<b>PCN Number:</b> 20181217000.1			.1		PC	NC	Date:	Feb 15, 2019			
Title: Qualify New Assembly Material set for Selected Device(s)											
							Quality Services				
						_		mple	Date provided at		
Proposed 1 <sup>st</sup> Ship Date:			15, 2	2019		Estimated Sample Availability:			sample request		
Change Type:											
	Assembly Site			Design					Bump Site		
	Assembly Process		Data Sheet 🗌 Wafer Bump Mat								
	Assembly Materials		Part number change 📃 Wafer Bump Proc								
	Mechanical Specificat			Test Sit			Wafer Fab Site				
	Packing/Shipping/Lal	eiing		Test Pr	DCESS			Wafer Fab Materials Wafer Fab Process			
				DCN	Details			wateri			
Des	cription of Change:			PCN	Details						
Des	cription of change.										
	as Instruments is plea										
	ces listed in "Product			ction belo	w. Devices wi	ll re	ema	in in curr	ent assembly facility		
and	piece part changes as	follows	5:								
	Material		Curi	ront	Propose	d		7			
	Mold compound				809518						
			8064463 8095181								
Rea	son for Change:										
Cont	tinuity of supply.										
ROH	IS compliancy										
	icipated impact on I	it, Fori	m, F	unction,	Quality or Re	lia	bili	ty (posit	ive / negative):		
Non	e.		None.								
Anti											
Anticipated impact on Material DeclarationNo Impact to theImage: Material Declarations or Product Content reports are driven from											
						uct	Co	ntent rep	orts are driven from		
	icipated impact on I No Impact to the Material Declaration		Mate	rial Decla	ations or Prod						
	No Impact to the		Mate produ	rial Declar uction dat	rations or Prod a and will be a	vai	labl	e followir	orts are driven from ig the production d reports can be		
	No Impact to the		Mate produ relea obtai	rial Declar uction dat ise. Upon ined from	rations or Prod a and will be a production re the <u>TI Eco-Inf</u>	vai eas o w	labl se t <mark>ebs</mark>	e followir he revised <u>site</u> . There	ng the production d reports can be e is no impact to the		
	No Impact to the	F F C C	Mate produ relea obtai mate	rial Declar uction dat ise. Upon ined from erial meeti	rations or Prod a and will be a production re the <u>TI Eco-Inf</u> ng current reg	vai eas o w	labl se t <mark>ebs</mark>	e followir he revised <u>site</u> . There	ng the production d reports can be		
	No Impact to the	F F C C	Mate produ relea obtai mate	rial Declar uction dat ise. Upon ined from	rations or Prod a and will be a production re the <u>TI Eco-Inf</u> ng current reg	vai eas o w	labl se t <mark>ebs</mark>	e followir he revised <u>site</u> . There	ng the production d reports can be e is no impact to the		
	No Impact to the Material Declaration	F F C C V	Mate produ relea obtai mate with	rial Declar uction dat use. Upon ined from erial meeti this PCN o	rations or Prod a and will be a production re the <u>TI Eco-Inf</u> ng current reg change.	vai eas <u>o w</u> ula	labl se t <mark>ebs</mark>	e followir he revised <u>site</u> . There	ng the production d reports can be e is no impact to the		
Cha	No Impact to the Material Declaration nges to product ide	The second secon	Mate produ relea obtai mate with	rial Declar uction dat ise. Upon ined from erial meeti this PCN o resulting	rations or Prod a and will be a production re the <u>TI Eco-Inf</u> ng current reg change.	vai eas <u>o w</u> ula	labl se t <mark>ebs</mark>	e followir he revised <u>site</u> . There	ng the production d reports can be e is no impact to the		
Cha	No Impact to the Material Declaration	The second secon	Mate produ relea obtai mate with	rial Declar uction dat ise. Upon ined from erial meeti this PCN o resulting	rations or Prod a and will be a production re the <u>TI Eco-Inf</u> ng current reg change.	vai eas <u>o w</u> ula	labl se t <mark>ebs</mark>	e followir he revised <u>site</u> . There	ng the production d reports can be e is no impact to the		
Cha	No Impact to the Material Declaration nges to product ide	The second secon	Mate produ relea obtai mate with tion	rial Declar uction dat ise. Upon ined from erial meeti this PCN o resulting	rations or Prod a and will be a production re the <u>TI Eco-Inf</u> ng current reg change.	vai eas <u>o w</u> ula	labl se t <mark>ebs</mark>	e followir he revised <u>site</u> . There	ng the production d reports can be e is no impact to the		
Cha	No Impact to the Material Declaration nges to product ide	The second secon	Mate produ- relea obtai mate with tion ot ac	rial Declar uction dat ise. Upon ined from erial meeti this PCN of resulting ctual produ	rations or Prod a and will be a production re the <u>TI Eco-Inf</u> ng current reg change.	vai eas o w ula	labl se t <mark>ebs</mark>	e followir he revised <u>site</u> . There	ng the production d reports can be e is no impact to the		
