

PCN Number:	20150512001	PCN Date:	05/28/2015
Title:	Alternative plating, Type A		
Customer Contact:	DLP-PCN-team@list.ti.com	Dept:	DLP QRA
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 checked="" 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 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:

Adding alternative plating of Ni/Pd/Au. Present plating is Ni/Au. This includes all package plating.

Reason for Change:

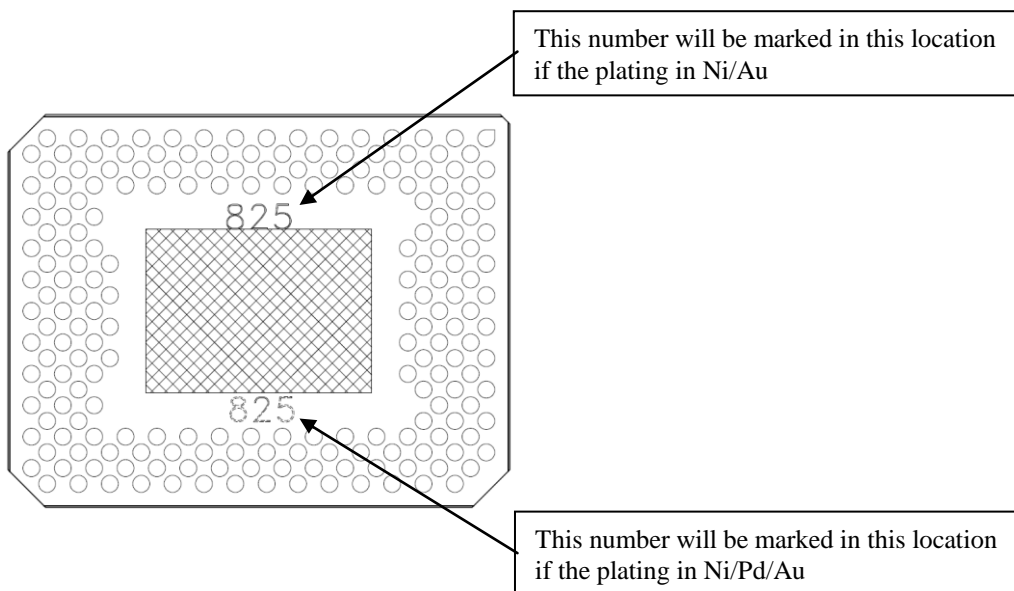
Allows either Ni/Au or Ni/Pd/Au plating on finished DMD. Both plating processes are acceptable for future shipments. This will help to maintain cost.

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

No impact

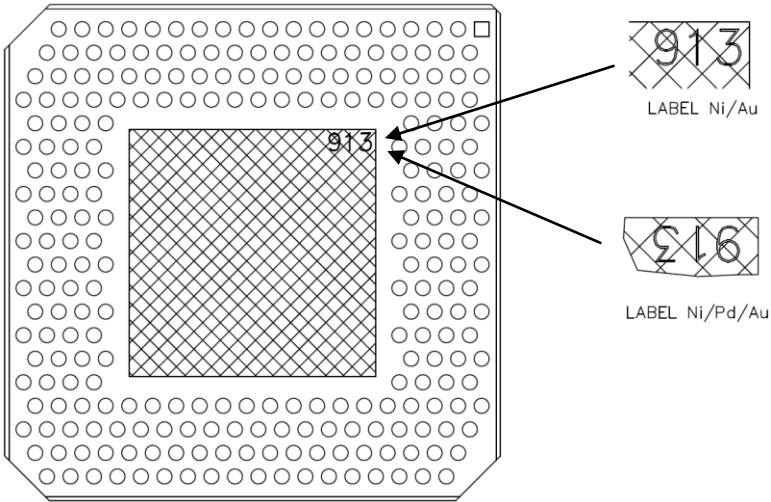
Changes to product identification resulting from this PCN:

Examples of marking change to identify the plating used on the device. This example is XGA 0.7 size device:



