PCN Number:	20170404000	**PCN Date:**	Apr 05, 2017
Title:	Qualification of 4221437 Underfill Material set for select devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	July 05, 2017	**Estimated Sample Availability:**	Date Provided at Sample request

Change Type:

☐	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Material
☒	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☐	Test Site	☐	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing the qualification 4221437 Underfill Material for select devices listed in the "Product Affected" Section.

	Current	Proposed
Underfill Material	4202191	**4221437**

Reason for Change:

Continuity of supply.

Discontinuation of LOCTITE ECCOBOND 4202191 underfill material due to raw material discontinuation. Current raw material inventory will support until end of April 2017.

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

Anticipated impact on Material Declaration

☐	No Impact to the Material Declaration	☒	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 http://www.ti.com/quality/docs/materialcontentsearch.tsp

Changes to product identification resulting from this PCN:

None

Product Affected:

TMS320C6411AGLZ	TMS32C6414EZLZ6E3	TMS32C6415EGLZA5E0	TMS32C6416EGLZ6E3
TMS320C6411AZLZ	TMS32C6414EZLZ7E3	TMS32C6415EGLZA6E3	TMS32C6416EGLZ7E3
TMS32C6414EGLZ5E0	TMS32C6414EZLZA5E0	TMS32C6415EGLZW6E3	TMS32C6416EGLZA5E0
TMS32C6414EGLZ6E3	TMS32C6414EZLZA6E3	TMS32C6415EZLZ5E0	TMS32C6416EGLZA6E3
TMS32C6414EGLZ7E3	TMS32C6414EZLZW5E0	TMS32C6415EZLZ6E3	TMS32C6416EZLZ5E0
TMS32C6414EGLZA5E0	TMS32C6414EZLZW6E3	TMS32C6415EZLZ7E3	TMS32C6416EZLZ6E3
TMS32C6414EGLZA6E3	TMS32C6415EGLZ5E0	TMS32C6415EZLZA5E0	TMS32C6416EZLZA6E3
TMS32C6414EZLZ5E0	TMS32C6415EGLZ6E3	TMS32C6416EGLZ5E0	

Qualification Report

Solder Bump FCBGA Underfill Conversion to Namics 4221437 for Kelvin (TMS320C6414/6415/6416E) products

Approve Date 22-Mar-2017

Product Attributes

Attributes	Qual Device: KELVIN2
Die Attributes	-
Die Revision	2.0*
Wafer Process	1233C035.A (120nm)
Passivation	PBO
Package Attributes	-
Assembly Site	PHI (TIPI)
Package Family	FCBGA
Package Designator	ZLZ
Package Size (mils)	23mmx23mm
Pin Count	532
Solder Ball Composition	SnAgCu**
Green Status	RoHS

*Die Revision 1.0 is qualified by similarity.
**Sn/Pb solder ball product part numbers are qualified by similarity as solder ball material has no expected effect on bump-interconnect underfill-influenced failure mechanisms.

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: KELVIN2
PC	PreCon Level 4	Moisture Soak/96hrs at 30C/60%RH	3/399/0
TC	Temperature Cycle, -55/125C, 700cyc	-55/125C, JEDEC Soak Mode 1, 700cyc	3/165/0
UHAST	Unbiased HAST 110C/85%RH	264 Hr/110C/85%RH	3/165/0

- Moisture Preconditioning was performed for Unbiased HAST and Temperature Cycle

- THB, HTSL, and HTOL are not required tests for this qualification but were completed for product qualification with previous underfill material (current production).

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	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
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