Cha	No Impact to the Material Declaration nges to product ide	The second secon	Mate produ- relea obtai mate with tion ot ac	rial Declar uction dat ise. Upon ined from erial meeti this PCN of resulting ctual produ	rations or Prod a and will be a production rel the <u>TI Eco-Inf</u> ng current reg change. I from this PC uct label)	vai eas o w ula	labl se t <mark>ebs</mark>	e followir he revised <u>site</u> . There	ng the production d reports can be e is no impact to the		
Cha	No Impact to the Material Declaration nges to product ide	The second secon	Mate produ- relea obtai mate with tion ot ac	rial Declar uction dat se. Upon ined from erial meeti this PCN of resulting ctual produ- rent: E3 posed: G3 (	rations or Prod a and will be a production re the <u>TI Eco-Inf</u> ng current reg change. <b>from this PC</b> uct label) where applicable)	vai eas <u>o w</u> ula	labl se t rebs tory	e followir he revised <u>site</u> . There	ng the production d reports can be e is no impact to the		
Cha Sam	No Impact to the Material Declaration <b>nges to product ide</b> ple product shipping	Milificat abel (no	Mate produ- relea obtai mate with tion ot ac	rial Declar uction dat se. Upon ined from erial meeti this PCN of resulting ctual produ- rent: E3 posed: G3 (	rations or Prod a and will be a production rel the <u>TI Eco-Inf</u> ng current reg change. (from this PC uct label) where applicable)	vai eas o w ula CN:	labl se t ebs tory	e followir he revised <u>site</u> . There complian	ng the production d reports can be e is no impact to the		
Cha Sam	No Impact to the Material Declaration <b>nges to product ide</b> ple product shipping TEXAS STRUMENTS STRUMENTS STRUMENTS 20: E IN: Malaysia	Milificat abel (no	Mate produ- relea obtai mate with tion ot ac	rial Declar uction dat se. Upon ined from erial meeti this PCN of resulting ctual produ- rent: E3 posed: G3 (	rations or Prod a and will be a production rei the <u>TI Eco-Inf</u> ng current reg change. <b>from this PC</b> uct label) where applicable) (P) <b>SN74LS07</b> (Q) 2000	vai eas o w ula CN: CN:	labl se t tory	e followir he revised <u>site</u> . There complian	ng the production d reports can be e is no impact to the		
Cha Sam	No Impact to the Material Declaration	Mificat abel (no	Mate produ- relea obtai mate with tion ot ac	rial Declar uction dat se. Upon ined from erial meeti this PCN of resulting ctual produ- rent: E3 posed: G3 (	rations or Prod a and will be a production rel the <u>TI Eco-Inf</u> ng current reg change. (from this PC uct label) where applicable)	vai eas o w ula CN: CN:	labl se t tory	e followir he revised <u>site</u> . There complian	ng the production d reports can be e is no impact to the		
Cha Sam Ini MAD 2DC MSL OPT	No Impact to the Material Declaration	Mificat abel (no	Mate produ- relea obtai mate with tion ot ac	rial Declar uction dat se. Upon ined from erial meeti this PCN of resulting ctual produ- rent: E3 posed: G3 (	rations or Prod a and will be a production rei the <u>TI Eco-Inf</u> ng current reg change. (from this PC uct label) (a) SN74LS07 (a) 2000 (b) 2000 (b) TKY (1T) 7 (c) TKY (1T) 7	vai eas o w ula CN: CN:	labl se t ebs tory 03	e followir he revised <u>site</u> . There complian complian <b>36</b> <b>36</b> <b>35</b> 12	ng the production d reports can be e is no impact to the		
Cha Sam Ni MAD 2DC MSL MSL MSL MSL TTE	No Impact to the Material Declaration	Mificat abel (no	Mate produ- relea obtai mate with tion ot ac	rial Declar uction dat use. Upon ined from erial meeti this PCN of resulting ctual produ rent: E3 posed: G3 (	rations or Prod a and will be a production rel the <u>TI Eco-Inf</u> ng current reg change. (from this PC uct label) where applicable) (a) 2000 (b) 2000 (b) 750: 395 (c) 2000 (c)	Vai eas <u>o w</u> ula ula CN: CN: VSR (D) 904 (CD) 904	labl se t ebs tory 03 7MI 348 003 cco	e followir he revised ite. There complian 36 36 3312 3317 :USA	ng the production d reports can be e is no impact to the		
Cha Sam	No Impact to the Material Declaration	Mificat abel (no	Mate produ- relea obtai mate with tion ot ac	rial Declar uction dat use. Upon ined from erial meeti this PCN of resulting ctual produ rent: E3 posed: G3 (	rations or Prod a and will be a production rel the <u>TI Eco-Inf</u> ng current reg change. (from this PC uct label) where applicable) (P) SN74LS07 (Q) 2000 (31T)LOT: 395 (W) TKY (1T) 7 (P) REV: (Y	Vai eas <u>o w</u> ula ula CN: CN: VSR (D) 904 (CD) 904	labl se t ebs tory 03 7MI 348 003 cco	e followir he revised ite. There complian 36 36 3312 3317 :USA	ng the production d reports can be e is no impact to the		

