



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN#20210628001.1
New nfBGA Tray for Select Devices
Final Change Notification**

Date: July 12, 2021
To: TOKYO ELECTRON DEVICE (DSTR) 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.

Texas Instruments requires acknowledgement of 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 samples or additional data are required, requests must be received within **30 days** of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date on Page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

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 or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the PCN Team ([PCN ww admin team@list.ti.com](mailto:PCN_admin_team@list.ti.com)). For sample requests or sample related questions, contact your local Field Sales Representative.

Sincerely,

PCN Team
SC Business Services

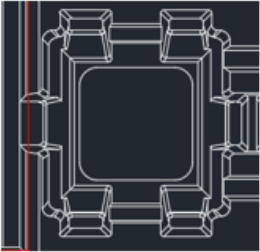
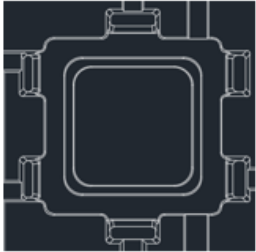
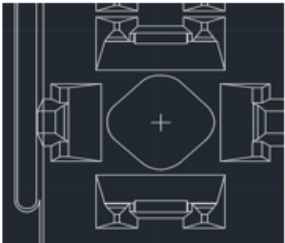
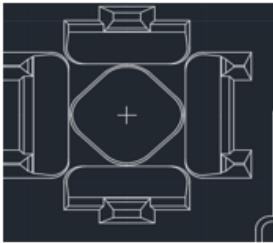
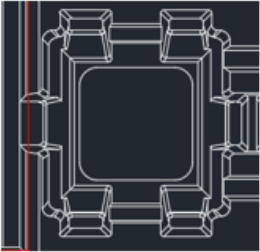
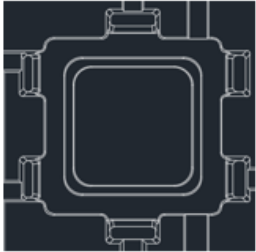
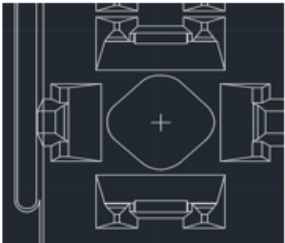
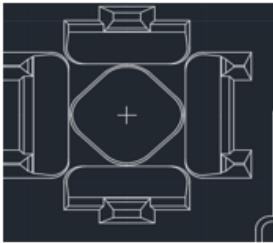
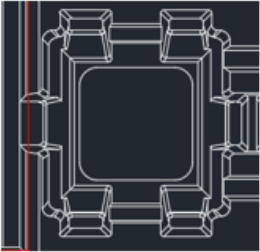
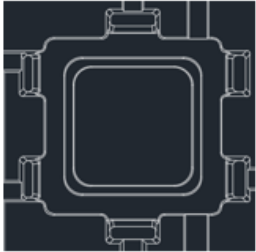
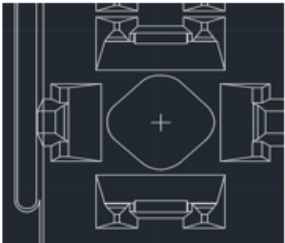
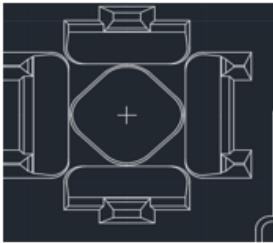
20210628001.1
Attachment: 1

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.

DEVICE	CUSTOMER PART NUMBER
TM4C1290NCZADT3	null
TM4C1299NCZADI3	null
TM4C129LNCZADT3	null

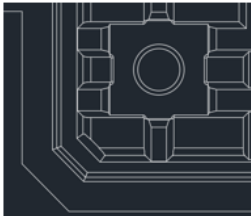
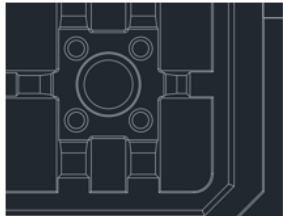
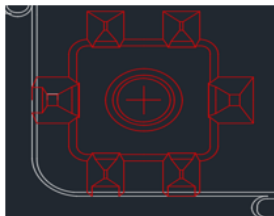
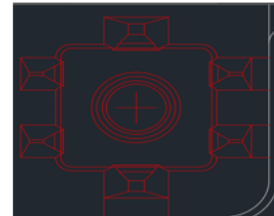
Technical details of this Product Change follow on the next page(s).

