Keysight Technologies
11667L Power Splitter

DC–2 GHz, BNC, 50 ohm

Technical Overview

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## Key Features

– Excellent amplitude (0.2 dB) and phase tracking (±3°) ensures highly accurate power splitting
– Low SWR minimizes measurement uncertainty

The Keysight Technologies, Inc. 11667L is a 50 ohm two-resistor type power splitter with BNC connectors. The 11667L provides exceptional amplitude and phase tracking for highly accurate power splitting. Offering excellent output power symmetry between the two output ports, the 11667L is recommended for applications that require external source leveling and ratio measurements by using the E5061B network analyzer (at its gain-phase test port), and for other legacy network/
gain-phase analyzers that do not have built-in power splitters or directional bridges.
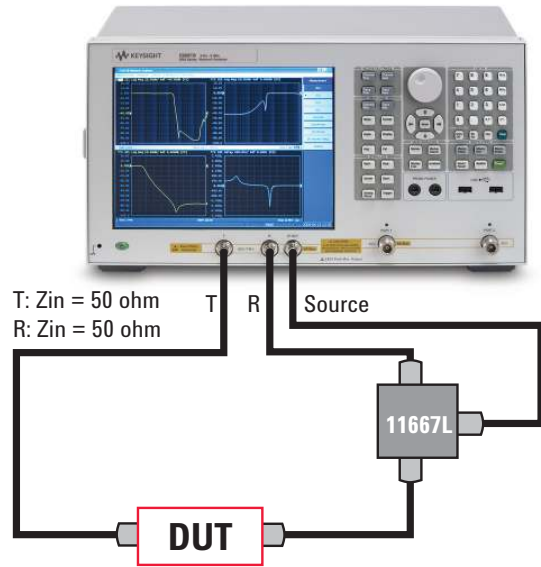
Application examples
Network Measurements

Milliohm impedance measurements with shunt-thru method (DC-DC converters, large bypass capacitors)
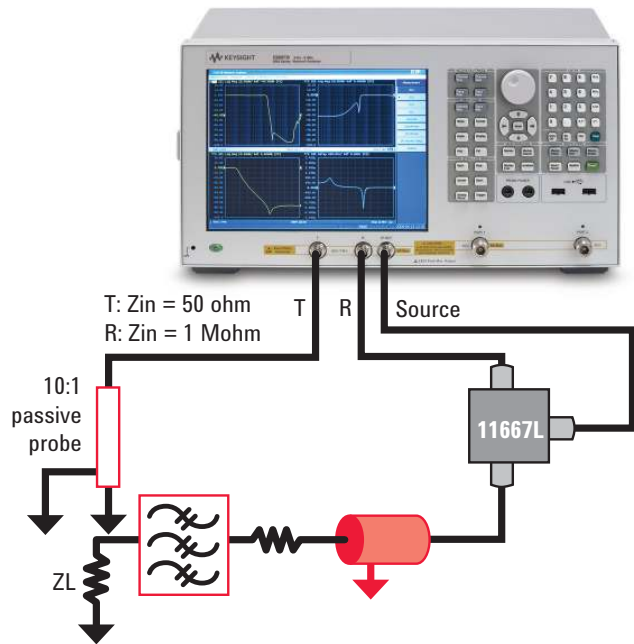

T: Zin = 50 ohm
R: Zin = 50 ohm

T   R   Source
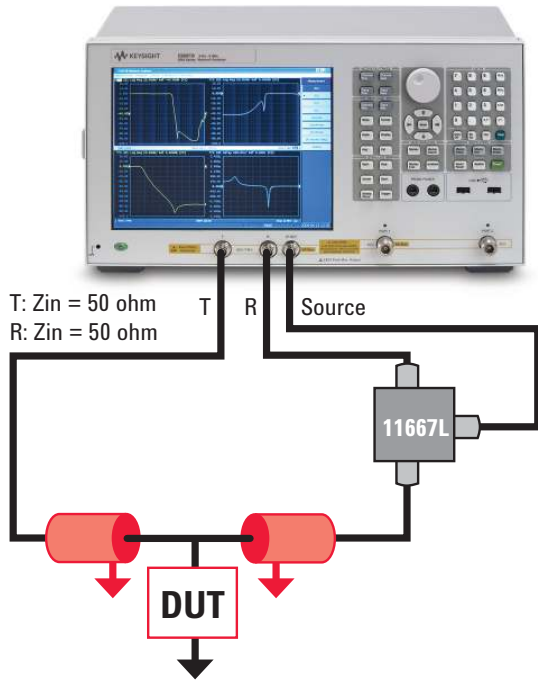
Shunt-thru impedance measurement

