

<b>PCN Number:</b>	20190320000.1			<b>PCN Date:</b>	Mar 22 2019
<b>Title:</b>	Qualification of UTAC as an alternate Assembly and test site for the TPS22990NDMLR/T				
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services		
<b>Proposed 1<sup>st</sup> Ship Date:</b>	June 22 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 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 is pleased to announce the qualification of UTAC as an Additional Assembly site for TPS22990NDMLR/T. Material differences are as follows:					
		<b>Clark</b>		<b>UTAC</b>	
	Mold Compound	4208625		<a href="#">SID#CZ0288</a>	
	Mount Compound (NexFET - Conductive)	4206201		<a href="#">SID#PZ0035</a>	
	Mount Compound (LBC7 - Non-Conductive)	4221460		<a href="#">SID#PZ0076</a>	
	Bond Wire (LBC7 to FET & LF)	Cu, 0.8 mils		<a href="#">Cu, 1.0 mils</a>	
	Lead Finish	NiPdAu		<a href="#">NiPdAuAg</a>	
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 at the site link below <a href="http://www.ti.com/quality/docs/materialcontentsearch.tsp">http://www.ti.com/quality/docs/materialcontentsearch.tsp</a>		
<b>Changes to product identification resulting from this PCN:</b>					
<b>Assembly Site</b>	<b>Assembly Site Origin (22L)</b>	<b>Assembly Country Code (21L)</b>	<b>Assembly City</b>		
TI Clark	QAB	PHL	Angeles City, Pampanga		
<b>UTAC</b>	<b>NSE</b>	<b>THA</b>	<b>Bangkok</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) TO: 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:**

TPS22990NDMLR	TPS22990NDMLT
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TI Information  
Selective Disclosure

**Qualification Report**

Approve Date 12-Mar-2019

**Qualification Results**

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

Type	Test Name / Condition	Duration	QBS Product Reference: TPS22990DMLR
AC	Autoclave 121C	96 hours	3/231/0
CDM	ESD - CDM	1500 V	1/3/0
ED	Electrical Characterization	(Per Datasheet Parameters)	1/Pass
HAST	Biased HAST, 110C/85%RH	264 hours	3/231/0
HTOL	Life Test, 150C	300 hours	1/77/0
HTSL	High Temp Storage Bake 170C	420 hours	3/231/0
PD	Physical Dimensions	(per mechanical drawing)	3/15/0
SD	Solderability	Steam age, 8 hours; PB-Free solder	3/66/0
TC	Temperature Cycle, -65/150C	500 cycles	3/231/0
WBP	Bond Pull	76 Wire, 3 units min	3/228/0
XRAY	X-ray	(top side only)	3/15/0

- QBS: Qual By Similarity
- Qual Device TPS22990NDMLR is qualified at LEVEL2-260C
- Device TPS22990NDMLR contains multiple dies.
- 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 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>
WW PCN Team	<a href="mailto:PCN_ww_admin_team@list.ti.com">PCN_ww_admin_team@list.ti.com</a>