PCN Number:	20210628001.1		PCN Date:	July 12, 2021													
Title:	New nfBGA Tray for Select Devices																
Customer Contact:	PCN Manager		Dept:	Quality Services													
Proposed 1st Ship Date:	Oct. 12, 2021																
Change Type:																	
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site												
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material												
<input type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process												
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Site												
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Materials												
				<input type="checkbox"/>	Wafer Fab Process												
PCN Details																	
Description of Change:																	
<p>Texas Instruments is pleased to announce the qualification of a new nfBGA tray for the devices listed below. A comparison summary of the tray differences are as follows:</p> <p>Group 1 Tray Comparison Tables:</p> <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center; color: red; font-weight: bold;">Description of Change/Change Proposal: 10x10 BGA (thin)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #ff0000; color: white;"> <th style="width: 50%;">PROBLEM (FROM)</th> <th style="width: 50%;">SOLUTION (TO)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">   </td> <td style="text-align: center;">   </td> </tr> <tr style="background-color: #00a0c0; color: white;"> <td style="text-align: center;">4221230-0001</td> <td style="text-align: center;">4226481-0001</td> </tr> <tr> <td>Supplier</td> <td style="text-align: center;">UBOT</td> </tr> <tr> <td>Seating ht (TOP) (BOTTOM)</td> <td style="text-align: center;">0.67 +/- 0.08 2.18 +/- 0.08</td> </tr> <tr> <td>Stacking ht</td> <td style="text-align: center;">2.00</td> </tr> </tbody> </table> </div>						PROBLEM (FROM)	SOLUTION (TO)	 	 	4221230-0001	4226481-0001	Supplier	UBOT	Seating ht (TOP) (BOTTOM)	0.67 +/- 0.08 2.18 +/- 0.08	Stacking ht	2.00
PROBLEM (FROM)	SOLUTION (TO)																
 	 																
4221230-0001	4226481-0001																
Supplier	UBOT																
Seating ht (TOP) (BOTTOM)	0.67 +/- 0.08 2.18 +/- 0.08																
Stacking ht	2.00																

ITEM DESCRIPTION	CURRENT TRAY : 4221230-0001			PROPOSED: 4226481-0001			COMMENT
	DIM	Upper Limits	Lower Limits	DIM	Upper Limits	Lower Limits	
Overall Length	322.6	322.85	322.35	322.6	322.85	322.35	NO CHANGE
Layout Length	315.0	315.25	314.75	315.0	315.25	314.75	NO CHANGE
Layout Width	135.9	136.15	135.65	135.9	136.15	135.65	NO CHANGE
Layout Length on Top Stack frame	311.15	311.40	311.02	311.15	311.40	311.02	NO CHANGE
Layout Width on Top Stack frame	132.08	132.33	131.95	132.08	132.33	131.95	NO CHANGE
Layout Length on Bottom Stack frame	311.66	311.91	311.53	311.66	311.91	311.53	NO CHANGE
Layout Width on Bottom Stack frame	132.59	132.84	132.46	132.59	132.84	132.46	NO CHANGE
End Tab Length	92.1	92.35	91.85	92.1	92.35	91.85	NO CHANGE
Overall Height	7.62	7.75	7.49	7.62	7.75	7.49	NO CHANGE
Stack Height	2.00	2.13	1.87	1.27	1.40	1.14	CHANGE
Tray Matrix No.	08x23			08x23			NO CHANGE
Pitch M	19.65	19.78	19.52	19.65	19.78	19.52	NO CHANGE
Pitch M3	13.80	13.93	13.67	13.80	13.93	13.67	NO CHANGE
Pitch M1	10.10	10.23	9.97	10.10	10.23	9.97	NO CHANGE
Pitch M2	13.40	13.53	13.27	13.40	13.53	13.27	NO CHANGE
Cavity Size	10.30	10.38	10.22	10.3	10.38	10.22	NO CHANGE
Package seating height (Top)	0.67	0.75	0.59	0.94	1.04	0.84	CHANGE
Package seating height (Bottom)	2.18	2.26	2.10	1.15	1.25	1.05	CHANGE

