

High Performance Microwave Probes for RF probing

❖ Model SP-50BT

- Durable 33 GHz to 50 GHz
- Insertion loss 1.0 db max
- Return loss 15 db max
- Individually spring loaded contacts
- Measurement repeatability -55 db
- Bias T option available
- Patented coaxial design



Model SP-50BT with bias T

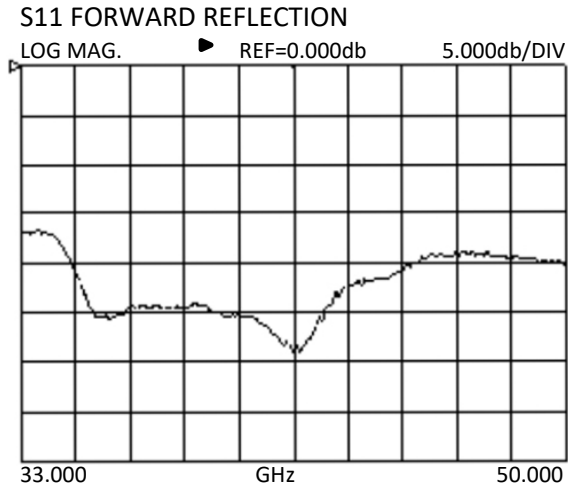
❖ Flexible Tips for Flexible Probing

The PICOPROBE MODEL SP-50BT sets new standards in microwave probing performance. Benefiting from coaxial techniques, which have inherent low loss and low dispersion characteristics, the Signatone offered Model SP-50BT with or without the bias T option, achieves an insertion loss of less than 0.8 db (typical) and a return loss of greater than 15 db (max.) over its frequency range.

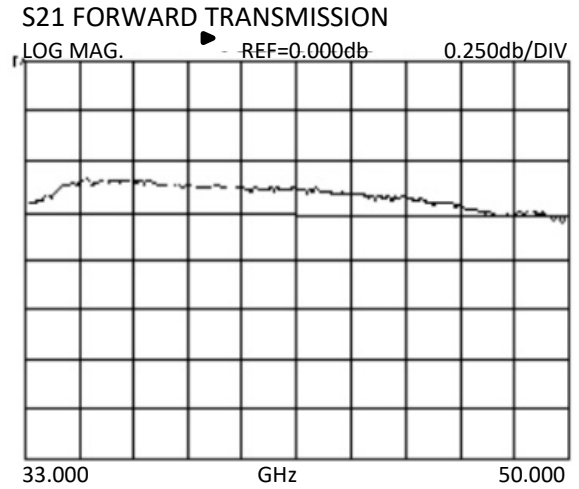
With its individually spring loaded, Beryllium-Copper tips, the Model SP-50BT provides reliable contacts, even when probing non-planar structures. This reliable low resistance contact is one of the keys to providing highly repeatable measurements (-55 db) at V band frequencies. The Model SP-50BT also provides direct viewing of the probe tips for accurate positioning.

Any pitch (tip spacing) from 50 microns and up may be specified. The probe can be configured with Ground-Signal-Ground (G,S,G), Ground-Signal (G,S), or Signal-Ground (S,G) tip footprints. We recommend smaller pitches with a G,S,G footprint for best performance.

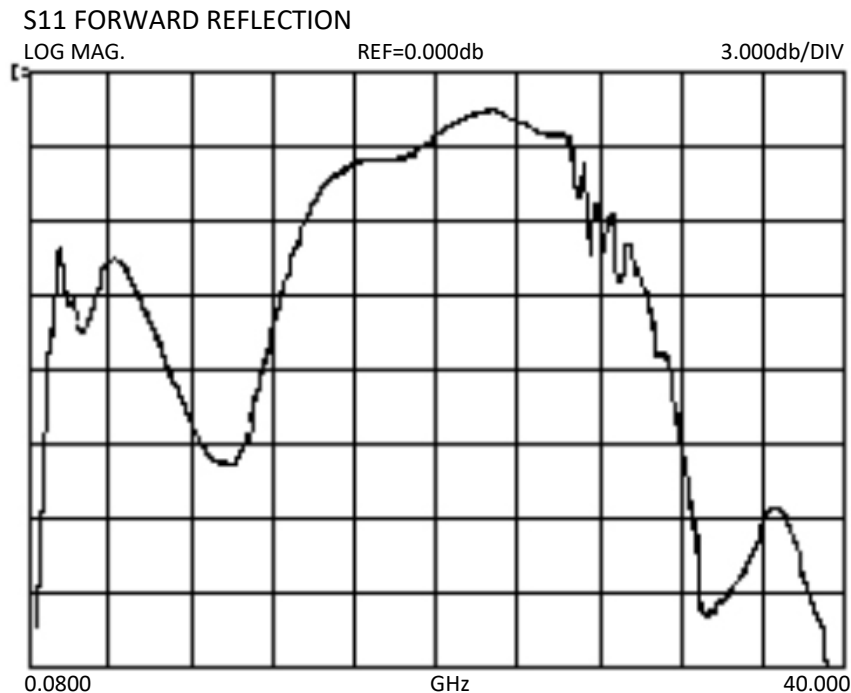
Model 50-W Performance Data



Typical uncalibrated performance of a Model SP-50BT-GSG-100 while touching a 50 ohm load on our CS-5 calibration substrate