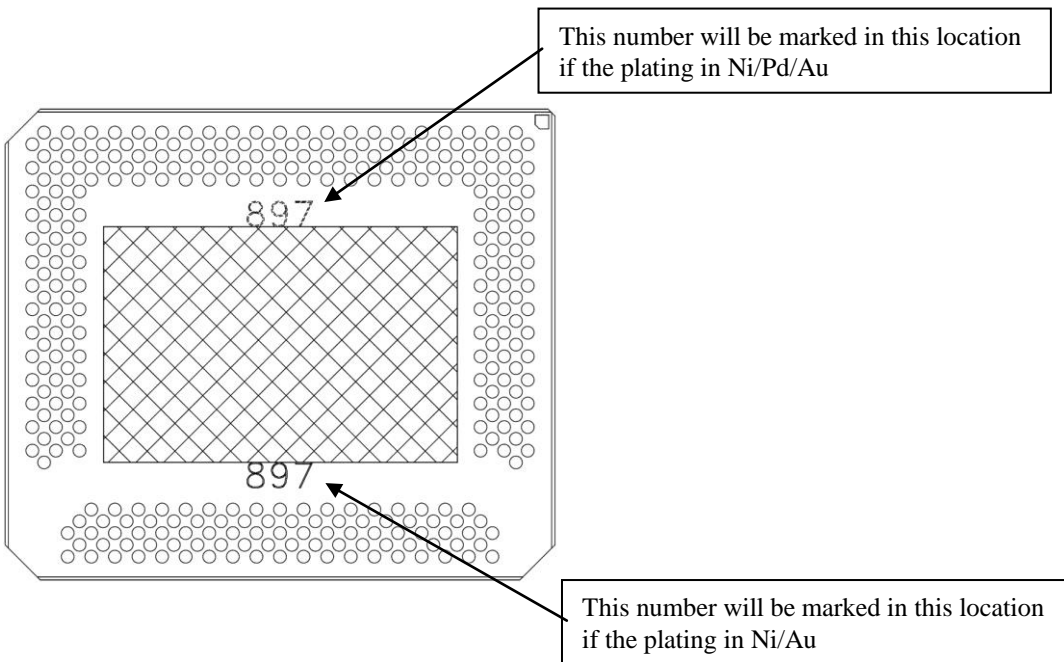
Note: The DMD image is taken from the 0.7 XGA ICD Mechanical drawing 2505974, sheet 4

Examples of marking change to identify the plating used on the device. This example is 0.9 SXGA+ size device:



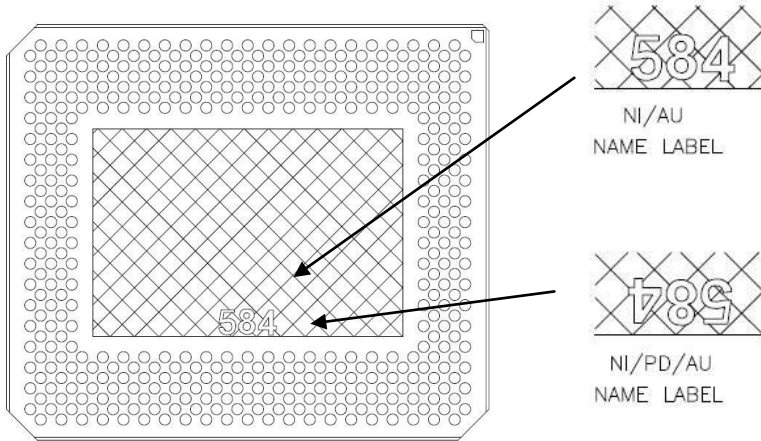
Note: The DMD image is taken from the 0.9 SXGA+ ICD Mechanical drawing 2504763, sheet 4

Examples of marking change to identify the plating used on the device. This example is 1.2 DC2K size device:



Note: The DMD image is taken from the 1.2 DC2K ICD Mechanical drawing 2502374, sheet 4

Examples of marking change to identify the plating used on the device. This example is 1.38 DC4K size device:



Note: The DMD image is taken from the 1.38 DC4K ICD Mechanical drawing 2511030, sheet 4

Product Affected:

1076-7322	1076-7328	1076-73UV	1076-7422	1076-7428
1076N7328	1076N7328A	1076N7328C	1076N7328E	1076N732UV
1280-6028	1280-6032	1280-6038	1280C6028	1280C6038
1910-6027	1910-6037	1910-6127	1910-6137	1910-9128
1910-9130	1910-9137	1910-9140	1910-9147	1910C6137
1910C9140	1910C9141	1910C9142	1910C9145	1910N9145
1910N914UV	1912-1132	1912-1137	1912-7032	1912-7037
1912C1130	1912C1131	1912C1132	1912C1135	1912C7037
1912N1137	2010-1000	2010-1001	2010-1002	2010-3030
2010-3031	2010-3032	2010-7030	2010-7031	2010-7032
2010N3030	2516-9030	2516-9031	2516-9032	2516-9037
2516N9037	4021-1030	4021-1031	4021-1032	4021N1032
DLP6500FLQ	DLP7000FLP	DLP7000SFLP	DLP9000FLS	DLP9500FLN
DLP9500SFLN	DLP9500UVFLN	S1076-7312	S1076-7318	S1076C7310
S1076C7311	S1076C7312	S1076N7318	S1076N7318S	S1376-9010
S1376-9011	S1376-9012	S1376-9015	S1410-9030	S1410-9031
S1410-9032	S1410-9035	S1410-9037	S1410B9032	S1410N9037A

Qualification Data:

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

Qualification Schedule:	Start: 07/23/2014	End: 04/02/2015
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The 0.69 S2K devices was the device used for qualification for the 0.7 size devices. All other 0.7 size devices listed are qualification by similarity (QBS).

