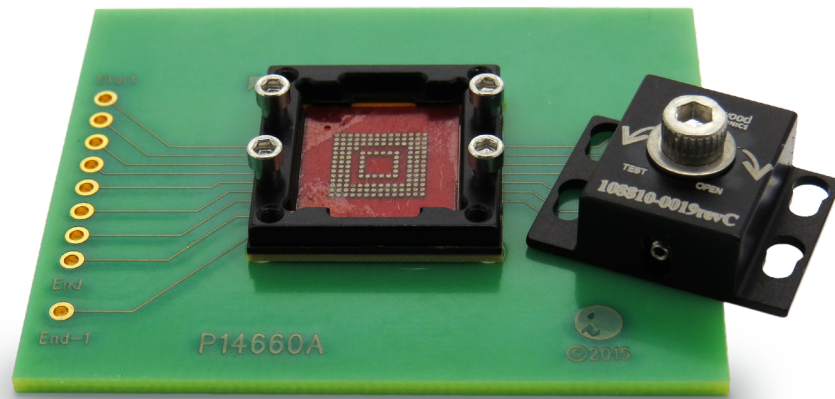




# NZGT (Near Zero GT)



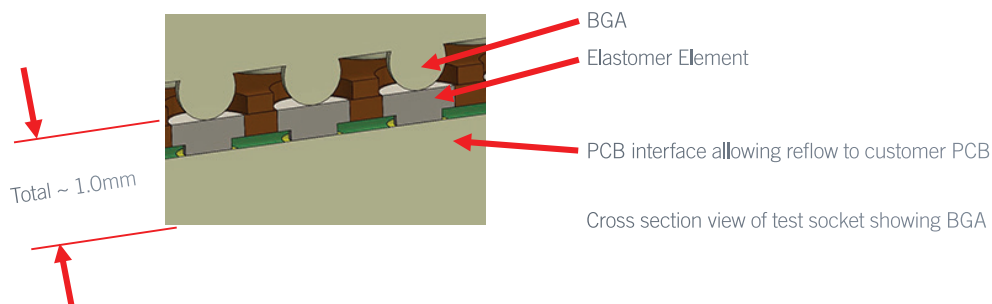
High Performance Near Zero Footprint Sockets for 0.25 + pitch devices for Both BGA and lead and leadless packages. New Configuration using the proven GT elastomeric contact element allowing 43 Ghz Bandwidth (Measured on 0.5 pitch BGA -S21 @-1dB @ 43 GHz) 1000+ insertions on the same device with many lid options.

Ironwood Electronics new Near Zero GT contact is design to work with most type of devices. The GT elastomeric element, working with the lid, allows reliable contact and ensures device retention in high vibration application. Lower forces, ~ 25 grams, makes insertion easier too and the less aggressive contacting allows 100+ insertions of the same device. The Lid can be configured to include heat sinking. The GT element designs cover devices from 0.25 pitch and larger and the short electrical length has superior electrical performance.

## FEATURES AND BENEFITS

Near Zero PCB Footprint	The NZGT socket footprint is only 1 mm larger than the DUT. Typically this footprint will fit into any end application allowing the NZGT socket to be directly reflowed into the same location as the device.
Soft Contacting	The GT contact element allows a soft contact to the BGA solder ball allowing multiple insertions on the same device 100+, and 1000 total on the socket.
Lid/Keylock	The Lid is used to compress the device and assures excellent contact. The screw on the top releases the press onto the device so the forces are controlled and balance to each application. Different materials can be design in the lid to act as a heat sink. Swivel, Clam Shell and Heat Sink also.
Excellent Signal Performance	The Short signal path of the GT Elastomeric element (~ 0.25 mm) achieves low CRES and low insertion loss.

## METHODOLOGY

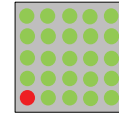
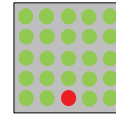
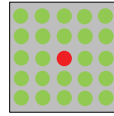


Cross section view of test socket showing BGA device

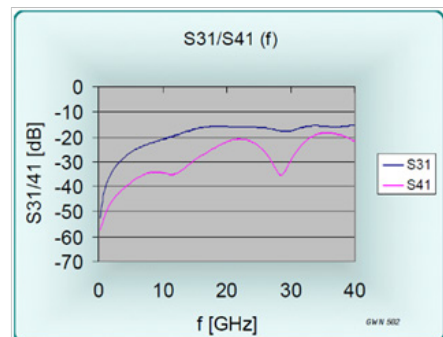
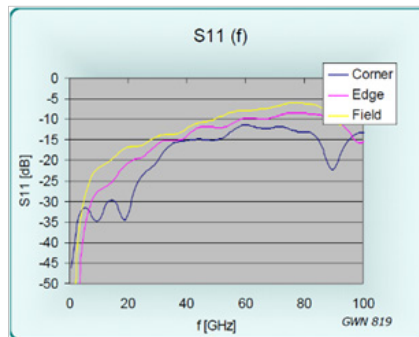
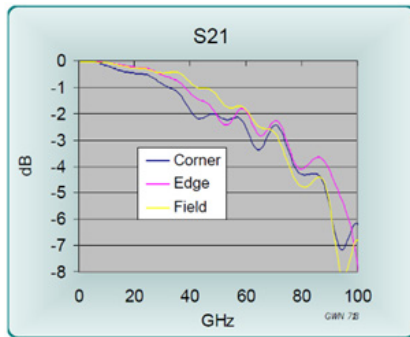
## ELECTRICAL SPECIFICATIONS

Measured result listed below for 0.5 pitch 0.30 solder ball contact configuration.  
Contact Ironwood for RF simulation and model reports, HFSS and S parameter files.

● = Signal  
● = Ground



	Field	Edge	Corner
Loop inductance	0.330 nH	0.360 nH	0.420 nH
Mutual inductance	0.122 nH	0.113 nH	0.116 nH
Capacitance	0.199 pF	0.189 pF	0.168 pF
Mutual Capacitance	0.023 pF	0.021 pF	0.030 pF
S21 Insertion loss (-1 dB)	43 GHz	38.7 GHz	32.7 GHz
S11 Return loss (-20 dB)	14.2 GHz	21.8 GHz	30.5 GHz
S41 Crosstalk (GSSG)	N/A	-20dB @ 33.1 GHz	N/A
Impedance	39.9 Ω	42.4 Ω	56.2 Ω
Time Delay	8.3 ps	8.1 ps	8.4 ps
Current Carrying Capacity	10+ Amps DC @ 20° C Rise		
CRES	<50 mΩ	<50 mΩ	<50 mΩ



## MECHANICAL SPECIFICATIONS

Contact Life	2000+ Insertions
Insertion Force	~25 grams / contact
Contact Length	0.25 Elastomer Plus 0.7 to 1.5 mm interface PCB

## MATERIAL SPECIFICATIONS

Contact	GT - Silver imbedded particles
Housing	Polyimide (Cirex®)
Lid	Aluminum
Environmental	-55°C to 155°C (same as Ironwood GT- data to follow)