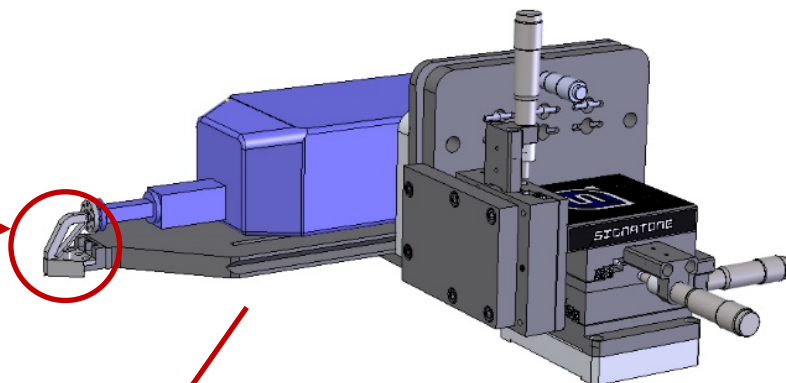
Typical insertion loss of a Model SP-50BT-GSG-100



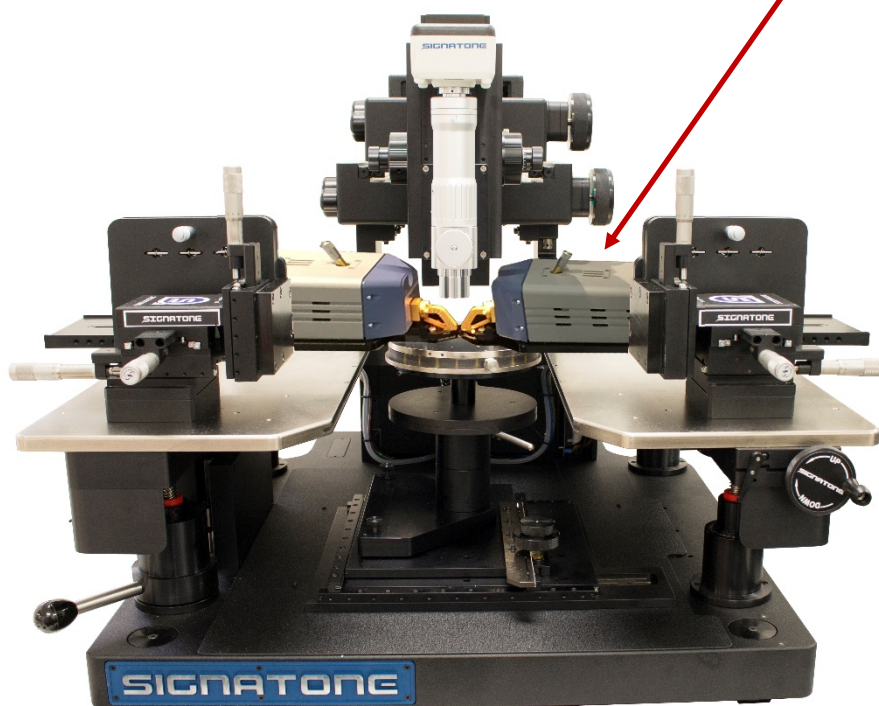
The Model SP-50BT bias T provides a direct low resistance DC path for supplying up to 1.5 A to a device under test. The bias T also has special circuits which add loss at frequencies below the cut off frequency (26.34 GHz) of WR-22 waveguide. This data was taken by launching a, 40 MHz to 50 GHz, signal from the tips of a calibrated Model 67A into the tips of a Model SP-50BT-GSG-150. Without this low frequency loss, most active devices will oscillate.

❖ **Probe Mounting and Dimensions**

Model SP-50BT
33GHz -50GHz
Microwave Probe

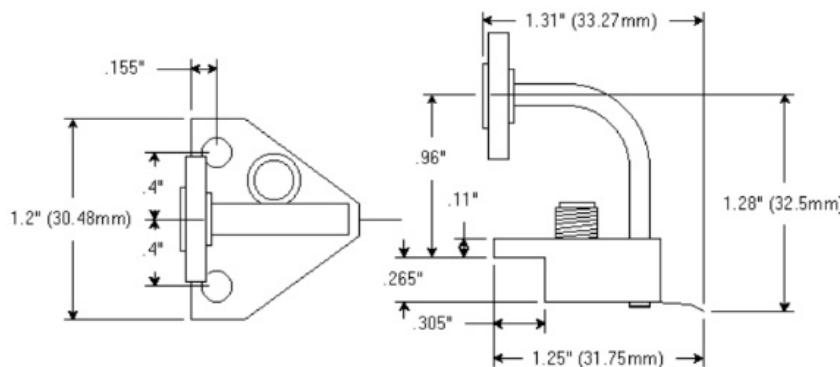


Signatone S-LAP-90 Large Area Positioner for mounting 50-1100GHz probes directly to the Frequency Extender with wave guide.



Micropositioners are available to hold virtually all the current models of Frequency extenders and tuners modules so that the module and the probe are moved and positioned as a unit (together). In this way, total ease of positioning can be achieved with minimum insertion loss.

Image Left: Shows WaveLink 170-THZ probe station with East & West S-LAP-90 Positioners, 325 GHz probes attached to Frequency Extenders.



Model SP-50BT Waveguide Dimensions

❖ WARRANTY

- Standard Warranty 12 months *
- For Extended Warranty and Service Contracts : Contact Signatone Corp. for more information

* See *Signatone Corporate Terms and Conditions of Sale* for further details.

- **North America:** Sales.NA@signatone.com
- **Europe:** Sales.Europe@signatone.com
- **Asia:** Sales.Asia@signatone.com

