

<b>PCN Number:</b>	20170530000		<b>PCN Date:</b>	June 7, 2017												
<b>Title:</b>	Qualification of HANA Thailand (HNT) as an additional Assembly & Test site for select devices															
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services													
<b>Proposed 1<sup>st</sup> Ship Date:</b>	Sept 7, 2017	<b>Estimated Sample Availability:</b>	Date Provided at Sample request													
<b>Change Type:</b>																
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>												
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>												
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>												
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site	<input type="checkbox"/>												
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>												
		<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>												
		<input type="checkbox"/>	Wafer Bump Material	<input type="checkbox"/>												
		<input type="checkbox"/>	Wafer Bump Process	<input type="checkbox"/>												
		<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>												
		<input type="checkbox"/>	Wafer Fab Materials	<input type="checkbox"/>												
		<input type="checkbox"/>	Wafer Fab Process	<input type="checkbox"/>												
<b>PCN Details</b>																
<b>Description of Change:</b>																
Texas Instruments Incorporated is announcing the qualification HANA Thailand (HNT) as Additional Assembly and Test Site for select devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.																
<table border="1"> <thead> <tr> <th>Assembly Site</th> <th>Assembly Site Origin</th> <th>Assembly Country Code</th> <th>Assembly Site City</th> </tr> </thead> <tbody> <tr> <td>ASE Shanghai</td> <td>ASH</td> <td>CHN</td> <td>Shanghai</td> </tr> <tr> <td><b>HANA Thailand</b></td> <td><b>HNT</b></td> <td><b>THA</b></td> <td><b>Ayutthaya</b></td> </tr> </tbody> </table>					Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City	ASE Shanghai	ASH	CHN	Shanghai	<b>HANA Thailand</b>	<b>HNT</b>	<b>THA</b>	<b>Ayutthaya</b>
Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City													
ASE Shanghai	ASH	CHN	Shanghai													
<b>HANA Thailand</b>	<b>HNT</b>	<b>THA</b>	<b>Ayutthaya</b>													
<b>Material Differences:</b>																
	<b>ASH</b>	<b>HNT</b>														
Mount compound	EY1000063	400154														
Mold compound	EN2000515	450179														
Wire type	Cu	Au														
Lead Finish	NiPdAuAg	NiPdAu														
Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.																
<b>Reason for Change:</b>																
Continuity of supply.																
<b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>																
None																
<b>Anticipated impact on Material Declaration</b>																
<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the <a href="#">TI Eco-Info website</a> . There is no impact to the material meeting current regulatory compliance requirements with this PCN change.													
<b>Changes to product identification resulting from this PCN:</b>																
<table border="1"> <thead> <tr> <th colspan="4">Assembly Site</th> </tr> </thead> <tbody> <tr> <td>ASE Shanghai</td> <td>Assembly Site Origin (22L)</td> <td>ASO:</td> <td>ASH</td> </tr> <tr> <td><b>HANA Thailand</b></td> <td>Assembly Site Origin (22L)</td> <td>ASO:</td> <td><b>HNT</b></td> </tr> </tbody> </table>					Assembly Site				ASE Shanghai	Assembly Site Origin (22L)	ASO:	ASH	<b>HANA Thailand</b>	Assembly Site Origin (22L)	ASO:	<b>HNT</b>
Assembly Site																
ASE Shanghai	Assembly Site Origin (22L)	ASO:	ASH													
<b>HANA Thailand</b>	Assembly Site Origin (22L)	ASO:	<b>HNT</b>													

Sample product shipping label (not actual product label)



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

ASSEMBLY SITE CODES: ASH= A, HNT= H

**Product Affected:**

TCA9517ADGKR	TCA9617ADGKR
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## Qualification Report

**HNT as an additional assembly site for TCA9517ADGKR and TCA9617ADGK Miho 8 LBC7**  
Approve Date 24-May-2017

### Product Attributes

Attributes	Qual Device: TCA9517ADGKR	Qual Device: TCA9617ADGKR	QBS Product Reference: TCA9517ADGKR	QBS Product Reference: TCA9617ADGKR	QBS Process Reference: BQ24730RGF	QBS Package Reference: TPS77301DGK
<b>Assembly Site</b>	HANA (HNT)	HANA (HNT)	ASE SHANGHAI	ASE SHANGHAI	MLA	HNT
<b>Package Family</b>	VSSOP	VSSOP	VSSOP	MSOP	QFN	MSOP
<b>Flammability Rating</b>	UL 94 V-0	-	UL 94 V-0	-	UL 94 V-0	UL 94 V-0
<b>Wafer Fab Supplier</b>	MIHO	MIHO	MIHO 8	MIHO8	MIHO8	DFAB
<b>Wafer Process</b>	-	-	LBC7	LBC7	LBC7	LBC3S

- QBS: Qual By Similarity
- Qual Device TCA9517ADGKR 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: TCA9517ADGKR	Qual Device: TCA9617ADGKR	QBS Product Reference: TCA9517ADGKR
AC	Autoclave 121C	96 Hours	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	-	-	Pass
EDR	EEPROM Data Retention, 170C	600 Hours	-	-	-
FLAM	Flammability (IEC 695-2-2)	--	-	-	-
FLAM	Flammability (UL -1694)	--	-	-	-
FLAM	Flammability (UL 94V-0)	--	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-
HBM	ESD - HBM	5500 V	-	-	1/3/0
CDM	ESD - CDM	1000 V	-	-	1/3/0
HTOL	Life Test, 155C	240 Hours	-	-	-

HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	-
LU	Latch-up	(Per JESD78, Class II)	-	-	1/6/0
LU	Latch-Up	(per JESD78)	-	-	-
MQ	Manufacturing Qualification	--	1/1/0	1/1/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	-
TS	Thermal Shock, -65/150C	500 Cycles	-	-	-

Type	Test Name / Condition	Duration	QBS Product Reference: TCA9617ADGKR	QBS Process Reference: BQ24730RGF	QBS Package Reference: TPS77301DGK
AC	Autoclave 121C	96 Hours	1/77/0	-	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-
EDR	EEPROM Data Retention, 170C	600 Hours	1/77/0	-	-
FLAM	Flammability (IEC 695-2-2)	--	-	-	3/15/0
FLAM	Flammability (UL -1694)	--	-	-	3/15/0
FLAM	Flammability (UL 94V-0)	--	-	-	3/15/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0
HBM	ESD - HBM	5500 V	-	-	-
CDM	ESD - CDM	1000 V	-	-	-
HTOL	Life Test, 155C	240 Hours	-	3/231/0	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	1/77/0	-	3/231/0
LU	Latch-up	(Per JESD78, Class II)	1/6/0	-	-
LU	Latch-Up	(per JESD78)	-	3/15/0	-
MQ	Manufacturing Qualification	--	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0	3/231/0
TS	Thermal Shock, -65/150C	500 Cycles	-	3/231/0	3/231/0

- 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.

Location	E-Mail
USA	<a href="mailto:PCNAmericasContact@list.ti.com">PCNAmericasContact@list.ti.com</a>
Europe	<a href="mailto:PCNEuropeContact@list.ti.com">PCNEuropeContact@list.ti.com</a>
Asia Pacific	<a href="mailto:PCNAsiaContact@list.ti.com">PCNAsiaContact@list.ti.com</a>
Japan	<a href="mailto:PCNJapanContact@list.ti.com">PCNJapanContact@list.ti.com</a>