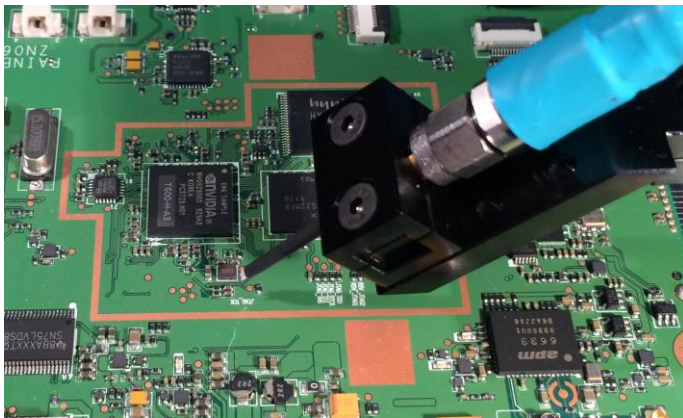


RProbe

Rugged 12-GHz probe for direct probing on circuit components



RF testing with RProbe

Features:

- **High Bandwidth:** DC to 12 GHz
- **Low Insertion Loss:** < 3 dB @ 12 GHz
- **Ruggedness:** Strong enough for direct probing of circuit components or test pads on uneven surfaces
- **Probe-tip Calibration:** Accurate measurements without the need of soldering semi-rigid RF cables
- **High Repeatability:** No moving parts

Overview

The RProbe series is designed for RF, power integrity, and signal integrity testing. Its strong beryllium copper (BeCu) tips are perfect for direct probing of circuit components or devices on circuit boards.

The constant shrinking size of circuit components makes soldering semi-rigid RF cables to test gigahertz circuits impractical. However, the rugged RF probe and the calibration substrate (TCS50) allow engineers to perform probe-tip calibration for accurate and repetitive measurements.

The RProbe, similar to other microprobes, leaves clear probe marks on most printed-circuit boards with gold finishes for the ease of probe planarization.

The single-ended, passive RProbe is ideal for measuring S-parameters, impedance, clock jitters, or skews of circuit boards.

Specifications*

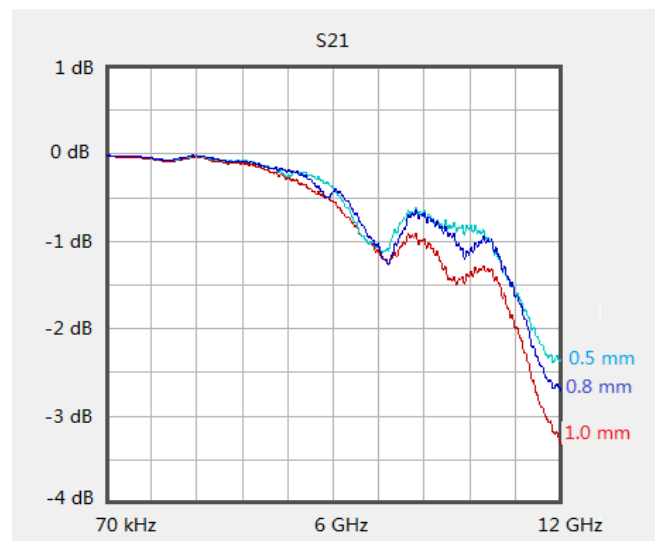
- **Bandwidth:** 12 GHz
- **Insertion Loss:** less than 3 dB
- **Impedance:** $50 \pm 2 \Omega$ ($50 \pm 1 \Omega$ typical)
- **Connector Type:** SMA Female
- **Size:** 38 x 20 x 12 mm (1.5 x 0.8 x 0.5 in)

RProbe Part No. Information

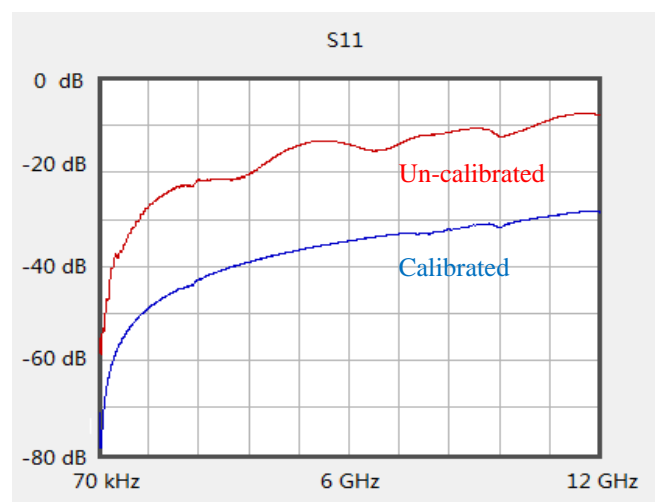
- **RP-GR-121505** – 12 GHz, 0.5 mm/20 mil pitch
- **RP-GR-121508** – 12 GHz, 0.8 mm/32 mil pitch
- **RP-GR-121510** – 12 GHz, 1.0 mm/40 mil pitch

Customized probes with different probe pitches ranging from 0.2 mm to 1.2 mm are also available.

*Specifications subject to changes



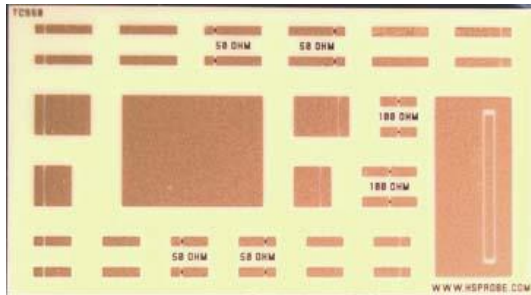
Un-calibrated S21 for 3 probe pitches



Un-calibrated and calibrated S11 (1 mm pitch)

Calibration Substrate

The RProbe product family includes a TCS50 calibration substrate with short, open, load, and thru (SOLT) standards for S-parameter calibrations. This substrate enables a user to move the measurement reference point directly to the probe tips.