Group 2 Tray Comparison Tables:

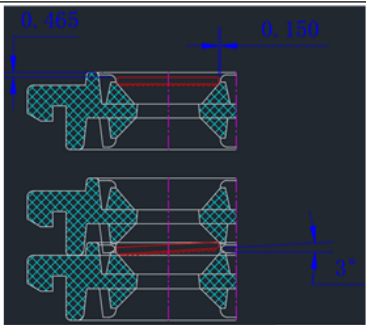
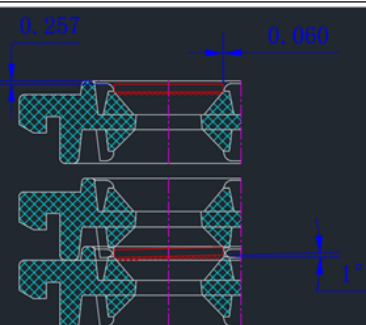
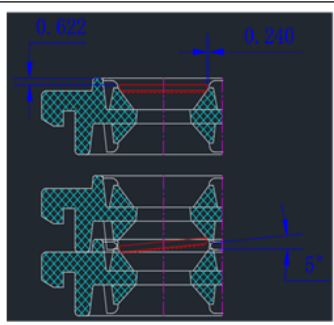
Description of Change/Change Proposal: 6x6 BGA

PROBLEM (FROM)		SOLUTION (TO)	
			
			
4218374-0001(UBoT)		4226235-0001(peak)	
Supplier	UBOT	Peak	
Stacking ht	2.00	1.27	
Cavity size	6.20	6.25	
Seating ht	2.00	1.35	
top	2.00	1.32	
bottom			

ITEM DESCRIPTION	CURRENT TRAY : 4218374-0001			PROPOSED: 4226235-0001			COMMENT
	DIM	Upper Limits	Lower Limits	DIM	Upper Limits	Lower Limits	
Overall Length	322.6	322.85	322.35	322.6	322.85	322.35	NO CHANGE
Layout Length	315.0	315.25	314.75	315.0	315.25	314.75	NO CHANGE
Layout Width	135.9	136.15	135.65	135.9	136.15	135.65	NO CHANGE
Layout Length on Top Stack frame	311.15	311.40	311.02	311.15	311.40	311.02	NO CHANGE
Layout Width on Top Stack frame	132.08	132.33	131.95	132.08	132.33	131.95	NO CHANGE
Layout Length on Bottom Stack frame	311.66	311.91	311.53	311.66	311.91	311.53	NO CHANGE
Layout Width on Bottom Stack frame	132.59	132.84	132.46	132.59	132.84	132.46	NO CHANGE
End Tab Length	92.1	92.35	91.85	92.1	92.35	91.85	NO CHANGE
Overall Height	7.62	7.75	7.49	7.62	7.75	7.49	NO CHANGE
Stack Height	2.00	2.13	1.87	1.27	1.40	1.14	CHANGE
Tray Matrix No.	10x25			10x25			NO CHANGE
Pitch M	9.00	9.13	8.87	9.00	9.13	8.87	NO CHANGE
Pitch M3	13.10	13.23	12.97	13.10	13.23	12.97	NO CHANGE
Pitch M1	8.70	8.83	8.57	8.70	8.83	8.57	NO CHANGE
Pitch M2	12.40	12.53	12.27	12.40	12.53	12.27	NO CHANGE
Distance of tray singulation from corner of tray	34.3	34.55	34.05	34.3	34.55	34.05	NO CHANGE
Tray singulation width	25.40	25.53	25.27	25.4	25.53	25.27	NO CHANGE
Tray Lifting surface height	2.54	2.67	2.41	2.54	2.67	2.41	NO CHANGE
Cavity Size (X)	6.20	6.33	6.12	6.25	6.33	6.17	CHANGE
Cavity Size (Y)	6.20	6.33	6.12	6.25	6.33	6.17	CHANGE
Pedestal Design	FLOOR SUPPORT			FLOOR SUPPORT			NO CHANGE
Package seating height (Top)	2.00	2.08	1.92	1.35	1.45	1.25	CHANGE
Package seating height (Bottom)	2.00	2.08	1.92	1.32	1.42	1.22	CHANGE

