TEXAS INSTRUMENTS 12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20140304002C
Qualification of HNT and JCET Chuzhou as Additional Assembly/Test Site for Select Devices
Change Notification / Sample Request

Dear Customer:

The purpose of this version C is to retract devices from this change notification. The retraction is for select devices that were inadvertently included and are not affected by this change. We apologize for any inconvenience this may have caused.

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 changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

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 Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services
Phone: +1(214) 480-6037
Fax: +1(214) 480-6659

PCN# 20140304002C
Attachment: 1

Products Affected:

According to our records, there are the affected device(s) that you have purchased within the past twenty-four (24) months. Technical details of this Product Change follow on the next page(s).

PCN Number:	20140304002C	**PCN Date:**	12/23/2014

Title:	Qualification of HNT and JCET Chuzhou as Additional Assembly/Test Site for Select Devices

Customer Contact:	PCN Manager	**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 C is to remove select devices in Group 2 of the Product Affected Section (with ~~strikethrough~~) and highlighted in yellow. These devices were inadvertently added and not affected by this change.

Qualification of HNT and JCET Chuzhou as Additional Assembly/Test Site for Select Devices. Material differences between Assembly/Test sites as follows:

Group 1 Devices: Assembly Site change only. No Assembly material differences.

Group 2 Devices:

	NSE	HANA
Mold Compound	CZ0140	450176

Group 3 Devices :

	NFME	JCETCZ
Mold Compound	R-15	013102024401
Wire Type	Au	Cu

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

Reason for Change:

Continuity of Supply

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

None

Changes to product identification resulting from this PCN:

Group1 and 2 Devices:

Assembly Site		
NSE Thailand	Assembly Site Origin (22L)	ASO: NSE
Hana Thailand	Assembly Site Origin (22L)	ASO: HNT

ASSEMBLY SITE CODES: NSE =J, HANA =H

Group 3 Devices:

Assembly Site		
NFME China	Assembly Site Origin (22L)	ASO: NFM
JCET Chuzhou China	Assembly Site Origin (22L)	ASO: GP6

ASSEMBLY SITE CODES: NFME =E, JCETCZ =F

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)TO:1750

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

Group 1 Product Affected:

TPS61040DDCR	TPS62240DDCT	TPS62260DDCT	TPS62561DDCR
TPS61040DDCT	TPS62240DDCTG4	TPS62260DDCTG4	TPS62561DDCT
TPS62240DDCR	TPS62260DDCR	TPS62262DDCR	
TPS62240DDCRG4	TPS62260DDCRG4	TPS62262DDCT	

Group 2 Product Affected:

TPS62230DRYR	TPS622314DRYR	TPS62231DRYR	TPS62236DRYR
TPS62230DRYT	TPS622314DRYT	TPS62231DRYT	TPS62236DRYT
TPS622310DRYR	TPS622315DRYR	~~TPS62232DRYR~~	TPS62237DRYR
TPS622310DRYT	TPS622315DRYT	~~TPS62232DRYT~~	TPS62237DRYT
~~TPS622311DRYR~~	TPS622316DRYR	TPS62233DRYR	TPS62238DRYR
~~TPS622311DRYT~~	TPS622316DRYT	TPS62233DRYT	TPS62238DRYT
TPS622312DRYR	TPS622317DRYR	TPS62234DRYR	TPS62239DRYR
TPS622312DRYT	TPS622317DRYT	TPS62234DRYT	TPS62239DRYT
TPS622313DRYR	TPS622318DRYR	TPS62235DRYR	
TPS622313DRYT	TPS622318DRYT	TPS62235DRYT	

Group 3 Product Affected:

CD4051BE	LM339N	LM393P	SN74HC164N
LM324N	LM358P	NE555P	ULN2003AN

Group 1 Qualification Data

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 : TPS62260DDCR (MSL1-260C)