Transmission coefficient measurements for 2-port devices

T: Zin = 50 ohm
R: Zin = 50 ohm

T   R   Source

50 ohm device measurement

T: Zin = 50 ohm
R: Zin = 1 Mohm

T   R   Source

10:1 passive probe
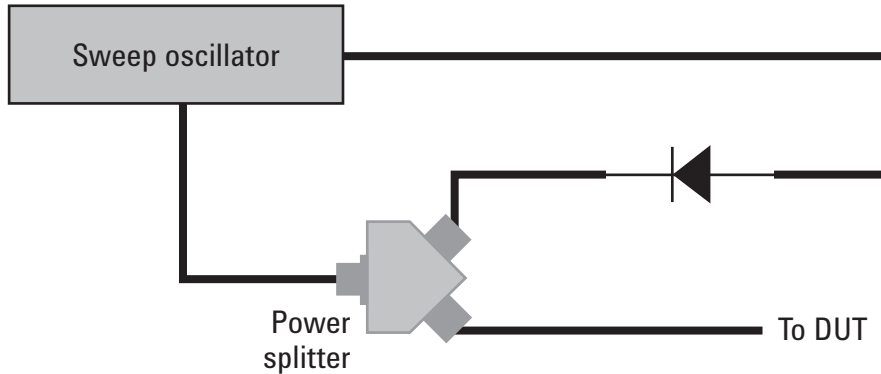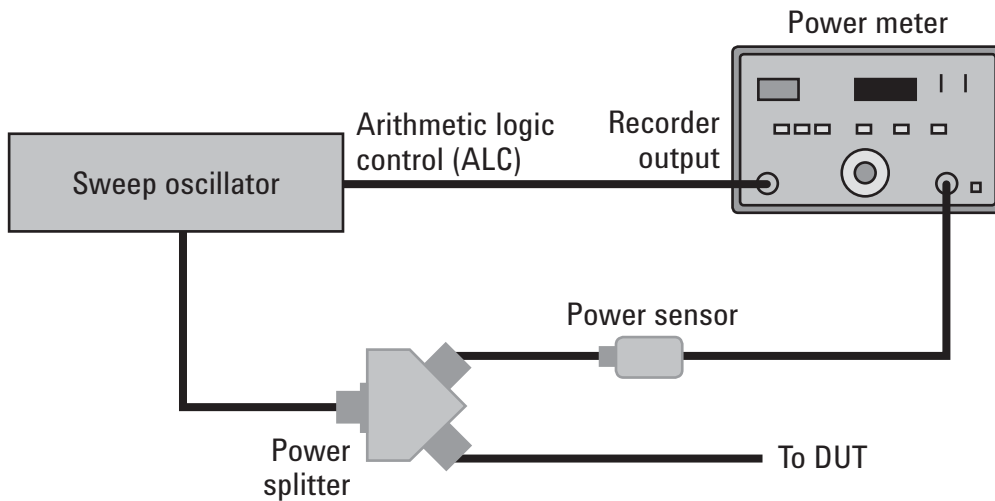
ZL

Non-50 ohm LF filter measurement

Rationing and leveling

Power splitter test setup for leveling with a crystal detector

Power splitter test setup for leveling with a power meter

NOTE:

The two-resistor type power splitters are not applicable to power dividing and combining applications. For these purposes, use the three-resistor type power dividers.

Specifications

Specifications describe the product's warranted performance. Supplemental and typical characteristics are intended to provide typical but non-warranted performance parameters. These are denoted as "typical", "nominal" or "approximate".
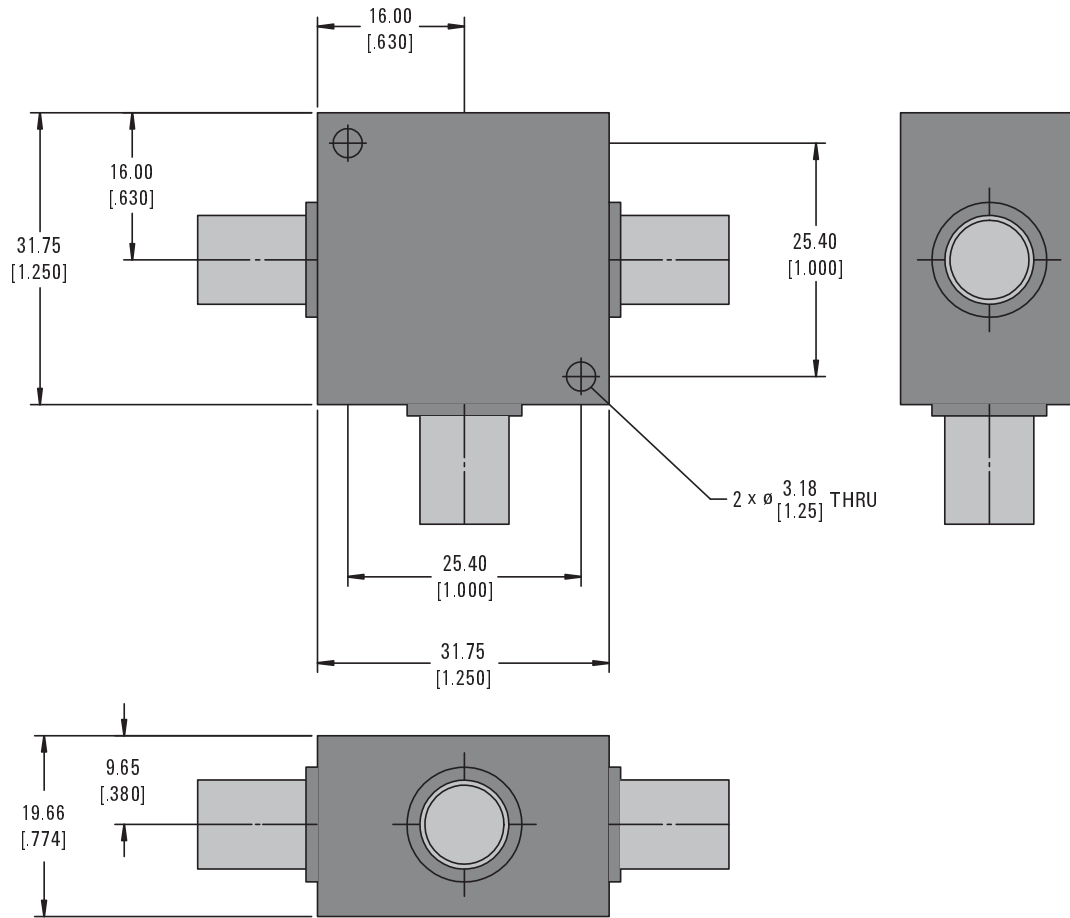
Specifications	Keysight 11667L
Frequency Range	DC to 2 GHz
Connector	BNC (f)
Insertion Loss above 6 dB (max)	DC to 100 MHz : 0.2 dB
	100 MHz to 2 GHz : 0.6 dB
Isolation (Min)	DC to 2 GHz : 11 dB
Return Loss (SWR) Typical	Input : 18 dB (1.3)
	Output : 11 dB (1.78)
Amplitude Tracking (Max)	DC to 100 MHz : 0.1 dB
	100 MHz to 2 GHz : 0.2 dB
Phase Tracking (Max)	DC to 100 MHz : 1 deg
	100 MHz to 2 GHz : 3 deg
Maximum Input Power	500 mW

