



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN#20180219000**

**Qualification of an improved material set for select devices in the QFP package  
Change Notification / Sample Request**

**Date:** February 23, 2018  
**To:** Newark/Farnell PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager ([PCN\\_ww\\_admin\\_team@list.ti.com](mailto:PCN_ww_admin_team@list.ti.com)).

Sincerely,

PCN Team  
SC Business Services

**20180219000**  
**Attachment: 1**

**Products Affected:**

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

<b>DEVICE</b>	<b>CUSTOMER PART NUMBER</b>
MSP430F1491IPM	null
MSP430F1611IPM	null
MSP430F2410TPM	null
MSP430F2418TPM	null
MSP430F6725IPN	null
MSP430FG4617IPZ	null
TM4C123AH6PMI	null
TMS320F2812PGFS	null
TMS320F28335PGFA	null
TMS320VC5502PGF300	null
TUSB2036VF	null
TUSB2046BVF	null
ADS1294IPAG	null
ADS1298IPAG	null
ADS1299IPAG	null
ADS130E08IPAG	null
ADS131E04IPAG	null
ADS131E06IPAG	null
ADS131E08IPAG	null
ADS131E08IPAGR	null
ADS1672IPAG	null
ADS1675IPAG	null
ADS8365IPAG	null
ADS8556IPM	null
ADS8568SPM	null
DAC8541Y/250	null
DP83849IDVS/NOPB	null
DP83849IFVS/NOPB	null
DP83849IVS/NOPB	null
DS90C387AVJD/NOPB	null
DS90C387VJD/NOPB	null
MSC1211Y5PAGT	null
MSP430F133IPM	null
MSP430F133IPMR	null
MSP430F135IPMR	null
MSP430F147IPM	null
MSP430F147IPMR	null
MSP430F148IPM	null
MSP430F149IPAG	null
MSP430F149IPM	null
MSP430F149IPMR	null
MSP430F156IPM	null
MSP430F157IPM	null
MSP430F1610IPM	null
MSP430F1611IPMR	null
MSP430F1612IPM	null
MSP430F167IPM	null
MSP430F169IPM	null
MSP430F169IPMR	null
MSP430F233TPM	null
MSP430F235TPM	null
MSP430F2410TPMR	null
MSP430F2416TPM	null
MSP430F2417TPM	null
MSP430F2418TPMR	null
MSP430F247TPM	null
MSP430F247TPMR	null

MSP430F2481TPM	null
MSP430F248TPM	null
MSP430F249TPM	null
MSP430F249TPMR	null
MSP430F2616TPM	null
MSP430F2617TPM	null
MSP430F2618TPM	null
MSP430F2618TPMR	null
MSP430F2618TPN	null
MSP430F2619TPM	null
MSP430F413IPM	null
MSP430F4152IPMR	null
MSP430F417IPM	null
MSP430F423AIPM	null
MSP430F425AIPM	null
MSP430F425IPM	null
MSP430F427IPM	null
MSP430F435IPN	null
MSP430F435IPZ	null
MSP430F437IPZ	null
MSP430F449IPZ	null
MSP430F449IPZR	null
MSP430F47167IPZR	null
MSP430F47197IPZ	null
MSP430F4793IPZ	null
MSP430F5308IPT	null
MSP430F5310IPT	null
MSP430F5310IPTR	null
MSP430F5329IPNR	null
MSP430F5335IPZ	null
MSP430F5359IPZ	null
MSP430F5418IPN	null
MSP430F5419IPZ	null
MSP430F5419IPZR	null
MSP430F5438IPZ	null
MSP430F5510IPT	null
MSP430F5515IPN	null
MSP430F5525IPN	null
MSP430F5529IPN	null
MSP430F5529IPNR	null
MSP430F5659IPZ	null
MSP430F6638IPZR	null
MSP430F6659IPZ	null
MSP430F6726IPZ	null
MSP430F6736IPNR	null
MSP430F6736IPZR	null
MSP430FG4618IPZ	null
MSP430FR6972IPM	null
MSP430FR6989IPZ	null
MSP430FW427IPMR	null
PCM4220PFB	null
PCM4222PFBR	null
TL16C550CIPT	null
TL16C550CPT	null
TL16C550CPTR	null
TL16C554AIPN	null
TL16C750PM	null
TL16C752BPT	null
TL16C754BPN	null
TLV320AIC22CPT	null
TM4C1230D5PMI	null
TM4C1230H6PMI	null
TM4C1231D5PMI	null
TM4C1231H6PMI	null
TM4C123GH6PGEI	null
TM4C123GH6PMI	null
TM4C123GH6PMT	null
TM4C123GH6PZI	null
TM4C123GH6PZT	null
TM4C1292NCPDTI3	null

