PCN Number:	20211029000.2	**PCN Date:**	November 08, 2021
Title:	Qualification of TI Chengdu as an additional Assembly and Test site for Select Devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	May 08, 2022	**Estimated Sample Availability:**	Date provided at sample request

Change Type:					
☒	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Material
☒	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☒	Test Site	☐	Wafer Fab Site
☒	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing the qualification of TI Chengdu as an additional Assembly and Test site for the list of devices shown below. Construction differences between the 2 sites are as follows:

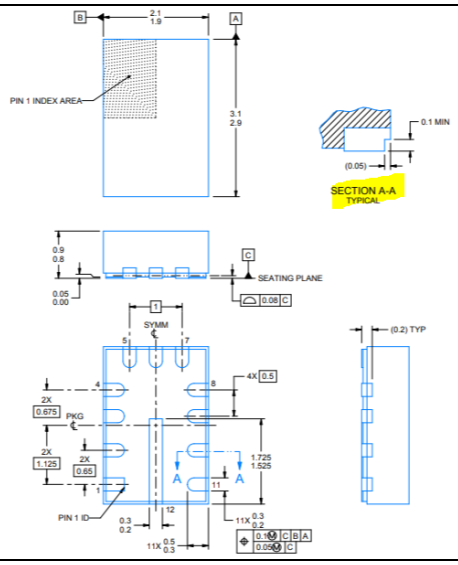
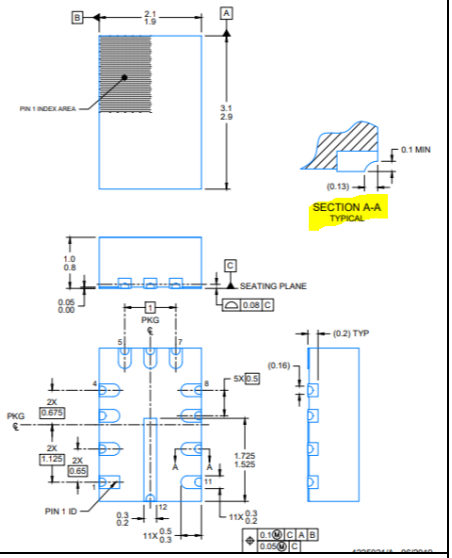
Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly City
UTAC	NSE	THA	Bangkok
TI Chengdu	CDA	CHN	Chengdu

Material Differences:

	UTAC	TI Chengdu
Lead finish	Matte Sn	NiPdAu

Test coverage, insertions, conditions will remain consistent with current testing.

Package Outline Drawing Differences:

	UTAC	TI Chengdu
Package Drawing		
Wettable Flank design	Step Cut	Dimple

Reason for Change:

Supply continuity

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

Impact on Environmental Ratings

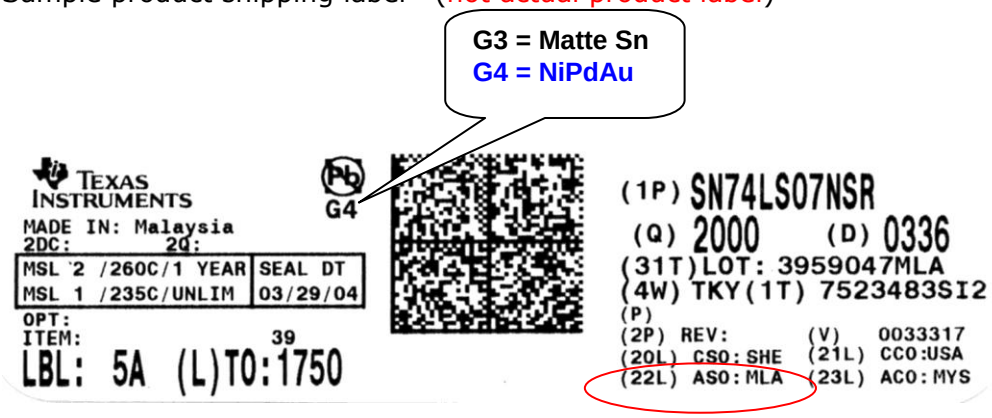
Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings or to the associated device component Test Reports.

