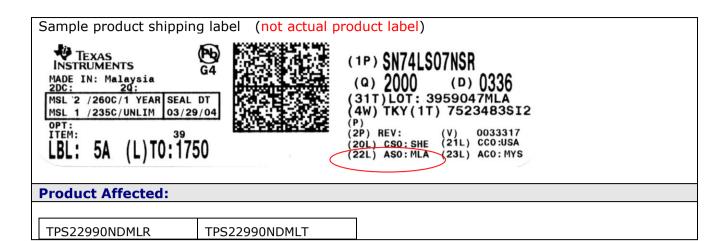
DCN Number		20100220000 1								٠.	OCN D	nto:	Mar 22	2010	
PCN Number:		20190320000.1									PCN Date: Mar 22 2				
Title: Qualification of UTAC as an alternate Assembly and test site for the TPS22990NDMLI Customer Contact: PCN Manager Dept: Quality Services								MLK/ I							
Cus	tomei	Conta	ict:	PCN /	<u>wanager</u>	L	Dept:	,						at.	
Proposed 1 st Ship Date: June 2					22 20	22 2019		Availab							
Change Type:															
Assembly Site							Design	jn 📗				Wafer Bump Site			
Assembly Prod							Data Sheet					Wafer Bump Material			
Assembly Mate							Part number change					Wafer Bump Process			
			Specification			_=	Test Site						r Fab		
Packing/Shipping/Labeling					Test Process					Wafer Fab Materials					
							Wafer Fab					r Fab	Process		
D		6 6	NI				PCN	l Deta	alis						
Description of Change: Texas Instruments is pleased to announce the qualification of UTAC as an Additional Assembly									بداما						
									as follows		C a	S an A	aaitioi	nai Assem	ЮІУ
Site	IUI IF	322330	יוטאוי	ILN/ I.	масег	iai uii	rerend	ces are	as follows	э.					
															_
							Clark					U	TAC		
		d Comp						42086	25			SID#	CZ02	88	
	Mount Compound (NexFET – Conductive)						42062	201 SIE				#PZ0035			
	Mount Compound (LBC7 – Non-Conductive)						42214	221460 SIE				#PZ0076			
	Bond Wire (LBC7 to FET & LF)				F)	С	Cu, 0.8 mils				Cu,	u, 1.0 mils			
Lead Finish						NiPdA	u	NiPdAuAg]			
Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.															
Rea	son fo	or Chai	nge:												
Cont	tinuity	of Sup	ply												
Anti	icipat	ed imp	act	on Fo	rm, Fit	t, Fun	ction	, Qual	ity or Re	liab	ilit	y (pos	itive	/ negativ	ve):
None	-	•				•		, ,	•					<u>, </u>	
Anti		ed imp			_										
Ш	No Impact to the Material Declarations or Produc														
					m production data and will be available following the										
			production release. Upon production release the revised reports can be obtained at the site link below												
			ttp://www.ti.com/quality/docs/materialcontentsearch.tsp												
intep.//www.ti.com/quanty/docs/materialcontentsearch.t								<u>searcii.csp</u>							
Changes to product identification resulting from this PCN:															
As	sembly	y Site	Assembly Site Orig			igin (2	(22L) Assembly Country Co			Code	(21	(21L) Assembly City			
TI Clark			QAB					PHL				А	Angeles City, Pampanga		
UTAC			NSE					THA					Bangkok		
OIAC			1102					IIIA					Jangkok		





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	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
WW PCN Team	PCN_ww_admin_team@list.ti.com