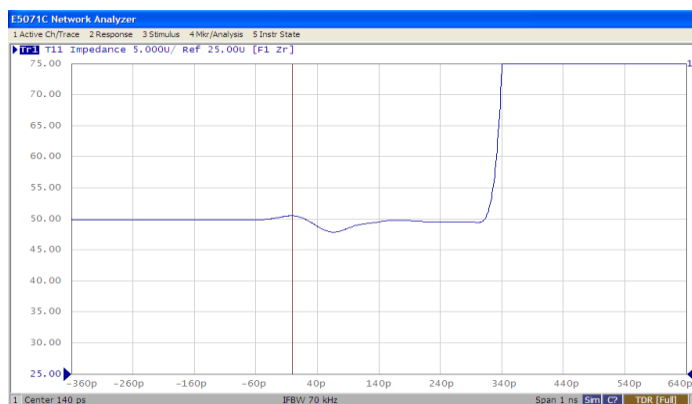
TCS50 Calibration Substrate

Specifications*

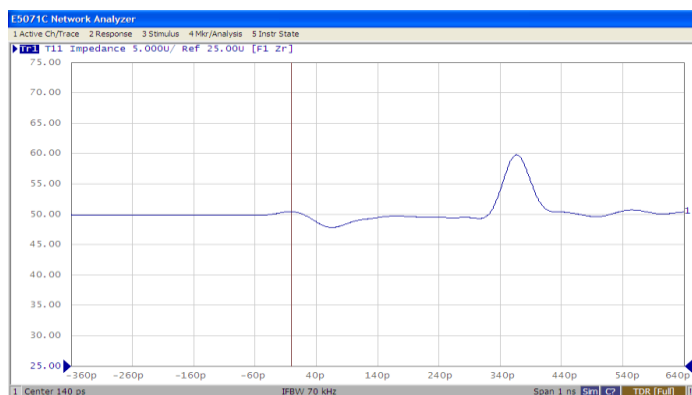
- Substrate:** Polished alumina
- Impedance:** Open, short, thru, 50 Ω , and 100 Ω
- Contact Material:** Gold
- Accuracy:** < 0.5%
- Size:** 17.3 x 9.4 x 0.6 mm (0.68 x 0.37 x 0.025 in)

Signal Integrity Measurement

The RProbe can be used for TDR measurements that are essential to the development of high-speed FPGA and CPU boards.



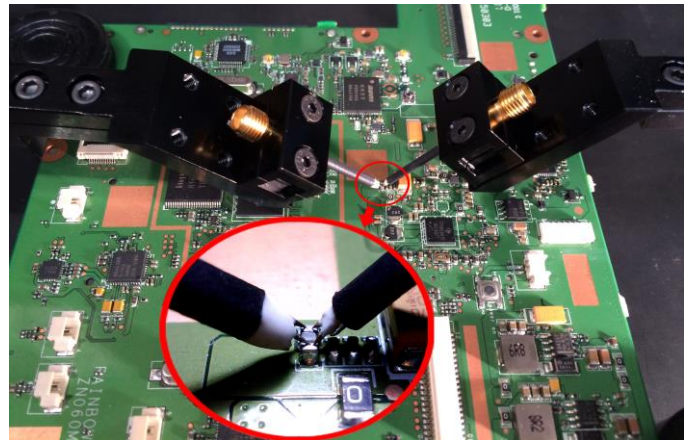
TDR impedance with no load (1 mm pitch)



TDR impedance with TCS50 50 Ω load (1 mm pitch)

Power Integrity Measurement

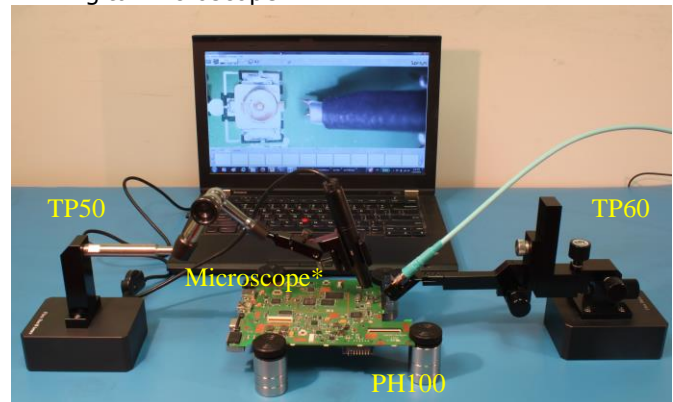
The following picture shows two RP-GR-111510 probes are brought together on top of a 0402 size capacitor for the power integrity measurement. It is very difficult to use typical microprobes to directly probe circuit components and devices due to the fragility of the microprobes.



Power Integrity Measurement

Accessories

- TP60 4D (xyz θ) Easy Positioner
- TP50 Flex Positioner
- PH100 PCB Holder
- Digital Microscope*



The HSProbe product family, developed by PacketMicro, provides easy-to-use and cost-effective bench-top probing solutions that include gigahertz RF and TDR probes, calibration substrates, innovative probe positioners, and magnetic-based stackable bridges.

PacketMicro, located in Silicon Valley, California, also offers one-stop engineering services in the areas of signal/power integrity, wireless sensor networks, and radio frequency identification (RFID). For more information, please visit www.packetmicro.com. For more information about HSProbe product line, please visit www.hsprobe.com.

*3rd party microscope held by TP50 positioner.