


<b>PCN Number:</b>	20190318004.2		<b>PCN Date:</b>	Mar 19, 2019												
<b>Title:</b>	Qualification of ASEN as Additional Assembly and Test Site for Select Package 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 19, 2019	<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"/>	Wafer Bump Site											
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material											
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process											
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Site											
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Materials											
		<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process											
<b>PCN Details</b>																
<b>Description of Change:</b>																
Texas Instruments Incorporated is announcing the qualification ASEN as Additional Assembly and Test Site for TPD4E05U06QDQARQ1 device 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>HNA</td> <td>HNT</td> <td>THA</td> <td>Ayutthaya</td> </tr> <tr> <td><b>ASEN</b></td> <td><b>ASN</b></td> <td><b>CHN</b></td> <td><b>Suzhou</b></td> </tr> </tbody> </table>					Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City	HNA	HNT	THA	Ayutthaya	<b>ASEN</b>	<b>ASN</b>	<b>CHN</b>	<b>Suzhou</b>
Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City													
HNA	HNT	THA	Ayutthaya													
<b>ASEN</b>	<b>ASN</b>	<b>CHN</b>	<b>Suzhou</b>													
<b>Material Differences:</b>																
	<b>HNA</b>	<b>ASEN</b>														
Mold compound	450176	1801615111														
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>HNA</td> <td>Assembly Site Origin (22L)</td> <td>ASO:</td> <td>HNT</td> </tr> <tr> <td><b>ASEN</b></td> <td>Assembly Site Origin (22L)</td> <td>ASO:</td> <td><b>ASN</b></td> </tr> </tbody> </table>					Assembly Site				HNA	Assembly Site Origin (22L)	ASO:	HNT	<b>ASEN</b>	Assembly Site Origin (22L)	ASO:	<b>ASN</b>
Assembly Site																
HNA	Assembly Site Origin (22L)	ASO:	HNT													
<b>ASEN</b>	Assembly Site Origin (22L)	ASO:	<b>ASN</b>													

Sample product shipping label (not actual product label)


**TEXAS INSTRUMENTS**  
 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

**Product Affected:**

TPD4E05U06QDQARQ1

## Qualification Report

Approved 07-Mar-2019

### Qualification Results

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

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: <u>TPD4E05U06QDQARQ1</u>	QBS Product Reference: <u>TPD4E05U06QDQARQ1</u>	QBS Package Reference: <u>TPD1E10B06QDPYRQ1</u>	QBS Package Reference: <u>TPD4E02B04QDQARQ1</u>
PC	2	JESD2 2 A113	Performed prior to Test # 7, 8, 9, & 10 only	-	Automotive Preconditioning Level 2	168/85 C/60% RH	Pass	Pass	Pass	Pass
EV	3	JESD2 2 B101	-	-	External Visual	Per Specification	-	Pass	-	Pass
PV	4	AEC Q101	3	25	Parametric Verification	Per Specification	1/25/0	3/75/0	-	3/75/0
HT RB	5	MIL-STD-750-1 M1038 Method A	3	77	High Temperature Reverse Bias V = -1.2V	1000 Hours	-	3/231/0	3/231/0	-
TC	7	JESD2 2 A104 Appendix 6	3	77	Temperature Cycle, -55/150C	400	3/231/0	-	3/231/0	3/255/0
AC	8 alt	JESD2 2 A102	3	77	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0
HAST	9	JESD2 2 A110	3	77	Biased HAST, 130C/85%RH	96	3/231/0	-	-	3/321/0

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: <u>TPD4E05U0</u> <u>6QDQARQ1</u>	QBS Product Reference: <u>TPD4E05U0</u> <u>6QDQARQ1</u>	QBS Package Reference: <u>TPD1E10B0</u> <u>6QDPYRQ1</u>	QBS Package Reference: <u>TPD4E02B0</u> <u>4QDQARQ1</u>
PD	13	JESD22 B100	1	30	Physical Dimensions	Per Specification	1/30/0	-	-	1/30/0
RS H	20	JESD22 A-111 (SMD) B-106 (PTH)	1	30	Resistance to Solder Heat	Pre and Post	Pass	-	-	-
SD	21	J-STD-002 JESD22 B102	1	10	Pb Free Surface Mount Solderability	Pb Free/Solder-	-	-	-	1/10/0
SD	21	J-STD-002 JESD22 B102	1	10	Pb Surface Mount Solderability	Pb/Solder-	-	-	-	1/10/0
SD	21	J-STD-002 JESD22 B102	1	10	Solderability	Per Specification	Pass	-	-	-
SD	21	J-STD-002 JESD22 B102	1	10	Surface Mount Solderability	Pb	-	-	1/10/0	-
SD	21	J-STD-002 JESD22 B102	1	10	Surface Mount Solderability	Pb Free	-	-	1/10/0	-
TR	22	JESD24-3, 24-4, 24-6 as appropriate	1	10 each (pre/post)	Thermal Resistance	Per Specification	Pass	-	-	-
WB S	23	MIL-STD-750 Method 2037	1	10 bonds from min of 5 parts	Wire Bond Shear	Minimum of 5 devices, 10 wires.	1/10/0	-	1/10/0	1/10/0
DS	25	MIL-STD-750 Method 2017	1	5	Die Shear	MIL-STD-750 Method 2017	1/5	1/5/0	1/5/0	1/5/0
CD M			-	-	ESD - CDM	1500 V	1/10/0	-	1/10/0	1/10/0
HB			-	-	ESD -	4000 V	1/10/0	-	-	-

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: TPD4E05U0 6QDQARQ1	QBS Product Reference: TPD4E05U0 6QDQARQ1	QBS Package Reference: TPD1E10B0 6QDPYRQ1	QBS Package Reference: TPD4E02B0 4QDQARQ1
M					HBM					
HTOL			-	-	Life Test, 140C	480 Hours	-	-	-	3/231/0
HTSL			-	-	High Temp Storage Bake 150C	500 Hours	-	-	1/77/0	3/130/0
HTSL			-	-	High Temp Storage Bake 175C	500	1/77/0	-	-	-
WBP			-	-	Wire Bond Pull	Minimum of 5 devices, 10 wires	1/10/0	-	1/10/0	1/10/0

QBS: Qual By Similarity

Passing results reflect shift analysis per Q101 Requirements.

2 (PC): Preconditioning:

SMD qualification parts before Test # 7, 8, 9, & 10 only.

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

THIS INFORMATION RELATING TO QUALITY AND RELIABILITY IS PROVIDED "AS IS." Product information detailed in this report may not accurately reflect TI's current product materials, processes and testing used in the construction of the TI products. Customers are solely responsible to conduct sufficient engineering and additional qualification testing to determine whether a device is suitable for use in their applications. Using TI products outside limits stated in TI's datasheet may void TI's warranty. See TI's Terms of Sale at "<http://www.ti.com/lscds/ti/legal/termsofsale.page>"

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>