

<b>PCN Number:</b>	20170216000	<b>PCN Date:</b>	Feb 17, 2017																				
<b>Title:</b>	Qualification of NFME as an additional Assembly & Test site for select devices																						
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services																				
<b>Proposed 1<sup>st</sup> Ship Date:</b>	May 17, 2017	<b>Estimated Sample Availability:</b>	Date Provided at Sample request																				
<b>Change Type:</b>																							
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design																				
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet																				
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change																				
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site																				
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process																				
		<input type="checkbox"/>	Wafer Bump Site																				
		<input type="checkbox"/>	Wafer Bump Material																				
		<input type="checkbox"/>	Wafer Bump Process																				
		<input type="checkbox"/>	Wafer Fab Site																				
		<input type="checkbox"/>	Wafer Fab Materials																				
		<input type="checkbox"/>	Wafer Fab Process																				
<b>PCN Details</b>																							
<b>Description of Change:</b>																							
Texas Instruments Incorporated is announcing the qualification NFME as Additional Assembly and Test Site for select devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.																							
<table border="1"> <thead> <tr> <th>Assembly Site</th> <th>Assembly Site Origin</th> <th>Assembly Country Code</th> <th>Assembly Site City</th> </tr> </thead> <tbody> <tr> <td>ASEWH</td> <td>AWH</td> <td>CHN</td> <td>Weihai</td> </tr> <tr> <td>UTAC</td> <td>NS2</td> <td>THA</td> <td>Bangpakong</td> </tr> <tr> <td>HANA</td> <td>HNT</td> <td>THA</td> <td>Ayutthaya</td> </tr> <tr> <td><b>NFME</b></td> <td><b>NFM</b></td> <td><b>CHN</b></td> <td><b>Nantong</b></td> </tr> </tbody> </table>				Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City	ASEWH	AWH	CHN	Weihai	UTAC	NS2	THA	Bangpakong	HANA	HNT	THA	Ayutthaya	<b>NFME</b>	<b>NFM</b>	<b>CHN</b>	<b>Nantong</b>
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<b>Material Differences:</b>																							
	<b>ASEWH</b>	<b>UTAC</b>	<b>HANA</b>	<b>NFME</b>																			
Mount compound	1120999A1	PZ0001	400154	A-03																			
Mold compound	4020039A1	CZ0096	450179	R-27																			
Wire type	Au	Au	Au	Cu																			
Lead Finish	NiPdAu	NiPdAu	NiPdAu	Matte Sn																			
Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.																							
Upon expiration of this PCN, TI will combine lead free solutions in a single <b><u>standard part number</u></b> , for example; <b><u>TL431ACDBZR</u></b> – can ship with both Matte Sn and NiPdAu.																							
When available customers may specify NiPdAu finish by ordering the part with the G4 suffix, e.g. <b><u>TL431ACDBZRG4</u></b>																							
<b>Reason for Change:</b>																							
Continuity of supply.																							
<b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>																							
None																							
<b>Anticipated impact on Material Declaration</b>																							
<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained at the site link below <a href="http://www.ti.com/quality/docs/materialcontentsearch.tsp">http://www.ti.com/quality/docs/materialcontentsearch.tsp</a>																				

**Changes to product identification resulting from this PCN:**

Assembly Site			
ASEWH	Assembly Site Origin (22L)	ASO: AWH	ECAT:G4
UTAC	Assembly Site Origin (22L)	ASO: NS2	ECAT:G4
HANA	Assembly Site Origin (22L)	ASO: HNT	ECAT:G4
NFME	Assembly Site Origin (22L)	ASO: <b>NFM</b>	ECAT: <b>G3</b>

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS  
MADE IN: Malaysia  
2DC: 2G:  
MSL 2 /260C/1 YEAR SEAL DT  
MSL 1 /235C/UNLIM 03/29/04  
OPT:  
ITEM: 39  
**LBL: 5A (L) TO: 1750**

ECAT: G4 = NiPdAu  
ECAT: G3 = Matte Sn

(1P) SN74LS07NSR  
(Q) 2000 (D) 0336  
(31T) LOT: 3959047MLA  
(4W) TKY (1T) 7523483SI2  
(P)  
(2P) REV: (V) 0033317  
(20L) CSO: SHE (21L) CCO:USA  
(22L) ASO: MLA (23L) ACO: MYS