Package Construction Details

Assembly Site:	HNT	Mold Compound:	450207
# Pins-Designator, Family:	5-DDC, SOT	Mount Compound:	400151
Lead Finish, Base	NiPdAu, Cu	Bond Wire:	1.3 Mil Dia. Au

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

Reliability Test	Conditions	Sample Size / Fail
Electrical Characterization	-	15/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass

Reference Qualification:

Qual Vehicle 1: TPS62220DDC (MSL1-260C)

Package Construction Details

Assembly Site:	HNT	Mold Compound:	450207
# Pins-Designator, Family:	5-DDC, SOT	Mount Compound:	400151
Lead Finish, Base	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
**Autoclave	121C, 2 atm (240 Hrs)	77/0	77/0	77/0
**Temperature Cycle	-65/150 (1000 cycles)	77/0	77/0	77/0
**Thermal Shock	-65/150 (1000 cycles)	77/0	77/0	77/0
X-ray	(top side only)	5/0	5/0	5/0
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
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass
Moisture Sensitivity	(Level 1 @ 260C peak +5/-0C)	12/0	12/0	12/0

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

Qual Vehicle 2: TPS71533DCK (MSL1-260C)

Package Construction Details

Assembly Site:	HNT	Mold Compound:	450207
# Pins-Designator, Family:	5-DCK, SOT	Mount Compound:	400151
Lead Finish, Base	NiPdAu, Cu	Bond Wire:	1.25 Mil Dia. Au

Qualification: ☐ Plan ☒ Test Results

Reliability Test	Conditions	Sample Size / Fail		
		Lot# 1	Lot# 2	Lot# 3
**Autoclave	121C, 2 atm (240 Hrs)	77/0	77/0	77/0
**Temperature Cycle	-65/150 (1000 cycles)	77/0	77/0	77/0
**Thermal Shock	-65/150 (1000 cycles)	77/0	77/0	77/0
**HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0
**Life test	155C (240 Hrs)	116/0	116/0	116/0
**High-Temp Storage Bake	170C (420 Hrs)	77/0	77/0	77/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass

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

Group 2 Qualification Data

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 : TPS62234DRYT (MSL1-260C)

Package Construction Details

Assembly Site:	HNT	Mold Compound:	450176
# Pins-Designator, Family:	6-DRY, SON	Mount Compound:	400173
Lead Finish, Base	NiPdAu, Cu	Bond Wire:	1.0 Mil Dia. Au

Qualification: ☐ Plan ☒ Test Results

Reliability Test	Conditions	Sample Size / Fail
Electrical Characterization	-	15/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass

Reference Qualification:

Qual Vehicle 1: TPD4S014DRY (MSL1-260C)

Package Construction Details

Assembly Site:	HNT	Mold Compound:	450176
# Pins-Designator, Family:	6-DRY, SON	Mount Compound:	400173
Lead Finish, Base	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
X-ray	(top side only)	5/0	5/0	5/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass
Moisture Sensitivity	(Level 1 @ 260C peak +5/-0C)	12/0	12/0	12/0

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

Qual Vehicle 2: TS3A44159RSV (MSL1-260C)

Package Construction Details

Assembly Site:	HNT	Mold Compound:	450176
# Pins-Designator, Family:	16-RSV, QFN	Mount Compound:	400173
Lead Finish, Base	NiPdAu, Cu	Bond Wire:	0.8 Mil Dia. Au

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

Reliability Test	Conditions	Sample Size / Fail		
		Lot# 1	Lot# 2	Lot# 3
**Life Test	150C (300 Hrs)	116/0	116/0	116/0
**Biased HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0
**Autoclave	121C, 2 atm (96 Hrs)	77/0	77/0	77/0
**Temperature Cycle	-65/150 (1000 cycles)	77/0	77/0	77/0
**High-Temp Storage Bake	150C (1000 Hrs)	77/0	77/0	77/0
Flammability	Method UL94-V0	5/0	5/0	5/0
Flammability	Method IEC 695-2-2	5/0	5/0	5/0
Flammability	Method UL-1694	5/0	5/0	5/0
X-ray	(top side only)	5/0	5/0	5/0
Salt Atmosphere	-	22/0	22/0	22/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass
Moisture Sensitivity	(Level 1 @ 260C peak +5/-0C)	12/0	12/0	12/0

