

PCN Number:	20231016002.1		PCN Date:	October 17, 2023	
Title:	Qualification of RFAB as an additional Fab site option and Assembly/BOM Options for select devices				
Customer Contact:	Change Management Team		Dept:	Quality Services	
Proposed 1st Ship Date:	Jan 14, 2024		Sample requests accepted until:	Nov 16, 2023*	
*Sample requests received after Nov 16, 2023 will not be supported.					
Change Type:					
<input checked="" type="checkbox"/>	Assembly Site	<input checked="" type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Material
<input checked="" type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Process
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input checked="" type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input checked="" type="checkbox"/>	Wafer Fab Material
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input checked="" type="checkbox"/>	Wafer Fab Process
PCN Details					
Description of Change:					
Texas Instruments is pleased to announce the qualification of its RFAB fabrication facility as an additional Wafer Fab option in addition to Assembly/BOM options for the devices listed below.					
Current Fab Site			Additional Fab site		
Current Fab Site	Process	Wafer Diameter	Additional Fab site	Process	Wafer Diameter
GFAB6/8	P2CMOS	150/200mm	RFAB	LBC9	300mm
DFAB	LBC3S	200mm			
The die was also changed as a result of the process change.					
Additional BOM items are as follows:					
Group 1 BOM Table (RFAB/Process migration and HFTF as additional Assembly site):					
	TFME		HFTF		
Bond wire composition, diameter diameter	Cu, 1.0 mil		Au, 0.8 mil		
Mount Compound	SID# A-03		SID#A-09		
Mold Compound	SID#R-13		SID#R-27		
Lead Finish	NiPdAu		Matte Sn		
Group 2 BOM Table (RFAB/Process migration and HFTF as additional Assembly site)::					
	TIEM		HFTF		
Bond wire composition, diameter diameter	Cu, 0.96 mil		Au, 0.8 mil		
Mount Compound	4213245		SID#A-09		
Mold Compound	8097131		SID#R-27		
Binary Codes in symbolization	No		Included		
Reason for Change:					
These changes are part of our multiyear plan to transition products from our 150-millimeter factories to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and 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.

RoHS	REACH	Green Status	IEC 62474
<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change

Changes to product identification resulting from this PCN:**Fab Site Information:**

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
GFAB	GF6/GF8	GBR	Greenock
DL-LIN	DLN	USA	Dallas
RFAB	RFB	USA	Richardson


Die Rev:**Current****New**


Die Rev [2P]	Die Rev [2P]
A, C	B


Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TFME	NFM	CHN	Economic Development Zone
TI Melaka	CU6	MYS	Melaka
HFTF	HFT	CHN	Hefei

Sample product shipping label (not actual product label):

**TEXAS INSTRUMENTS**
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)T0:1750

**G4**



(1P) **SN74LS07NSR**
(Q) **2000** (D) **0336**
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483SI2
(P)
(2P) REV: (V) **0000017**
(20L) CS0: SHE (21L) CCO:USA
(22L) AS0: MLA (23L) ACO: MYS

Product Affected:**Group 1 Device List:**

TLV7211AIDBVR	TLV7211IDBVR		
Group 2 Device List:			
LMC7211AIM5X/NOPB	LMC7211BIM5X/NOPB	LMC7221AIM5X/NOPB	LMC7221BIM5X/NOPB

TI Information
Selective Disclosure

Qualification Report

TLV7211 Commercial SOT-23 Red Bull Refresh Approve Date 14-AUGUST -2023

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TLV7211AIDBVR	QBS Reference: TLV1805QDBVRQ1	QBS Reference: TLV7031QDCKRQ1	QBS Reference: TLV1811QDBVRQ1	QBS Reference: TMUX1119DBVR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	1/77/0	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	3/231/0	1/77/0	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	1/77/0	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/231/0	-	3/231/0
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	-	1/77/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	3/231/0	-	-	-
HTOL	B1	Life Test	150C	300 Hours	-	-	-	1/77/0	-
ESD	E2	ESD CDM	-	500 Volts	1/3/0	-	-	-	-
ESD	E2	ESD HBM	-	2000 Volts	1/3/0	-	-	-	-
LU	E4	Latch-Up	Per JESD78	-	1/6/0	-	-	1/6/0	-

CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	-	-
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- QBS: Qual By Similarity
- Qual Device TLV7211AIDBVR is qualified at MSL1 260C
- 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/>

TI Qualification ID: R-CHG-2306-044

Qualification Report

LMC7211 LMC7221 Commercial SOT-23 Red Bull Refresh
Approve Date 06-JULY -2023

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: <u>LMC7211AIM5X/NOPB</u>	Qual Device: <u>LMC7221AIM5X/NOPB</u>	QBS Reference: <u>TLV1805QDBVRQ1</u>	QBS Reference: <u>TMUX1119DBVR</u>	QBS Reference: <u>OPA1655DBVR</u>
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	-	3/231/0
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	3/231/0	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	3/231/0	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	-	3/231/0
HTOL	B1	Life Test	125C	1000 Hours	-	-	3/231/0	-	-
ESD	E2	ESD CDM	-	500 Volts	1/3/0	1/3/0	-	-	-
ESD	E2	ESD HBM	-	2000 Volts	1/6/0	1/6/0	-	-	-

LU	E4	Latch-Up	Per JESD78	-	1/6/0	1/6/0	-	-	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	1/30/0	-	-	-

- QBS: Qual By Similarity
- Qual Device LMC7211AIM5X/NOPB is qualified at MSL1 260C
- Qual Device LMC7221AIM5X/NOPB is qualified at MSL1 260C
- 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/>

TI Qualification ID: R-CHG-2306-016

For questions regarding this notice, e-mails can be sent to the Change Management team or your local Field Sales Representative.

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