ASSEMBLY SITE CODES: AWH= I, NS2= B, HNT= H, **NFM= E**

**Product Affected:**

LM4040A10IDBZR	LM4040D30QDBZR	TL4050B41QDBZT	TL432ACDBZR
LM4040A10IDBZT	LM4040D41IDBZR	TL4050B50IDBZR	TL432ACDBZT
LM4040A20IDBZR	LM4040D41IDBZT	TL4050B50IDBZT	TL432AIDBZR
LM4040A20IDBZT	LM4040D50IDBZR	TL4050B50QDBZR	TL432AIDBZT
LM4040A25IDBZR	LM4040D50IDBZT	TL4050B82IDBZT	TL432AQDBZR
LM4040A25IDBZT	LM4040D50QDBZR	TL4050B82QDBZT	TL432AQDBZT
LM4040A30IDBZR	LM4040D50QDBZT	TL4050C10IDBZR	TL432BCDBZR
LM4040A30IDBZT	LM4040D82IDBZR	TL4050C10IDBZT	TL432BCDBZT
LM4040A41IDBZR	LM4040D82IDBZT	TL4050C10QDBZR	TL432BIDBZR
LM4040A41IDBZT	LM4041A12IDBZR	TL4050C20QDBZT	TL432BIDBZT
LM4040A50IDBZR	LM4041A12IDBZT	TL4050C25IDBZR	TL432BQDBZR
LM4040A50IDBZT	LM4041B12IDBZR	TL4050C25IDBZT	TL432CDBZR
LM4040A82IDBZR	LM4041B12IDBZT	TL4050C25QDBZR	TL432IDBZR
LM4040A82IDBZT	LM4041BIDBZR	TL4050C41IDBZR	TL432IDBZT
LM4040B10IDBZR	LM4041BIDBZT	TL4050C41IDBZT	TL432QDBZR
LM4040B10IDBZT	LM4041C12IDBZR	TL4050C41QDBZR	TLV431ACDBZR
LM4040B20IDBZR	LM4041C12IDBZT	TL4050C50IDBZR	TLV431AIDBZR
LM4040B20IDBZT	LM4041C12QDBZR	TL4050C50IDBZT	TLV431BCDBZR
LM4040B25IDBZR	LM4041C12QDBZT	TL4050C50QDBZR	TLV431BCDBZT
LM4040B25IDBZT	LM4041CIDBZR	TL4050C82IDBZT	TLV431BIDBZR
LM4040B30IDBZR	LM4041CIDBZT	TL4050C82QDBZT	TLV431BIDBZT
LM4040B30IDBZT	LM4041CQDBZR	TL4051A12IDBZR	TLV431BQDBZR
LM4040B41IDBZR	LM4041CQDBZT	TL4051A12IDBZT	TLV431BQDBZT
LM4040B41IDBZT	LM4041D12IDBZR	TL4051A12QDBZR	TLV431CDBZR
LM4040B50IDBZR	LM4041D12IDBZT	TL4051A12QDBZT	TLV431IDBZR
LM4040B50IDBZT	LM4041D12QDBZR	TL4051AIDBZR	TLVH431ACDBZR
LM4040B82IDBZR	LM4041DIDBZR	TL4051AIDBZT	TLVH431ACDBZT
LM4040C10IDBZR	LM4041DIDBZT	TL4051AQDBZR	TLVH431AIDBZR
LM4040C10IDBZT	LM4041DQDBZR	TL4051B12IDBZR	TLVH431AIDBZT
LM4040C20IDBZR	LM4041DQDBZT	TL4051B12IDBZT	TLVH431AQDBZR
LM4040C20IDBZT	SNV431BQDBZR	TL4051B12QDBZR	TLVH431AQDBZT

