

<b>PCN Number:</b>	20240306000.1		<b>PCN Date:</b>	March 06, 2024																					
<b>Title:</b>	Qualification of new Fab site (RFAB) using qualified Process Technology, Die Revision, and additional Assembly site & BOM options for select devices																								
<b>Customer Contact:</b>	Change Management Team		<b>Dept:</b>	Quality Services																					
<b>Proposed 1<sup>st</sup> Ship Date:</b>	June 04, 2024		<b>Sample requests accepted until:</b>	April 05, 2024*																					
<b>*Sample requests received after April 05, 2024 will not be supported.</b>																									
<b>Change Type:</b>																									
<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																				
<b>PCN Details</b>																									
<b>Description of Change:</b>																									
Texas Instruments is pleased to announce the qualification of a new fab & process technology (RFAB, TIB) die revision, and Assembly site & BOM option for selected devices as listed below in the product affected section. Construction differences are noted below:																									
<table border="1"> <thead> <tr> <th colspan="3">Current Fab Site</th> <th colspan="3">Additional Fab Site</th> </tr> <tr> <th>Current Fab Site</th> <th>Process</th> <th>Wafer Diameter</th> <th>Additional Fab Site</th> <th>Process</th> <th>Wafer Diameter</th> </tr> </thead> <tbody> <tr> <td>SFAB</td> <td rowspan="2">LFAST</td> <td>150 mm</td> <td rowspan="2">RFAB</td> <td rowspan="2">LBC9</td> <td rowspan="2">300 mm</td> </tr> <tr> <td>GFAB</td> <td>200 mm</td> </tr> </tbody> </table>			Current Fab Site			Additional Fab Site			Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter	SFAB	LFAST	150 mm	RFAB	LBC9	300 mm	GFAB	200 mm			
Current Fab Site			Additional Fab Site																						
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter																				
SFAB	LFAST	150 mm	RFAB	LBC9	300 mm																				
GFAB		200 mm																							
The die was also changed as a result of the process change.																									
Construction differences are as follows:																									
		<b>TIEMA</b>	<b>CDAT</b>																						
Mount Compound		4213245	4207123																						
Mold Compound		8097131	4222198																						
Bond wire composition, diameter		Au, 1.0 mil	Cu, 0.8 mil																						
Pin one designator		notch	dot																						
<b>Reason for Change:</b>																									
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.																									
<b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>																									
None																									
<b>Impact on Environmental Ratings</b>																									
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.																									
<b>RoHS</b>		<b>REACH</b>		<b>Green Status</b>																					
<input checked="" type="checkbox"/> No Change		<input checked="" type="checkbox"/> No Change		<input checked="" type="checkbox"/> No Change																					
<b>Changes to product identification resulting from this PCN:</b>																									

**Fab Site Information:**

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
SH-BIP-1	SHE	USA	Sherman
<b>RFAB</b>	<b>RFB</b>	<b>USA</b>	<b>Richardson</b>

**Die Rev:**

**Current**

**New**

Die Rev [2P]	Die Rev [2P]
D	<b>A</b>

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TIEMA	CU6	MYS	Melaka
<b>CDAT</b>	<b>CDA</b>	<b>CHN</b>	<b>Chengdu</b>

Sample product shipping label (not actual product label)



TEXAS  
INSTRUMENTS

MADE IN: Malaysia  
2DC: 29:

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) 0033317

(20L) ~~SSO: SHE~~ (21L) ~~SSO: USA~~

(22L) ASO: MLA (23L) ACO: MYS

**Product Affected:**

LM4431M3-2.5/NOPB	LM4431M3X-2.5/NOPB
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For alternate parts with similar or improved performance, please visit the product page on [TI.com](https://www.ti.com).

### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: <u>LM4040QAIM3-5.0/NO</u>	QBS Product Reference: <u>LM4040QAIM3-5.0/NO</u>	QBS Package Reference: <u>TLV803EA43VDBZ</u>	QBS Package Reference: <u>TPS3840PH30DBV RQ1</u>	QBS Process Reference: <u>TLC6CS816QPWP RQ1</u>
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	1/77/0	-	3/231/0	3/231/0
ACLV	A3	Autoclave	121C/33.3psig	96 Hours	-	-	3/231/0	-	3/231/0
UHAST	A3	Biased HAST	130C/85%RH	96 Hours	-	1/77/0	-	3/231/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	1/77/0	3/231/0	3/231/0	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	3/135/0	3/231/0
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	3/231/0	-	-
HTOL	B1	Life Test	140C	480 Hours	-	-	-	-	3/231/0
HTOL	B1	Life Test	125C	1000 Hours	-	3/231/0	-	3/231/0	-
EFR	B2	Early Life	150C	24 Hours	-	-	-	-	3/2400/0
ESD	E2	ESD HBM	-	2000 Volts	-	1/3/0	-	-	1/3/0
ESD	E2	ESD HBM	-	4000 Volts	-	1/3/0	-	-	1/3/0
ESD	E3	ESD CDM	-	250 Volts	-	1/3/0	-	-	1/3/0
ESD	E3	ESD CDM	-	1500 Volts	-	1/3/0	1/3/0	-	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	1/30/0	1/30/0	-	3/90/0
MQ	-	MQ (Assembly)	Per site specification	-	1/1/0	1/1/0	3/3/0	3/3/0	3/3/0
MQ	-	MQ (Fab)	Per site specification	-	-	1/1/0	-	-	-

- QBS: Qual By Similarity
- Qual Device LM4040QAIM3-5.0/NO is qualified at MSL1 260C.

Concurrently qualifies the LM4040 Family:

- LM4040XxYYzDBZrG4:
- X = 0 or 1 (0 is fixed, 1 is adjustable; x = Accuracy Grade (A, B, C, D); YY = 2-digit voltage option (1.225 – 5V); z = 1 letter temperature designator; DBZ – package designator; r = size option
- LM4040XQgTM3X-v.o
- X = 0 or 1 (0 is fixed, 1 is adjustable; Q = Automotive designator; g = Tolerance Grade (A, B, C, D); T = temperature Grade (I, E) M3 = Package Designator SOT23 YY; X = Optional packing designator; v.o = 2-digit voltage option (1.225 – 5V); NOPB = Environmental Standard
- 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

TI Qualification ID: R-CHG-2207-027

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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