PCN Number:	20180102000B	**PCN Date:**	Aug. 13, 2018
Title:	Pico TRP DMD Process Change and DLPCxxxx Controller Software/Firmware Change		
Customer Contact:	DLP-PCN-Team@list.ti.com	**Dept:**	DLP CQE
Proposed 1st Ship Date:	See DMD Device Table	**Estimated Sample Availability:**	See DMD Device Table
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	☒	Software /Firmware	☐	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 change of a proprietary material used in the DMD process as well as a part number change for all Pico TRP affected devices. TI plans to obsolete the existing part numbers for all Pico TRP affected devices. This will be communicated officially through an end-of-life PCN at a later date.

- The new process DMDs have mandatory software (SW) requirements.
  - If your controller SW comes pre-loaded with the optical engine you purchase, or if your controller SW is provided by a third party, please verify the appropriate SW version.
  - Detailed information can be found in the following Application Note on the extranet: *Software Requirements for TI DLP® Pico™ TRP Digital Micromirror Devices*
  - Controller SW is backward compatible with existing devices. TI encourages customers to transition to new SW immediately when it becomes available.
- Consult your application engineer for questions or if you need additional assistance.

Reason for Change:

This change is part of TI's proactive chemical use policy and continuity of supply.

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 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:

DMD Device Change Information

DMD Description	Old Orderable P/N	New Orderable P/N	DMD Sample Availability	DMD 1st Ship Date	Controller GPN
.3 720p	7212-313BK DLP3010FQK	7212-323BK DLP3010AFQK	Available Now	Available Now	DLPC3433 DLPC3438
.47 1080p LP	1019-513BM	1019-533BM	September- 2018	4Q-2018	DLPC3440
.2 WVGA	4885-213BH DLP2010FQJ	4885-223BH DLP2010AFQJ	Available Now	September-2018	DLPC3435
.2 WVGA NIR	DLP2010NIRFQJ	DLP2010NIRAFQJ	Available Now	4Q-2018	DLPC150
.47 1080p	1019-503BM DLP4710FQL	1019-523BM DLP4710AFQL	Available Now	4Q-2018	DLPC3439
.33 1080p	7613-30ABM DLP3310FQM	7613-31ABM DLP3310AFQM	Available Now	4Q 2018	DLPC3437
.23 qHD	5496-203BK DLP230GPFQP	5496-213BK DLP230GPAFQP	4Q-2018	4Q-2018	DLPC3432
.47 4K UHD	1910-50BBM DLP470TPFQN	1910-51BBM DLP470TPAFQN	4Q-2018	4Q-2018	DLPC6421

DMD / Controller / Software Information

DMD Description	Controller GPN	Controller Orderable PN	Required System Software Version	SW Availability
.3 720p	DLPC3433	DLPC3433CZVB DLPC3433ZVB	**V7.0.0 or higher**	September-2018
	DLPC3438	DLPC3438CZEZ DLPC3438ZEZ	**V7.0.0 or higher**	September-2018
.47 1080p LP	DLPC3440	DLPC3440CZEZ	**V7.0.0 or higher**	September-2018
.2 WVGA	DLPC3430	2512737-0102R DLPC3430CZVBR DLPC3430ZVB DLPC3430ZVBR	**V7.0.0 or higher**	September-2018
	DLPC3435	DLPC3435CZEZ DLPC3435ZEZ	**V7.0.0 or higher**	September-2018
.33 1080p	DLPC3437	DLPC3437CZEZ	**V7.0.0 or higher**	October-2018
.47 1080p	DLPC3439	DLPC3439CZEZ DLPC3439ZEZ	**V7.0.0 or higher**	September-2018
.2 WVGA NIR	DLPC150	DLPC150ZEZ	Available at Validation	October-2018
.23 qHD	DLPC3432	DLPC3432CZVB	**V7.0.0 or higher**	September-2018
.47 4K UHD	DLPC6421	DLPC6421ZPC DLPC6421ZFF	Available at Validation	November-2018

Qualification Data

This qualification has been developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.

Product Applications:

See the DMD device sheet and Application Note "*Software Requirements for TI DLP® Pico™ TRP Digital Micromirror Devices*" for application details.

.3 720p S245 TRP Device
Part# (7212-323BK, DLP3010AFQK)

Qualification Tests & Results:

The .3 720p S245 TRP Device Qualification has passed. The following life, environmental, and inspection tests were conducted as per the approved qualification plan and test requirements. Details are mentioned below.

Test	Conditions	Quantity	Results
A. Life Test: *			
High Temp Operating Life	95°C, 500hr or equivalent	40	Pass
Nominal Operating Life w/o Precondition	70°C, 670hr or equivalent	40	Pass
Preconditioning + Nominal Operating Life:		40	Pass
(a) Precondition	UBH 110°C/85%RH, 500hr		
(b) Nominal Operating Life	70°C, 670hr or equivalent		
Low Temp Operating Life	-10°C, 500hr or equivalent	40	Pass
Projector Life w/o Precondition	Ambient Temperature, 1000hr or equivalent	9	Pass
Preconditioning + Projector Life		9	Pass
(a) Precondition	UBH 110°C/85%RH, 500hr		
(b) Projector Life	Ambient Temperature, 500hr or equivalent		
B. Environmental Tests: *			
High Temp Storage Life	125°C, 500hr or equivalent	30	Pass
Temperature Cycling	0°C/+100°C 1000cycles	77	Pass
Unbiased HAST	UBH 110°C/85%RH, 500hr	27	Pass
ESD	RT, HBM per Data Sheet	9	Pass
Latch Up	RT, +/-100mA	9	Pass
Mechanical Stress Sequence		32	Pass
(a) Electrical Test			
(b) Mechanical Shock	1500g, 0.5ms, 6axis, 5 pulses		
(c) Vibration	20g, 20-2000Hz, All planes (x, y, z)		
(d) Acceleration	10Kg, Y1 plane only		
(e) Electrical Test			
Thermal Stress Sequence		32	Pass
(a) Electrical Test			
(b) Thermal Shock	0°C/+100°C, 15 cycles		
(c) Temp. Cycle	0°C/+100°C, 100 cycles		
(d) Moisture Resistance	10 days		
(a) Electrical Test			
C. Inspection Tests:			
Physical Dimensions		10	Pass
Internal Water Vapor		10	Pass
Window Pull		10	Pass
Bond Strength		9	Pass
D. Others:			
Image Quality		30	Pass
Optical Performance		30	Pass

* Any conditions beyond the Recommended Operating Conditions listed in the Datasheet are run at accelerated test conditions.

For questions regarding this notice, emails 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
Japan	PCNJapanContact@list.ti.com