LM4040C20QDBZR	TL4050A10IDBZR	TL4051BIDBZR	TLVH431BCDBZR
LM4040C20QDBZT	TL4050A10IDBZT	TL4051BIDBZT	TLVH431BCDBZT
LM4040C25IDBZR	TL4050A10QDBZR	TL4051BQDBZR	TLVH431BIDBZR
LM4040C25IDBZT	TL4050A20QDBZT	TL4051C12IDBZR	TLVH431BIDBZT
LM4040C25QDBZR	TL4050A25IDBZR	TL4051C12IDBZT	TLVH431BQDBZR
LM4040C25QDBZT	TL4050A25IDBZT	TL4051C12QDBZR	TLVH431BQDBZT
LM4040C30IDBZR	TL4050A25QDBZR	TL4051C12QDBZT	TLVH431CDBZR
LM4040C30IDBZT	TL4050A25QDBZT	TL4051CIDBZR	TLVH431CDBZT
LM4040C30QDBZR	TL4050A41IDBZR	TL4051CIDBZT	TLVH431IDBZR
LM4040C30QDBZT	TL4050A41IDBZT	TL4051CQDBZR	TLVH431IDBZT
LM4040C41IDBZR	TL4050A41QDBZR	TL431ACDBZR	TLVH431QDBZR
LM4040C41IDBZT	TL4050A41QDBZT	TL431ACDBZT	TLVH431QDBZT
LM4040C50IDBZR	TL4050A50IDBZR	TL431AIDBZR	TLVH432ACDBZR
LM4040C50IDBZT	TL4050A50IDBZT	TL431AIDBZT	TLVH432ACDBZT
LM4040C50QDBZR	TL4050A50QDBZR	TL431AQDBZR	TLVH432AIDBZR
LM4040C50QDBZT	TL4050A50QDBZT	TL431AQDBZT	TLVH432AQDBZR
LM4040C82IDBZR	TL4050A82IDBZR	TL431BCDBZR	TLVH432AQDBZT
LM4040D10IDBZR	TL4050A82QDBZT	TL431BCDBZT	TLVH432BCDBZR
LM4040D10IDBZT	TL4050B10IDBZR	TL431BIDBZR	TLVH432BIDBZR
LM4040D20IDBZR	TL4050B10IDBZT	TL431BIDBZT	TLVH432BQDBZR
LM4040D20IDBZT	TL4050B10QDBZR	TL431BQDBZR	TLVH432BQDBZT
LM4040D20QDBZR	TL4050B10QDBZT	TL431BQDBZT	TLVH432CDBZR
LM4040D20QDBZT	TL4050B20QDBZT	TL431CDBZR	TLVH432CDBZT
LM4040D25IDBZR	TL4050B25IDBZR	TL431CDBZT	TLVH432IDBZR
LM4040D25IDBZT	TL4050B25IDBZT	TL431IDBZR	TLVH432QDBZR
LM4040D25QDBZR	TL4050B25QDBZR	TL431IDBZT	TLVH432QDBZT
LM4040D25QDBZT	TL4050B41IDBZR	TL431LACDBZR-ND	
LM4040D30IDBZR	TL4050B41IDBZT	TL431QDBZR	
LM4040D30IDBZT	TL4050B41QDBZR	TL431QDBZT	

## Qualification Report

**NFME SOT: 3DBZ Assy Site Qual --- Cu wire with Au Flash, 150mm wafer, SuHDLF**  
Approve Date 08-Feb-2017

### Product Attributes

Attributes	Qual Device: LM4040C50IDBZR	Qual Device: LM4040D30IDBZR	Qual Device: TLV431AIDBZR
<b>Assembly Site</b>	NFME	NFME	NFME
<b>Package Family</b>	SOT	SOT	SOT
<b>Flammability Rating</b>	UL 94 V-0	UL 94 V-0	UL 94 V-0
<b>Wafer Fab Supplier</b>	SFAB	SFAB	SFAB
<b>Wafer Process</b>	J12	J12	OI

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL1-260CG: LM4040C50IDBZR, TLV431AIDBZR
- Qual Device LM4040D30IDBZR is qualified at LEVEL1-260C

## Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LM4040C50IDBZR	Qual Device: LM4040D30IDBZR	Qual Device: TLV431AIDBZR
AC	Autoclave 121C	96 Hours	1/77/0	1/77/0	1/77/0
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0	1/30/0	1/30/0
FLAM	Flammability (IEC 695-2-2)	--	1/5/0	1/5/0	1/5/0
FLAM	Flammability (UL 94V-0)	--	1/5/0	1/5/0	1/5/0
FLAM	Flammability (UL-1694)	--	1/5/0	1/5/0	1/5/0
HAST	Biased HAST, 130C/85%RH	96 Hours	1/77/0	1/77/0	1/77/0
HTOL	Life Test, 150C	300 Hours	1/77/0	1/77/0	1/77/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	1/77/0	1/77/0	1/77/0
LI	Lead Fatigue	Leads	1/22/0	1/22/0	1/22/0
LI	Lead Pull to Destruction	Leads	1/22/0	1/22/0	1/22/0
PD	Physical Dimensions	--	1/5/0	1/5/0	1/5/0
SD	Solderability	Pb-Free	1/22/0	1/22/0	1/22/0
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	1/77/0	1/77/0
WBP	Bond Strength	Wires	1/76/0	1/76/0	1/76/0
WBS	Ball Bond Shear	Wires	1/76/0	1/76/0	1/76/0

- 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

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

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USA	<a href="mailto:PCNAmericasContact@list.ti.com">PCNAmericasContact@list.ti.com</a>
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Asia Pacific	<a href="mailto:PCNAsiaContact@list.ti.com">PCNAsiaContact@list.ti.com</a>
Japan	<a href="mailto:PCNJapanContact@list.ti.com">PCNJapanContact@list.ti.com</a>