

**PCN Number:** 20161102000 **PCN Date:** Nov 28, 2016

**Title:** Qualification of HANA Thailand as Additional Assembly and Test Site for Select SSOP Package Devices

**Customer Contact:** PCN Manager **Dept:** Quality Services

**Proposed 1<sup>st</sup> Ship Date:** Feb 28, 2017 **Estimated Sample Availability:** Date Provided at Sample request

Change Type:		
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/> Design
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/> Data Sheet
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/> Part number change
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/> Test Site
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/> Test Process
		<input type="checkbox"/> Wafer Bump Site
		<input type="checkbox"/> Wafer Bump Material
		<input type="checkbox"/> Wafer Bump Process
		<input type="checkbox"/> Wafer Fab Site
		<input type="checkbox"/> Wafer Fab Materials
		<input type="checkbox"/> Wafer Fab Process

**PCN Details**

**Description of Change:**

Texas Instruments Incorporated is announcing the qualification of HANA Thailand as Additional Assembly and Test Site for select devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.

Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City
Hitachi	HTC	JPN	Kitatsugaru, Aomori
<b>HANA Thailand</b>	<b>HNT</b>	<b>THA</b>	<b>Ayutthaya</b>

**Material Differences:**

	Hitachi	HANA Thailand
Mount Compound	RZ241C	F400728
Mold compound	G600K	F450524

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:**

Assembly Site	Assembly Site Origin (22L)	ASO:
Hitachi	Assembly Site Origin (22L)	ASO: HTC
<b>HANA Thailand</b>	Assembly Site Origin (22L)	ASO: <b>HNT</b>

Sample product shipping label (not actual product label)



MADE IN: Malaysia  
2DC: 2d:

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

ASSEMBLY SITE CODES: HIT = T , HNT = H

**Product Affected:**

74AVCH2T45DCTRE4	SN74AUC2G79DCTR	SN74LVC2G08DCTR	SN74LVC3G04DCTRG4
74AVCH2T45DCTTE4	SN74AUC2G80DCTR	SN74LVC2G08DCTRE4	SN74LVC3G06DCTR
74LVC1G123DCTRE4	SN74AUC2G80DCTRG4	SN74LVC2G08DCTRG4	SN74LVC3G06DCTRE4
74LVC1G123DCTRG4	SN74AUC2G86DCTR	SN74LVC2G125DCTR	SN74LVC3G07DCTR
74LVC1G123DCTTE4	SN74AUP1G99DCTR	SN74LVC2G132DCTR	SN74LVC3G07DCTRG4
74LVC1G123DCTTG4	SN74AUP1G99DCTT	SN74LVC2G157DCTR	SN74LVC3G14DCTR
74LVC1G139DCTRE4	SN74AVC2T45DCTR	SN74LVC2G157DCTR-P	SN74LVC3G14DCTR-P
74LVC1G139DCTTE4	SN74AVC2T45DCTRE4	SN74LVC2G157DCTRG4	SN74LVC3G14DCTRE4
74LVC2G125DCTR-P2	SN74AVC2T45DCTT	SN74LVC2G240DCTR	SN74LVC3G14DCTRG4
74LVC2G125DCTRE4	SN74AVC2T45DCTTG4	SN74LVC2G32DCTR	SN74LVC3G17DCTR
74LVC2G125DCTRG4	SN74AVCH2T45DCTR	SN74LVC2G32DCTRE4	SN74LVC3G17DCTRE4
74LVC2G132DCTRG4	SN74AVCH2T45DCTT	SN74LVC2G32DCTRG4	SN74LVC3G17DCTRG4
74LVC2G157DCTRE4	SN74LVC1404DCTR	SN74LVC2G38DCTR	SN74LVC3G34DCTR
74LVC2G240DCTRE4	SN74LVC1G123DCTR	SN74LVC2G66DCTR	SN74LVC3G34DCTR-P
LSF0102DCTR	SN74LVC1G123DCTT	SN74LVC2G66DCTRE4	SN74LVC3G34DCTRG4
SN74AUC2G00DCTR	SN74LVC1G139DCTR	SN74LVC2G66DCTRG4	SN74LVC3GU04DCTR
SN74AUC2G00DCTRE4	SN74LVC1G139DCTT	SN74LVC2G79DCTR	SN74TVC3306DCTR
SN74AUC2G02DCTR	SN74LVC1G29DCTR	SN74LVC2G80DCTR	SN74TVC3306DCTRE4
SN74AUC2G08DCTR	SN74LVC1G99DCTR	SN74LVC2G80DCTRG4	TCA9406DCTR
SN74AUC2G08DCTRE4	SN74LVC1G99DCTRG4	SN74LVC2G86DCTR	TS5A2053DCTR
SN74AUC2G08DCTRG4	SN74LVC1G99DCTT	SN74LVC2G86DCTRG4	TS5A2053DCTRE4
SN74AUC2G125DCTR	SN74LVC2G00DCTR	SN74LVC2T45DCTR	TXS0102DCTR
SN74AUC2G126DCTR	SN74LVC2G00DCTRE4	SN74LVC2T45DCTRE4	TXS0102DCTRE4
SN74AUC2G240DCTR	SN74LVC2G00DCTRG4	SN74LVC2T45DCTT	TXS0102DCTT
SN74AUC2G241DCTR	SN74LVC2G02DCTR	SN74LVC2T45DCTTG4	TXS0102DCTTE4
SN74AUC2G32DCTR	SN74LVC2G02DCTRE4	SN74LVC3G04DCTR	TXS0102DCTTG4
SN74AUC2G66DCTR	SN74LVC2G02DCTRG4	SN74LVC3G04DCTRE4	