Product Affected:				
LMP2234AMT/NOPB	LMP2234BMT/NOPB	LMP2234BMTX/NOPB	LMP7709MT/NOPB	
LMP2234AMTE/NOPB	LMP2234BMTE/NOPB	LMP7704MT	LMP7709MTX/NOPB	

## Qualification Report Approve Date 20-Jan-2019

## **Qualification Results** Data Displayed as: Number of lots / Total sample size / Total failed

Data Displayed as. Number of lots / fotal sample size / fotal famed							
Туре	Test Name / Condition	Duration	Qual Device: <u>LMP2234AMTNOPB</u>	QBS Package Reference: LM3464MH	QBS Package Reference: <u>LM3492HCQMH</u>	QBS Package Reference: <u>LM3492QMH</u>	QBS Package Reference: LM20143QMH
AC	Autoclave 121C	96 Hours	3/231/0	3/230/0	-	-	3/231/0
CDM	ESD - CDM	1000 V	-	-	1/3/0	1/3/0	1/3/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-	-	-	3/231/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	3/1600/0	-	-	-
ELFR	Early Life Failure Rate, 125C	72 Hours	-	3/796/0	-	-	-
ELFR	Early Life Failure Rate, 150C	48 Hours	-	3/231/0	1/77/0	1/77/0	-
GL	Gate Leakage, 155C	-400 V/+400 V	-	-	-	1/3/0	1/3/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/230/0	-	-	3/231/0
HBM	ESD - HBM	2000V	-	1/3/0	-	-	-
HBM	ESD - HBM	2500 V	-	-	1/3/0	1/3/0	1/3/0
HTOL	Life Test, 150C	408 Hours	-	-	-	-	1/77/0
HTOL	Life Test, 150C	500 Hours	-	3/231/0	1/77/0	1/77/0	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	1/45/0	-	1/45/0	1/77/0
LU	Latch-up	(per JESD78)	-	1/6/0	1/6/0	1/6/0	1/6/0
MM	ESD - MM	150V	-	1/3/0	-	-	-
MM	ESD - MM	200V	-		1/3/0	1/3/0	-
MM	ESD - MM	250 V	-	-	-	-	1/3/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass
PD	Physical Dimension		-	-	-	-	3/90/0
PTC	Power Temperature Cycle (-40/150C)	1000 Cycles	-	-	-	1/45/0	-
SD	Solderability	Pb free	3/66/0	-	-	-	3/90/0

Туре	Test Name / Condition	Duration	Qual Device: LMP2234AMTNOPB	QBS Package Reference: <u>LM3464MH</u>	QBS Package Reference: <u>LM3492HCQMH</u>	QBS Package Reference: <u>LM3492QMH</u>	QBS Package Reference: LM20143QMH
тс	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	-	-	3/231/0
WBP	Bond Pull	Wires	-	-	-	-	3/90/0
WBS	Bond Shear	Wires	-	-	-	-	3/90/0

- QBS: Qual By Similarity

- Qual Device LMP2234AMTNOPB is qualified at LEVEL1-260CP

- 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

## IMPORTANT NOTICE AND DISCLAIMER

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.

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intel

TI's products are provided subject to TI's Terms of Sale "http://www.ti.com/legal/termsofsale.html" or other applicable terms available either on "http://www.ti.com" or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

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	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com