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

Group 3 Qualification Data

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 1: LM358P

Package Construction Details

Assembly Site:	JCET CHUZHOU	Mold Compound:	013102024401
# Pins-Designator, Family:	8-N, PDIP	Mount Compound:	011204001701
Lead Finish, Base	Matte Sn, Cu	Bond Wire:	1.0 Mil Dia. Cu

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

Reliability Test	Conditions	Sample Size / Fail		
		Lot# 1	Lot# 2	Lot# 3
Electrical Characterization	-	Pass	-	-
Autoclave	121C, 2 atm (192 Hrs)	77/0	-	-
Temperature Cycle	-65/150 (500 cycles)	77/0	-	-
Biased HAST	130C/85%RH (192 Hrs)	77/0	77/0	77/0
High Temp. Storage Bake	170C (600 Hrs)	77/0	-	-
Life Test	150C (300 hrs)	77/0	-	-
Salt Atmosphere	24 Hrs	22/0	22/0	22/0
X-ray	(top side only)	5/0	5/0	5/0
Solderability	8 Hours Steam Age	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
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass

Qual Vehicle 2: SN74HC164N

Package Construction Details

Assembly Site:	JCET CHUZHOU	Mold Compound:	013102024401
# Pins-Designator, Family:	14-N, PDIP	Mount Compound:	011204001701
Lead Finish, Base	Matte Sn, Cu	Bond Wire:	1.0 Mil Dia. Cu

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

Reliability Test	Conditions	Sample Size / Fail		
		Lot# 1	Lot# 2	Lot# 3
Electrical Characterization	-	Pass	-	-
Autoclave	121C, 2 atm (240 Hrs)	77/0	-	-

Life Test	150C (300 hrs)	77/0	-	-
Temperature Cycle	-65/150 (1000 cycles)	77/0	-	-
Biased HAST	130C/85%RH (192 Hrs)	77/0	-	-
High Temp. Storage Bake	170C (600 Hrs)	77/0	-	-
X-ray	(top side only)	5/0	5/0	5/0
Solderability	Pb Free/Solder	22/0	22/0	22/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass

Qual Vehicle 3: CD4051BE

Package Construction Details

Assembly Site:	JCET CHUZHOU	Mold Compound:	013102024401
# Pins-Designator, Family:	16-N, PDIP	Mount Compound:	011204001701
Lead Finish, Base	Matte Sn, Cu	Bond Wire:	1.0 Mil Dia. Cu

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

Reliability Test	Conditions	Sample Size / Fail		
		Lot# 1	Lot# 2	Lot# 3
Electrical Characterization	-	Pass	-	-
Autoclave	121C, 2 atm (240 Hrs)	77/0	77/0	77/0
Temperature Cycle	-65/150 (1000 cycles)	77/0	77/0	77/0
Biased HAST	130C/85%RH (192 Hrs)	77/0	77/0	77/0
High Temp. Storage Bake	170C (600 Hrs)	77/0	77/0	77/0
X-ray	(top side only)	5/0	5/0	5/0
Solderability	8 Hours Steam Age	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
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass

Qual Vehicle 4: ULN2003AN

Package Construction Details

Assembly Site:	JCET CHUZHOU	Mold Compound:	013102024401
# Pins-Designator, Family:	16-N, PDIP	Mount Compound:	011204001701
Lead Finish, Base	Matte Sn, Cu	Bond Wire:	1.0 Mil Dia. Cu

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

Reliability Test	Conditions	Sample Size / Fail		
		Lot# 1	Lot# 2	Lot# 3
Biased HAST	130C/85%RH (192 Hrs)	77/0	77/0	77/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass

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
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com