Reason for Change:							
New tray offers improvement on tray warpage, chipping, stuck up caused by current tray							
Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):							
None							
Changes to product identification resulting from this PCN:							
New tray							
Group 1 Product Affected:							
MSP432E411YTZAD	TM4C1297NCZADT3	TM4C129DNCZADI3	TM4C129XNCZADI3				
TM4C1290NCZADI3	TM4C1299KCZADI3	TM4C129DNCZADT3	TM4C129XNCZADT3				
TM4C1290NCZADT3	TM4C1299KCZADT3	TM4C129ENCZADT3	TM4E129BNCZADI3				
TM4C1292NCZADT3	TM4C1299NCZADI3	TM4C129LNCZADT3	TM4E129BNCZADT3				
TM4C1294NCZADT3	TM4C1299NCZADT3	TM4C129XKCZADI3	TM4E129XNCZADI3				
TM4C1297NCZADI3	TM4C129CNCZADT3	TM4C129XKCZADT3					
Group 2 Product Affected:							
MSP430FR59941IZVW	MSP430FR5994IZVW	TLV320AIC34IZAS					

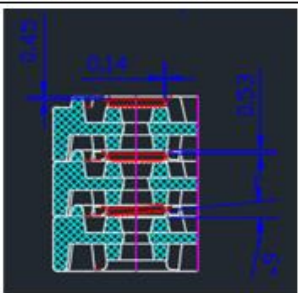
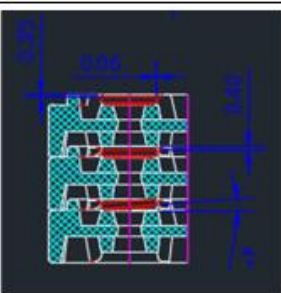
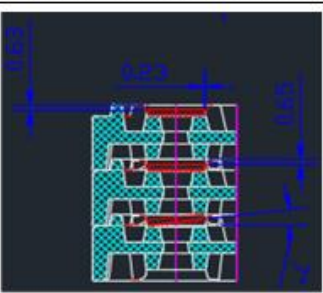
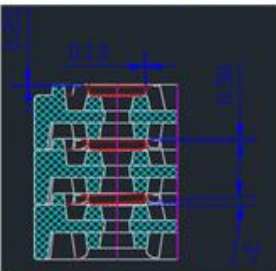
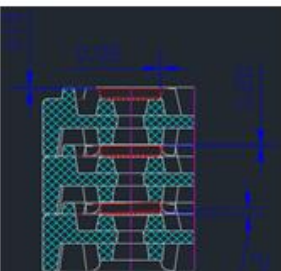
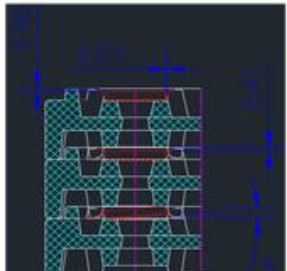
Group 1 FIT analysis:

	NOMINAL PKG vs NOMINAL TRAY	MAXIMUM TRAY vs MINIMUM PACKAGE	MINIMUM TRAY vs MAXIMUM PACKAGE
ZAD			

REMARKS:

- Rotation is less than 10 degrees
- Lateral distance clearance is less than 0.5 mm

Group 2 FIT analysis:

	NOMINAL PKG vs NOMINAL TRAY	MAXIMUM TRAY vs MINIMUM PACKAGE	MINIMUM TRAY vs MAXIMUM PACKAGE
ZVW			
ZAS			

REMARKS:

- Rotation is less than 10 degrees
- Lateral distance clearance is less than 0.5 mm

For questions regarding this notice, e-mails can be sent to the 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
WW PCN Team	PCN_ww_admin_team@list.ti.com

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