# Qualification Report

## New Package: DCT package qual at HNT

Approve Date 18-Oct-2016

### Product Attributes

Attributes	Qual Device: PCA9306DCTR	Qual Device: TXS0102DCTR
Assembly Site	HNT	HNT
Package Family	SSOP	SSOP
Flammability Rating	UL 94 V-0	UL 94 V 0
Wafer Fab Supplier	SFAB	FFAB
Wafer Process	EPIC1ZS	A3C10TPI /P9785

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL1-260C:PCA9306DCTR, TXS0102DCTR

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: PCA9306DCTR	Qual Device: TXS0102DCTR
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0
FLAM	Flammability (IEC 695-2-2)	--	-	3/15/0
FLAM	Flammability (UL 94V-0)	--	-	3/15/0
FLAM	Flammability (UL-1694)	--	-	3/15/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0
HTOL	Life Test, 150C	300 Hours	-	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0
LI	Lead Fatigue	Leads	-	3/66/0
LI	Lead Pull to Destruction	Leads	-	3/66/0
PD	Physical Dimensions	--	-	3/15/0
SD	Surface Mount Solderability	Pb Free	-	3/66/0
SD	Surface Mount Solderability	Pb	-	3/66/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0
WBP	Bond Pull	Wires	3/228/0	3/228/0
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

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

# Qualification Report

## A-T / Device Offload into HNT DCT package

Approve Date 19-Oct-2016

### Product Attributes

Attributes	Qual Device: SN74LVC2G66DCTR	QBS Package Reference: TXS0102DCTR
Assembly Site	HNT	HNT
Package Family	SSOP	SSOP
Flammability Rating	UL 94 V-0	UL 94 V 0
Wafer Fab Supplier	FFAB	FFAB
Wafer Process	A3CTPI-8	A3C10TPI

- QBS: Qual By Similarity
- Qual Device SN74LVC2G66DCTR is qualified at LEVEL1-260C

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: SN74LVC2G66DCTR	QBS Package Reference: TXS0102DCTR
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0
FLAM	Flammability (IEC 695-2-2)	--	-	3/15/0
FLAM	Flammability (UL 94V-0)	--	-	3/15/0
FLAM	Flammability (UL-1694)	--	-	3/15/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0
HTOL	Life Test, 150C	300 Hours	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	3/231/0
LI	Lead Fatigue	Leads	-	3/66/0
LI	Lead Pull to Destruction	Leads	-	3/66/0
PD	Physical Dimensions	--	-	3/15/0
SD	Surface Mount Solderability	Pb Free	-	3/66/0
SD	Surface Mount Solderability	Pb	-	3/66/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0
WBP	Bond Pull	Wires	3/228/0	3/228/0
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
  - The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
  - The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles
- 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 regional contacts shown below or your local Field Sales Representative.

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