

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	
Change Type:				Dept:		Quality Services	
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Mechanical Specification
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Bump Process
<input checked="" type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Wafer Fab Process	<input type="checkbox"/>	Wafer Fab Process
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials	<input type="checkbox"/>		<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
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: 20:
 MSL '2 /260C/1 YEAR SEAL DT
 MSL 1 /235C/UNLIM 03/29/04
 OPT:
 ITEM: 39
LBL: 5A (L)T0:1750



(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
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		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: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> 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: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> 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: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> 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: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> 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: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> 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