RoHS	REACH	Green Status	IEC 62474
☒ No Change	☒ No Change	☒ No Change	☒ No Change

Changes to product identification resulting from this PCN:

Assembly Site		
UTAC	Assembly Site Origin (22L)	ASO: NSE
CDAT	Assembly Site Origin (22L)	ASO: CDA

Sample product shipping label (not actual product label)



Product Affected:

LMR33620AQ5RNXRQ1	LMR33620BQRNXTQ1	LMR33620CQRNXRQ1	LMR33630BQRNXTQ1
LMR33620AQ5RNXTQ1	LMR33620CQ3RNXRQ1	LMR33620CQRNXTQ1	LMR33630CQRNXRQ1
LMR33620AQRNXRQ1	LMR33620CQ3RNXTQ1	LMR33630AQRNXRQ1	LMR33630CQRNXTQ1
LMR33620AQRNXTQ1	LMR33620CQ5RNXRQ1	LMR33630AQRNXTQ1	
LMR33620BQRNXRQ1	LMR33620CQ5RNXTQ1	LMR33630BQRNXRQ1	

Qualification Report

Automotive New Product Qualification Summary
(As per AEC-Q100 and JEDEC Guidelines)

Approved 28-Sept-2020

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: LMR33630CQRNXRQ1 CDAT	Qual Device: LMR33630CQRNXRQ1 UTL1	QBS Package Qual UTL1: LMR33620CQRNXTQ1
Test Group A – Accelerated Environment Stress Tests										
	PC	A1	JEDEC J-STD-020 JESD22-A113	3	231	Automotive Preconditioning	Level 2-260C	Pass	-	Pass
	bHAST	A2	JEDEC JESD22-	3	77	Biased HAST, 110C/85%RH	264 Hours	3/231/0	-	-

			A101							
	uHAST	A3	JEDEC JESD22-A102	3	77	Unbiased HAST, 110C/85%RH	264 Hours	3/231/0	-	-
	THB		JEDEC JESD22-A101	3	77	Biased Temperature and Humidity, 85C/85%RH	1000 Hours	-		3/231/0
	AC		JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	-		3/231/0
	TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	3/231/0	-	3/231/0
	PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	1/44/1 (Note 1)	-	1/45/0
	HTSL	A6	JEDEC JESD22-A103	1	45	High Temp. Storage Life, 150C	1000 Hours	3/231/0	-	3/231/0
Test Group B – Accelerated Lifetime Simulation Tests										
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	3/231/0	-	3/231/0
	ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	3/2400/0	-	3/2400/0
	EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	10000 Cycles	3/231/0	-	-
Test Group C – Package Assembly Integrity Tests										
	WBS	C1	AEC Q100-001	1	30	Bond Shear (Cpk>1.67)	Wires	N/A	-	N/A
	WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull (Cpk>1.67)	Wires	N/A	-	N/A
	SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	15	1/15/0	-	Pass
	PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	30 units	3/90/0	-	Pass
	SBS	C5	AEC Q100-010	3	50	Solder Ball Shear (Cpk>1.67)	Solder Balls	N/A	-	N/A
	LI	C6	JEDEC JESD22-B105	1	50	Lead Integrity	Leads	N/A	-	N/A
Test Group D – Die Fabrication Reliability Tests										
	EM	D1	JESD61	-	-	Electromigration	--	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
	TDDB	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	--	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
	HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	--	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
	NBTI	D4	-	-	-	Negative Bias Temperature	--	Completed Per Process Technology	Completed Per Process Technology	Completed Per Process Technology

						Instability		Requirements	Requirements	Requirements
	SM	D5	-	-	-	Stress Migration	--	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
Test Group E – Electrical Verification Tests										
	HBM	E2	AEC Q100-002	1	3	ESD - HBM	2500 V	1/3/0	1/3/0	1/3/0
	CDM	E3	AEC Q100-011	1	3	ESD - CDM	750 V	1/3/0	1/3/0	1/3/0
	LU	E4	AEC Q100-004	1	6	Latch-up	+/100mA, 150C	1/6/0	1/6/0	1/6/0
	ED	E5	AEC Q100-005	3	30	Electrical Distribution	Cpk > 1.67	3/30/0	-	3/90/0

- QBS: Qual By Similarity
- Qual Device LMR33630CQRNXRQ1 is qualified at LEVEL2-260C

A1 (PC): Preconditioning:
Performed for THB, Biased HAST, AC, uHAST, TC & PTC samples, as applicable.

Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40°C to +150°C
Grade 1 (or Q): -40°C to +125°C
Grade 2 (or T): -40°C to +105°C
Grade 3 (or I) : -40°C to +85°C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):
Room/Hot/Cold : HTOL, ED
Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
Room : AC/uHAST

Green/Pb-free Status:
Qualified Pb-Free(SMT) and Green

Note 1: 1 fail was attributed to test issue and was discounted. FA available upon request.

For questions regarding this notice, e-mails can be sent to the contacts shown below or your local Field Sales Representative.

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