

PCN Number:	20240202001.1	PCN Date:	February 02, 2024																					
Title:	Qualification of FFAB using qualified Process Technology, Die Revision and additional Assembly site & BOM options for the LM7171AIMX/NOPB																							
Customer Contact:	Change Management team	Dept:	Quality Services																					
Proposed 1st Ship Date:	May 2, 2024	Estimated Sample Availability:	Mar 2, 2024*																					
*Sample requests received after March 2, 2024 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 Materials																					
<input checked="" 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 addition of FFAB using the BICOMHD qualified process technology in addition to an Assembly Site option for the LM7171AIMX/NOPB device.																								
<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>DFAB</td> <td>VIP3</td> <td>150 mm</td> <td>FFAB</td> <td>BICOMHD</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	DFAB	VIP3	150 mm	FFAB	BICOMHD	200 mm			
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DFAB	VIP3	150 mm	FFAB	BICOMHD	200 mm																			
The die was also changed as a result of the process change.																								
Assembly BOM options are noted below:																								
<table border="1"> <thead> <tr> <th>What</th> <th>TI Melaka</th> <th>TI Malaysia</th> </tr> </thead> <tbody> <tr> <td>Mold Compound</td> <td>8095179</td> <td>4211880</td> </tr> <tr> <td>Mount Compound</td> <td>8075531</td> <td>4147858</td> </tr> <tr> <td>Lead Finish</td> <td>Matte Sn</td> <td>NiPdAu</td> </tr> <tr> <td>ECAT</td> <td>G3</td> <td>G4</td> </tr> <tr> <td>Device symbolization - Logo</td> <td>NSC</td> <td>TI Letters</td> </tr> <tr> <td>Device symbolization - Pin one</td> <td>dimple</td> <td>dot</td> </tr> </tbody> </table>				What	TI Melaka	TI Malaysia	Mold Compound	8095179	4211880	Mount Compound	8075531	4147858	Lead Finish	Matte Sn	NiPdAu	ECAT	G3	G4	Device symbolization - Logo	NSC	TI Letters	Device symbolization - Pin one	dimple	dot
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<p>Upon expiry of this PCN, there will be a transition period where TI will combine lead free solutions in a single <u>standard part number</u>. For example; <u>LM7171AIMX/NOPB</u> – can ship with both Matte Sn and NiPdAu.</p> <p>Example:</p> <ul style="list-style-type: none"> – Customer order for 7500 units of LM7171AIMX/NOPB with 2500 units SPQ (Standard Pack Quantity per Reel). – TI can satisfy the above order in one of the following ways. <ul style="list-style-type: none"> I. 3 Reels of NiPdAu finish. II. 3 Reels of Matte Sn finish III. 2 Reels of Matte Sn and 1 reel of NiPdAu finish. IV. 2 Reels of NiPdAu and 1 reel of Matte Sn finish. 																								
Qual details are provided in the Qual Data Section.																								

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
DL-LIN-1	DLN	USA	Dallas
FR-BIP-1	TID	DEU	Freising
Die Rev:			
Current		New	
Die Rev [2P]	Die Rev [2P]		
A	A		
Assembly Site Information:			
Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TI Melaka	CU6	MYS	Melaka
TI Malaysia	MLA	MYS	Kuala Lumpur
Sample product shipping label (not actual product label)			
Product Affected:			
LM7171AIMX/NOPB			

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: LM7171AIMX/NOPB	QBS Process Reference: THS3491DDAR	QBS Package Reference: OPA2810IDR	QBS Package Reference: TCAN1043GDRQ1	QBS Package Reference: TCAN1044VDRQ1	QBS Process Reference: THS2630SDR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0	-	-	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	-	3/231/0	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	3/231/0	3/231/0	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	3/231/0	3/231/0	-	-	-
HTOL	B1	Life Test	140C	480 Hours	-	-	-	-	-	1/77/0
HTOL	B1	Life Test	70C Vcc Max (self heating brings TJ up to 150C)	300 Hours	-	3/231/0	-	-	-	-
ELFR	B2	Early Life Failure Rate	70C (self heating brings TJ up to 150C)	24 Hours	-	3/3000/0	-	-	-	-

Type	#	Test Name	Condition	Duration	Qual Device: LM7171AIMX/NOPB	QBS Process Reference: THS3491DDAR	QBS Package Reference: OPA2810IDR	QBS Package Reference: TCAN1043GDRQ1	QBS Package Reference: TCAN1044VDRQ1	QBS Process Reference: THS2630SDR
SD	C3	PB-Free Solderability	Precondition w/155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	-	3/66/0	3/66/0	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	-	3/30/0	3/30/0	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	3/9/0	1/3/0	-	-	-
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	3/9/0	1/3/0	-	-	-
LU	E4	Latch-Up	Per JESD78	-	1/3/0	3/18/0	1/6/0	-	-	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	3/90/0	1/30/0	-	-	1/30/0

- QBS: Qual By Similarity
- Qual Device LM7171AIMX/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-NPD-2208-065

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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