



Robust High Frequency Probe

OmniJet Probe

High Frequency Coaxial PCB Probe (44 GHz)

The OmniJet probe by D-COAX is used for high frequency PCB impedance characterization or high-speed electrical signal analysis and is an excellent and affordable solution. It is similar to Omni probe, but it's mounted on the compact rigid holding fixture. This compact configuration is designed for low profile PCB boards. High accuracy measurement obtained by having low contact resistance and impedance control of the probe throughout all transitions.

Tips for using OmniJet Probe:

- For accurate probe X-Y positioning, draw a circle with a sharpie with the aid of size 5/16" circle template around the desired contact location.
- Use microscope at about 45 degree angle to the DUT plane and use a circle as a visual aid to land the probe on the test pad.

The Omni probe uses spring pins for all contacts. The best repeatable height for probe positioning is obtained by the following method: First, over travel the probe until the probe head surface touches the DUT surface, then raise it back 0.020 inches for the best repeatable results.

The use of spring-loaded probe tips makes the probe last longer than conventional probes without losing performance or accuracy. The probe head has gold plated, rugged, crown tips that can be used for smooth or rough surfaces.

Features and Benefits

Durability	Long Life Time
	Anti-crash feature
	Reliable contact quality
Flexibility	Probe rough surface
	Symmetry in 4 directions
RF performance	Low insertion loss
	Low contact resistance
	High Bandwidth

Specification

Electrical

Type	Passive, single-ended
Bandwidth	44GHz
Impedance	50 Ohm
Insertion loss	< 1.5dB at 40GHz (Typical) < 1.25dB at 40GHz (Guaranteed)
Return loss	> 13dB at 30GHz, > 12dB at 40GHz, > 5dB at 44GHz (Typical) > 12dB at 30GHz, > 10dB at 40GHz, > 4dB at 44GHz (Guaranteed)
Tip contact resistance	< 50 mili-ohms for signal tip, < 50 mili-ohms for each ground tips, 4 ground tips in parallel
Current capacity	2 amps

Specification (continued)

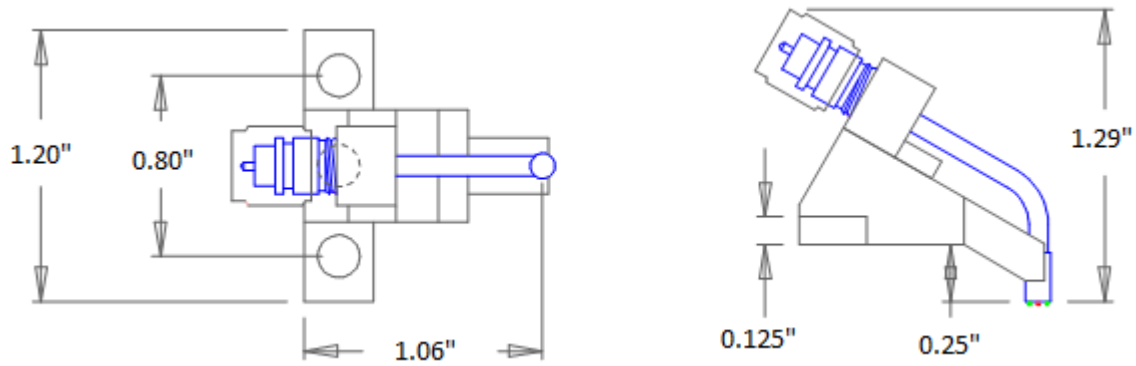
Mechanical

Overall Length	1.3 inches (Typical)
Probe head diameter	0.110 inches
Signal tip quantity	1
Ground tip quantity	4
Signal tip travel	0.0157 inches (Typical) 0.010 inches (Guaranteed)
Ground tip travel	0.0177 inches (Typical) 0.010 inches (Guaranteed)
Probe tip diameter	0.0098 inches
Probe tip plating	Gold
Single tip spring force	1.5 oz
Pitch	1mm
Number of touch downs	> 50,000
Configuration	Ground-Signal-Ground
Semi-rigid type	0.086 inch diameter
Connector type	2.92 mm compatible connector

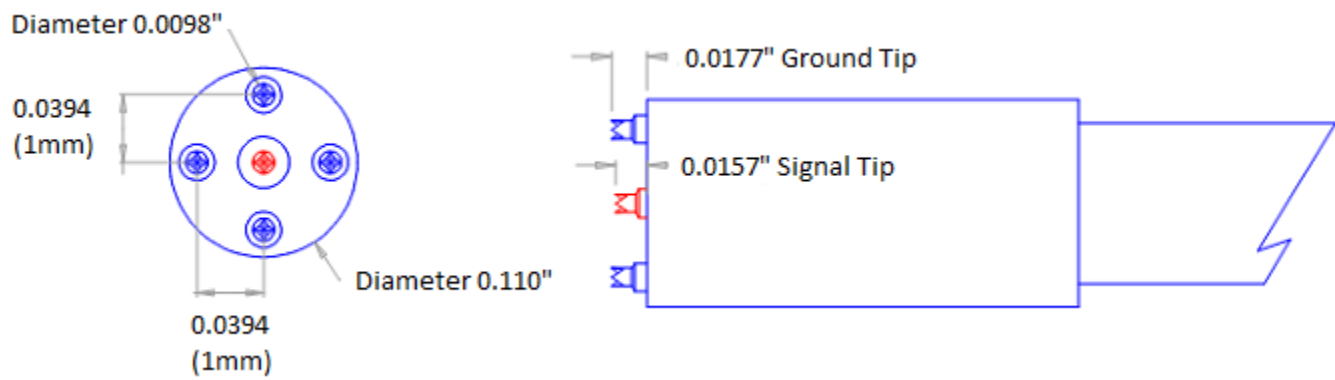
Physical Dimensions

OmniJet probe dimensions (all dimensions in inches)