TM4C1294KCPDTI3	null
TM4C1294NCPDTI3	null
TM4C129DNCPDTI3	null
TM4C129ENCPDTI3	null
TMDS261BPAG	null
TMS320F28035PAGS	null
TMS320F28035PAGT	null
TMS320F28035PNS	null
TMS320F28035PNT	null
TMS320F28054MPNT	null
TMS320F28062FPNT	null
TMS320F28069FPZT	null
TMS320F28069MPZT	null
TMS320F28069PNT	null
TMS320F28069PZT	null
TMS320F28069UPNT	null
TMS320F28069UPZT	null
TMS320F2812PGFA	null
TMS320F28235PGFA	null
TMS320F28334PGFA	null
TMS320LF2403APAGA	null
TMS320VC5509APGE	null
TSB12LV32PZ	null
TSB43AB22APDT	null
TUSB2036VFR	null
TUSB2046BVFR	null
TUSB2077APT	null
TUSB2077APTR	null
TUSB3410IVF	null
TUSB3410VF	null
TVP5150AM1IPBS	null
TVP5150AM1IPBSR	null
TVP5150AM1PBS	null
TVP5150AM1PBSR	null
TVP5151IPBSR	null
UCD3138128PFC	null
ADS1298IPAGR	null
ADS8557IPM	null
MSC1210Y5PAGT	null
MSP430F133IPAG	null
MSP430F148IPMR	null
MSP430F233TPMR	null
MSP430F235TPMR	null
MSP430F2416TPN	null
MSP430F2617TPMR	null
MSP430F412IPM	null
MSP430F4152IPM	null
MSP430F438IPN	null
MSP430F5327IPN	null
MSP430F5436IPZ	null
MSP430F5438IPZR	null
MSP430F5527IPN	null
MSP430F5637IPZ	null
MSP430F6635IPZ	null
TL16C750IPM	null
TM4C1294KCPDTT3	null
TMS320VC5502PGF200	null
TMS320VC5503PGE	null
TMS470R1B1MPGEA	null

Technical details of this Product Change follow on the next page(s).

<b>PCN Number:</b>	20180219000	<b>PCN Date:</b>	Feb 23 2018									
<b>Title:</b>	Qualification of an improved material set for select devices in the QFP package											
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services									
<b>Proposed 1<sup>st</sup> Ship Date:</b>	May 23 2018	<b>Estimated Sample Availability:</b>	Provided upon Request									
<b>Change Type:</b>												
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process									
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Assembly Materials									
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification									
<input type="checkbox"/>		<input type="checkbox"/>	Mechanical Specification									
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling									
<input type="checkbox"/>		<input type="checkbox"/>	Test Process									
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material									
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process									
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials									
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process									
	<input type="checkbox"/>		Part number change									
<b>PCN Details</b>												
<b>Description of Change:</b>												
Texas Instruments is pleased to announce the qualification of a new material set for the devices listed in pg 2 of this notification as follows:												
<table border="1"> <thead> <tr> <th></th> <th><b>Current</b></th> <th><b>New</b></th> </tr> </thead> <tbody> <tr> <td><b>Mount Compound</b></td> <td>4042504 or 4208458</td> <td><b>4211470</b></td> </tr> <tr> <td><b>Mold Compound</b></td> <td>4205442 or 4211649 or 4210842 or 4207207 or 4205444</td> <td><b>4222198</b></td> </tr> </tbody> </table>					<b>Current</b>	<b>New</b>	<b>Mount Compound</b>	4042504 or 4208458	<b>4211470</b>	<b>Mold Compound</b>	4205442 or 4211649 or 4210842 or 4207207 or 4205444	<b>4222198</b>
	<b>Current</b>	<b>New</b>										
<b>Mount Compound</b>	4042504 or 4208458	<b>4211470</b>										
<b>Mold Compound</b>	4205442 or 4211649 or 4210842 or 4207207 or 4205444	<b>4222198</b>										
<b>Reason for Change:</b>												
Continuity of Supply												
<b>Anticipated impact on Fit, Form, 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 from the <a href="#">TI ECO website</a> .									
<b>Changes to product identification resulting from this PCN:</b>												
Not Applicable												
<b>Product Affected</b>												
See Page 2												



