

<b>PCN Number:</b>	20230328008.1	<b>PCN Date:</b>	March 30, 2023									
<b>Title:</b>	Qualify New Assembly Material set for Selected Device(s)											
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services									
<b>Proposed 1<sup>st</sup> Ship Date:</b>	June 29, 2023	<b>Sample requests accepted until:</b>	Apr 29, 2023*									
*Sample requests received after Apr 29, 2023 will not be supported.												
<b>Change Type:</b>												
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design									
<input checked="" 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 type="checkbox"/>	Test Site									
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process									
<input type="checkbox"/>		<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 is pleased to announce the qualification of new assembly material for devices listed in "Product affected" section below. Devices will remain in current assembly facility and piece part changes as follows:												
<table border="1"> <thead> <tr> <th>Material</th> <th>Current</th> <th>Proposed</th> </tr> </thead> <tbody> <tr> <td>Mount compound</td> <td>4042500, 4205846, 4211470</td> <td>4147858</td> </tr> <tr> <td>Mold compound</td> <td>4209640</td> <td>4211880</td> </tr> </tbody> </table>				Material	Current	Proposed	Mount compound	4042500, 4205846, 4211470	4147858	Mold compound	4209640	4211880
Material	Current	Proposed										
Mount compound	4042500, 4205846, 4211470	4147858										
Mold compound	4209640	4211880										
<b>Reason for Change:</b>												
Continuity of supply.												
<b>Anticipated impact on Fit, Form, 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.												
<table border="1"> <thead> <tr> <th>RoHS</th> <th>REACH</th> <th>Green Status</th> <th>IEC 62474</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> No Change</td> <td><input checked="" type="checkbox"/> No Change</td> <td><input checked="" type="checkbox"/> No Change</td> <td><input checked="" type="checkbox"/> No Change</td> </tr> </tbody> </table>				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	
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									
<b>Changes to product identification resulting from this PCN:</b>												
None.												
<b>Product Affected:</b>												
DAC8830ICD	DAC8831ICD	TLE2027CD	TLE2027CDR									
DAC8830ICDG4	SN65HVD1040HD	TLE2027CDG4										

## Qualification Report commercial

Approved 14-Mar-2023

### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: DAC8830MCDEP	QBS Reference: OPA2365AQDRQ1
AC	A3	Autoclave	121C/15psig	96 Hours	-	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	3/135/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	3/30/0
FTY	E6	Final Test Yield	-	-	PASS	-

QBS: Qual By Similarity

Qual Device DAC8830MCDEP is qualified at MSL3 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/>

Green/Pb-free Status: Qualified Pb-Free(SMT) and Green

## Qualification Report commercial

Approved 13-Sept-2021

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: BQ32002DR	Qual Device: PCM1801U	Qual Device: TPS2048ADR	QBS Package Reference: CHC4851QDRQ1	QBS Package Reference: TLC5917QDRCT	QBS Package Reference: TPS5410QDRQ1	QBS Package Reference: UCC28220QDRQ1	QBS Package Reference: ULN2003ADR
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	-
HAST	Biased HAST, 130C/85%RH	250 Hours*	-	-	-	-	-	-	-	1/77/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	-	-	-	1/77/0
HTSL	High Temp Storage Bake 175C	500 Hours	-	-	-	3/135/0	3/135/0	3/135/0	3/135/0	-
LI	Lead Fatigue	Leads	1/66/0	3/66/0	3/66/0	-	-	-	-	-
LI	Lead Pull	Leads	1/72/0	3/72/0	3/72/0	1/48/0	-	-	3/144/0	-
PD	Physical Dimensions	(per mechanical drawing)	3/15/0	3/15/0	3/15/0	1/30/0	-	-	-	-
PKG	Lead Finish Adhesion	Leads	-	-	-	-	-	-	3/45/0	-
SD	Solderability	Pb Free	3/66/0	3/66/0	3/66/0	-	-	-	3/45/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/230/0	3/231/0	3/231/0	3/231/0	3/231/0	-
TC-BP	Bond Pull Post T/C 500 Cycles	Wires	-	-	-	3/90/0	3/90/0	3/90/0	3/90/0	-
VM	Visual / Mechanical	(per mfg. Site specification)	3/984/0	3/984/0	3/984/0	-	-	-	-	-
WBP	Wire Bond Pull (Cpk>1.67)	Wires	3/228/0	3/228/0	3/228/0	3/90/0	3/90/0	3/90/0	3/90/0	-
WBS	Wire Bond Shear (Cpk>1.67)	Wires	3/228/0	3/228/0	3/228/0	3/90/0	3/90/0	3/90/0	3/90/0	-

- QBS: Qual By Similarity

- Qual Devices TPS2048ADR, BQ32002DR, PCM1801U are qualified at LEVEL1-260CG

- Device TPS2048ADR contains multiple dies.

- 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  
 \*HAST 130C/85%RH 250 Hours QBS reference is for EP devices in PCN

## Qualification Report commercial

Approved 06-May-2016

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: 1P8T245NSR	Qual Device: ADS900E	Qual Device: PCM1801U	Qual Device: SN65HVD1781DR	Qual Device: TCA9546ADR	Qual Device: TCA9546ADR_RLF	Qual Device: TL494IDR
AC	Autoclave 121C	96 Hours	3/231/0	-	3/231/0	-	3/231/0	3/231/0	-
FLAM	Flammability (UL 94V-0)	-	-	-	-	-	3/15/0	3/15/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	-	-	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	-	3/231/0	-	3/231/0	3/231/0	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass	Pass	-
TC	Temperature Cycle, - 65/150C	500 Cycles	3/231/0	3/222/0	3/231/0	3/231/0	3/231/0	3/231/0	-
TC- BP	Post TC Bond Pull	Wires	-	-	-	3/90/0	3/162/0	3/90/0	-

Type	Test Name / Condition	Duration	Qual Device: TLC320AD77CDBR	Qual Device: TPS2074DB	Qual Device: TPS2101D	Qual Device: TPS2214ADB	Qual Device: TSS721AD	Qual Device: UC27131D	QBS Package Reference: ULQ2003AQDRQ1_STDLF
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	-	3/231/0	-	-	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	-	-	3/231/0
HTOL	Life Test, 150C	408 Hours	-	-	-	-	-	-	3/231/0
HTSL	High Temp Storage Bake 150C	1000 Hours	-	-	-	-	-	-	1/45/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0	-	3/231/0	-	-	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass	Pass	-
MQ	Manufacturability (Auto Assembly)	(per automotive requirements)	-	-	-	-	-	-	Pass
TC	Temperature Cycle, - 65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	-	3/231/0
TC- BP	Post TC Bond Pull	Wires	-	-	-	-	-	-	1/30/0

- QBS: Qual By Similarity
  - Qual Devices qualified at LEVEL1 -260C: TL494IDR, TSS721AD, 1P8T245NSR, PCM1801U, TLC320AD77CDBR, TPS2074DB, TPS2101D, SN65HVD1781DR, TCA9546ADR, TPS2214ADB
  - Qual Devices qualified at LEVEL2 -260C: ADS900E, UC27131D
  - Device TLC320AD77CDBR contains multiple dies.
- 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
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- 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.

<b>Location</b>	<b>E-Mail</b>
WW PCN Team	<a href="mailto:PCN_ww_admin_team@list.ti.com">PCN_ww_admin_team@list.ti.com</a>

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