Test	Conditions	Sample Size	Results
A. Life Test:			
High Temp Operating Life	95°C, 500hr or equivalent	24	PASS
Low Temp Operating Life	0°C, 500hr or equivalent	24	PASS
Thermal Gradient	50°C array temperature/ 65°C window temp, 500hr or equivalent	24	PASS
B. Environmental Tests:			
High Temp Storage Life	125°C, 500hr or equivalent	30	QBS ¹
Temperature Cycling	-55°C/+125°C 1000cycles	20	PASS
ESD	RT, HBM per Data Sheet	9	PASS
Mechanical Stress Sequence			
(a) Electrical Test/Seal Integrity		32	PASS
(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) Seal Integrity/Electrical Test			
Thermal Stress Sequence			
(a) Electrical Test/Seal Integrity		32	PASS
(b) Thermal Shock	-55°C/+125°C, 15 cycles		
(c) Temp. Cycle	-55°C/+125°C, 100 cycles		
(d) Seal Integrity/Electrical Test			
C. Inspection Tests:			
Physical Dimensions		10	PASS
Internal Water Vapor		10	PASS
Bond Strength		9	PASS
D. Others:			
Image Quality		30	PASS

Notes: QBS (Qualification by Similarity) to
 1) 0.98 DC2K NiPdAu Device Delta Qualification

The 0.98 DC2K devices was the device used for qualification for the 0.9 size devices. All other 0.9 size devices listed are qualification by similarity (QBS).

Test	Conditions	Sample Size	Results
A. Life Test:			
High Temp Operating Life	95°C, 500hr or equivalent	24	QBS ¹
Low Temp Operating Life	0°C, 500hr or equivalent	24	PASS
Thermal Gradient	50°C array temperature/ 65°C window temp, 500hr or equivalent	24	QBS ¹
B. Environmental Tests:			
High Temp Storage Life	125°C, 500hr or equivalent	30	PASS
Temperature Cycling	-55°C/+125°C 1000cycles	20	QBS ¹
ESD	RT, HBM per Data Sheet	9	QBS ¹
Mechanical Stress Sequence			
(a) Electrical Test/Seal Integrity			
(b) Mechanical Shock	1500g, 0.5ms, 6axis, 5 pulses	32	QBS ¹
(c) Vibration	20g, 20-2000Hz, All planes (x, y, z)		
(d) Acceleration	10Kg, Y1 plane only		
(e) Seal Integrity/Electrical Test			
Thermal Stress Sequence			
(a) Electrical Test/Seal Integrity		32	QBS ¹
(b) Thermal Shock	-55°C/+125°C, 15 cycles		
(c) Temp. Cycle	-55°C/+125°C, 100 cycles		
(d) Seal Integrity/Electrical Test			
C. Inspection Tests:			
Physical Dimensions		10	PASS
Internal Water Vapor		10	QBS ¹
Bond Strength		9	QBS ¹
D. Others:			
Image Quality		30	PASS

Notes: QBS (Qualification by Similarity) to
 1) .69 S2K NiPdAu Device Lead Qualification

The 1.2 DC2K devices was the device used for qualification for the 1.2 and 1.38 size devices. The 1.38 size devices listed are qualification by similarity (QBS).

Test	Conditions	Sample Size	Results
A. Life Test:			
High Temp Operating Life	95°C, 500hr or equivalent	24	QBS ¹
Low Temp Operating Life	0°C, 500hr or equivalent	24	PASS
Thermal Gradient	50°C array temperature/ 65°C window temp, 500hr or equivalent	24	QBS ¹
B. Environmental Tests:			
High Temp Storage Life	125°C, 500hr or equivalent	30	QBS ²
Temperature Cycling	-55°C/+125°C 1000cycles	20	QBS ¹
ESD	RT, HBM per Data Sheet	9	QBS ¹
Mechanical Stress Sequence		32	QBS ¹
(a) Electrical Test/Seal Integrity			
(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		
Thermal Stress Sequence		32	QBS ¹
(a) Electrical Test/Seal Integrity			
(b) Thermal Shock	-55°C/+125°C, 15 cycles		
(c) Temp. Cycle	-55°C/+125°C, 100 cycles		
(d) Seal Integrity/Electrical Test			
C. Inspection Tests:			
Physical Dimensions		10	PASS
Internal Water Vapor		10	QBS ¹
Bond Strength		9	QBS ¹
D. Others:			
Image Quality		30	PASS

Notes: QBS (Qualification by Similarity) to
 1) .69 S2K NiPdAu Device Lead Qualification
 2) .98 DC2K NiPdAu Device Delta Qualification

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
Japan	PCNJapanContact@list.ti.com