## Qualification Report

### UniBOM Qualification for QFP packages in TIPI Approve Date 21-Dec-2017

#### Product Attributes

Attributes	Qual Device: PCI2250PGF	Qual Device: TL16CP554APM	Qual Device: TMS320F28062PZT	Qual Device: TMS320VC5509APGE
Assembly Site	PHI	PHI	PHI	PHI
Package Family	-	LQFP	LQFP	LQFP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	TSMC-TA1	DL-LIN	DP1-DM5	DMOS6
Wafer Process	0.35UM-TSMC	50C21	18F05	1533C035

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL3-260C: PCI2250PGF, TMS320F28062PZT, TL16CP554APM
- Qual Device TMS320VC5509APGE is qualified at LEVEL4-260C

#### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: PCI2250PGF	Qual Device: TL16CP554APM	Qual Device: TMS320F28062PZT	Qual Device: TMS320VC5509APGE
AC	Autoclave, 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0
HTSL	High Temp. Storage Bake, 150C	500 Hours	3/231/0	3/231/0	3/231/0	3/231/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass
MSL	Moisture Sensitivity	Level 3-260C	3/36/0	3/36/0	3/36/0	3/36/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0
VM	Post Autoclave Visual Quality Reliability Inspection	--	3/6/0	3/6/0	-	-
VM	Post Temp. Cycle Visual Quality Reliability Inspection	--	3/6/0	3/6/0	-	-
YLD	FTY and Bin Summary	--	Pass	Pass	Pass	Pass

- 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/1000 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/1000 Hours, and 170C/420 Hours.
- The following are equivalent Temp Cycle options per JESD47: -65C/125C/700 Cycles and -65C/150C/500 Cycles.

Quality and Environmental data is available at TI's external Website: <http://www.ti.com/>

#### Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green



## Qualification Report

### UniBOM Qualification for QFP packages in TITL Approve Date 21-Dec-2017

#### Product Attributes

Attributes	Qual Device: ADS1675IPAG	Qual Device: MSP430FR6989IPZR	Qual Device: TL16C554AIPNR	Qual Device: TPS2383APMR
Assembly Site	TAI	TAI	TAI	TAI
Package Family	TQFP	LQFP	LQFP	LQFP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	DP1DM5	DMOS6	DL-LIN	DL-LIN
Wafer Process	50HPA07	HPE035	C21	LBC4

- Qual Device ADS1675IPAG\_ is qualified at LEVEL4-260C  
 - Qual Devices qualified at LEVEL3-260C: TPS2383APMR, TL16C554AIPNR, MSP430FR6989IPZR

#### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: ADS1675IPAG	Qual Device: MSP430FR6989IPZR	Qual Device: TL16C554AIPNR	Qual Device: TPS2383APMR
AC	Autoclave, 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0
HAST	Biased HAST, 130C, Vddmax	96 Hours	-	3/231/0	-	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	3/231/0	3/231/0	3/231/0	3/231/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass
MSL	Moisture Sensitivity	Level 3-260C	-	3/36/0	3/36/0	3/36/0
MSL	Moisture Sensitivity	Level 4-260C	3/36/0	-	-	-
TC	Temperature Cycle, -6C/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0
VM	Post Autoclave Visual Quality Reliability Inspection	--	-	-	3/6/0	3/6/0
VM	Post HAST/THB Visual Quality Reliability Inspection	--	-	1/2/0	-	-
VM	Post Temp. Cycle Visual Quality Reliability Inspection	--	-	-	3/6/0	3/6/0
YLD	FTY and Bin Summary	--	Pass	Pass	Pass	Pass

- 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/1000 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/1000 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.

Location	E-Mail
USA	<a href="mailto:PCNAmericasContact@list.ti.com">PCNAmericasContact@list.ti.com</a>
Europe	<a href="mailto:PCNEuropeContact@list.ti.com">PCNEuropeContact@list.ti.com</a>
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>