Fail		
		Lot#1	Lot#2	Lot#3
**Steady-state Life Test	150C (168 Hours)	77/0	77/0	77/0
**High Temp. Storage Bake	150C (500 Hours)	77/0	77/0	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
**Temperature Cycle	-65C/+150C (500 Cyc)	77/0	77/0	77/0
Solderability	Steam age, 8 Hours	22/0	22/0	22/0
Flammability	Method A - UL94-0	5/0	5/0	5/0
Flammability	Method B - IEC 695-2-2	5/0	5/0	5/0
Flammability	Method C - UL 1694	5/0	5/0	5/0
Salt Atmosphere	24 Hours	5/0	5/0	5/0
Manufacturability (MQ)	(per mfg. Site specification)	Pass	Pass	Pass
Moisture Sensitivity	L1-260C	12/0	12/0	12/0

Notes **- Preconditioning sequence: Level 1-260C.

Qualification Data: Group 2

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.

Qual Vehicle : MSP430F4794IPZ (MSL1-260C)

Package Construction Details

Assembly Site:	TITL	Mold Compound:	4205442
# Pins-Designator, Family:	100-PZ, LQFP	Mount Compound:	4042504
Lead Finish, Base	NiPdAu, Cu	Bond Wire:	0.95 Mil Dia. Au

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

Reliability Test	Conditions	Sample Size / Fail
Electrical Characterization	-	Pass
**Operating Life Test	150C (300 Hours)	120/0
**Temperature Cycle	-65C/+150C (1000 Cyc)	77/0
**High Temp. Storage Bake	170C (420 Hours)	77/0
ESD CDM	+/-500V	3/0
ESD HBM	+/-2KV	3/0
ESD MM	+/-500V	3/0
X-ray	Top side only	5/0
Manufacturability (MQ)	(per mfg. Site specification)	Pass

Notes **- Preconditioning sequence: Level 1-260C.

Qualification Data: Group 3

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.

Qual Vehicle : CD3239 (MSL1-260C)

Package Construction Details

Assembly & Bump Site:	JCAP	Bump Composition:	SnAgCu
# Pins-Designator, Family:	25-YFP, WCSP	Bump Diameter:	0.23mm

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

Reliability Test	Conditions	Sample Size / Fail		
		Lot#1	Lot#2	Lot#3
**Steady-state Life Test	150C (300 Hours)	116/0	116/0	116/0
**High Temp. Storage Bake	150C (1000 Hours)	77/0	77/0	77/0
**Biased HAST	130C/85%RH (96 Hours)	77/0	77/0	77/0
**Unbiased HAST	130C/85%RH (96 Hours)	77/0	77/0	77/0
**Temperature Cycle	-55C/+125C (1000 Cyc)	77/0	77/0	77/0
Manufacturability (MQ)	(per mfg. Site specification)	Pass	Pass	Pass
Moisture Sensitivity	L1-260C	12/0	12/0	12/0
Notes **- Preconditioning sequence: Level 1-260C.				

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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