

PCN Number:	20180207001	PCN Date:	Feb 9, 2018
Title:	Qualification of new Underfill Material for select devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	May 9, 2018	Estimated Sample Availability:	Date Provided at Sample request
Change Type:			
<input 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 type="checkbox"/>	Test Site
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Site
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Materials
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process
PCN Details			
Description of Change:			
Texas Instruments Incorporated is announcing the qualification of new 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.			
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):			
None			
Anticipated impact on Material Declaration			
<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 TI Eco-Info website . There is no impact to the material meeting current regulatory compliance requirements with this PCN change.
Changes to product identification resulting from this PCN:			
None			
Product Affected:			
AM3892CCYG120	F781934AAAA	TMS320DM8168CCYG	TMS320DM8168SCYG4
AM3892CCYG135	F781934BAAA	TMS320DM8168CCYG2	TMS320DM8168SCYGA2
AM3894CCYG120	TMS320DM8165SCYG	TMS320DM8168CCYG2H	TMS320DM8169CCYG
AM3894CCYG135	TMS320DM8165SCYG2	TMS320DM8168CCYG4	TMS320DM8169MCCYG4
AM3894CCYGA120	TMS320DM8165SCYG4	TMS320DM8168CCYG4H	VCBUC8168CCYG2
F781739AAM	TMS320DM8166SCYG2	TMS320DM8168CCYGA2	VCBUP8168CCYG2
F781775AAAB-B	TMS320DM8167SCYG	TMS320DM8168CCYGH	VCBUP8168CCYGH
F781776AAAC	TMS320DM8167SCYG2	TMS320DM8168SCYG	
F781778AAB-H	TMS320DM8167SCYG4	TMS320DM8168SCYG2	

Qualification Report

Solder Bump FCBGA Underfill Conversion to Namics 4221437

Approve Date - 01/12/2018

Product Attributes

Attributes	Qual Device: <u>KELVIN2</u>	Qual Device: <u>NETRA 2.1</u>	Qual Device: <u>SAPIR</u>	Qual Device: <u>SD6181</u>
Die Attributes	-	-	-	-
Wafer Fab Supplier	DMOS5	TSMC12	TSMC12	TSMC12
Wafer Process	120nm	40nm	40nm	40nm
Passivation	PBO	Polyimide	Polyimide	Polyimide
Package Attributes	-	-	-	-
Assembly Site	PHI (TIPI)	PHI (TIPI)	PHI (TIPI)	PHI (TIPI)
Package Family	Organic FCBGA	Organic FCBGA	Organic FCBGA	Organic FCBGA
Package Designator	ZLZ	CYG	AAM	AAB
Package Size (mm)	23 x 23	25 x 25	47 x 47	29 x 29
Pin Count	532	1031	2112	780
Solder Ball Composition	SnAgCu	SnAgCu	SnAgCu	SnAgCu
Green Status	RoHS	RoHS	RoHS	RoHS

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>KELVIN2</u>	Qual Device: <u>NETRA 2.1</u>	Qual Device: <u>SAPIR</u>	Qual Device: <u>SD6181</u>
TC	Temperature Cycle, -55/125C	700 Cycles	4/199/0	-	3/125/0	3/123/0
UHASt	Unbiased HAST, 110C/85%RH	264 Hours	4/219/0	-	3/120/0	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	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/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.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
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