Probe dimensions



Tip Detail



Typical Performance

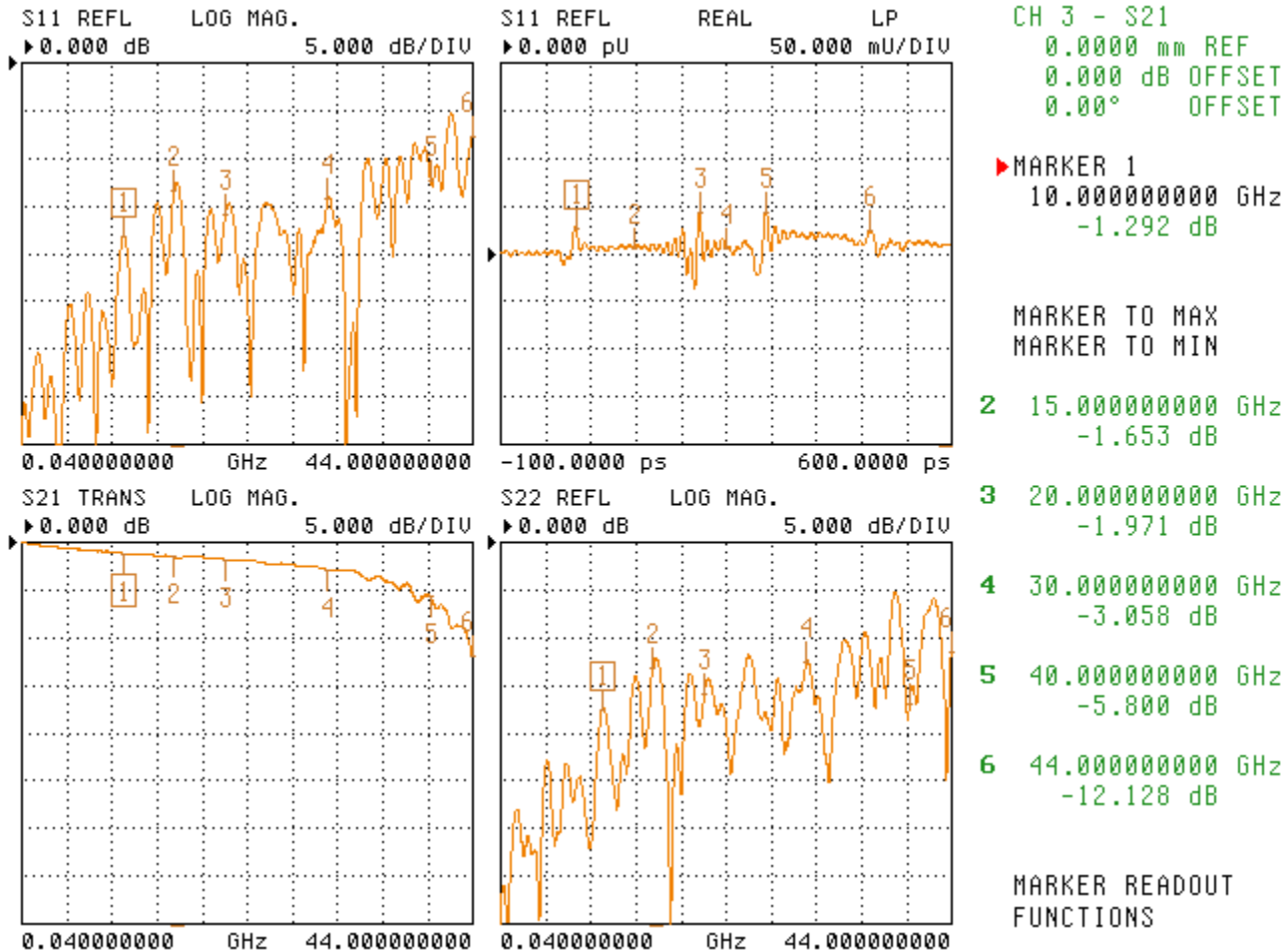
Un-corrected results using 2 Omni probes connected to a 1.75mm long transmission line

On TDR plot:

Probe 1 between marker 1 and 3

1.75mm long transmission line between marker 3 and 4

Probe 2 between marker 5 and 6



Available Accessories

65 GHz flexible cable	D-COAX, P/N 600-00030-00, 12 inch, or custom length
65 GHz phase stable flexible cable pair	D-COAX, P/N 600-00173-00, 24 inch pair assembly, skew matched at ≤ 1 ps
40 GHz flexible cable	D-COAX, P/N 600-00029-00, 12 inch, or custom length
40 GHz phase stable flexible cable pair	D-COAX, P/N 600-00169-00, 12 inch pair assembly, skew matched at ≤ 1 ps
40 GHz phase stable flexible cable pair	D-COAX, P/N 600-00170-00, 24 inch pair assembly, skew matched at ≤ 1 ps
40 GHz phase stable flexible cable pair	D-COAX, P/N 600-00171-00, 48 inch pair assembly, skew matched at ≤ 1 ps
Probe holder	D-COAX, P/N 600-00045-00, adjustable probe holder
W2.5 x L6.5 mini probe station	D-COAX, P/N 600-00130-00, manual portable mini probe station

D-COAX, Inc.
Corporate Headquarters
Phone: (503) 922-2436
Email: info@d-coax.com

OmniJet Probe
www.d-coax.com