Environmental Test Specifications

The 11667L is designed to fully comply with Keysight Technologies product operating environment specifications. The following summarizes the environments for these products.
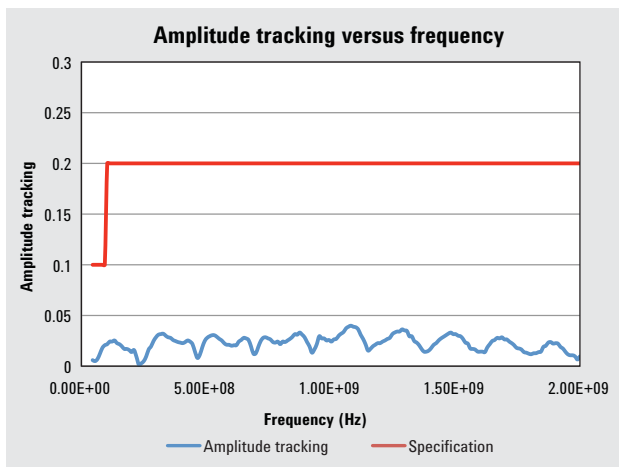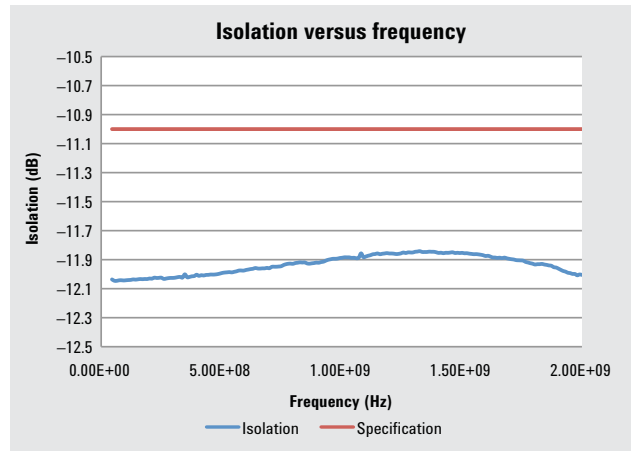
Temperature	
Operating	0 – 55 °C
Non-operating	–40 °C to 70 °C
Humidity	
Non-operating	–10 °C to 25 °C / 50% RH
Operating	40 °C / 95% RH, 5-day cycle
Functional Shock	Half-sine, 30 g, 11 ms
Vibration	
Operating random vibration	5 to 500 Hz, 0.21g RMS
Altitude	
Storage/Operating	≤ 4600 meters (15,000 feet)
ESD immunity	
Direct discharge	6kV
Air discharge	15kV

Mechanical Dimensions

16.00
[.630]

16.00
[.630]

31.75
[1.250]

25.40
[1.000]

2 × ø 3.18
[1.25] THRU

25.40
[1.000]

31.75
[1.250]

9.65
[.380]

19.66
[.774]

Product dimensions for 11667L

Typical Performance

Return Loss versus frequency (input port)

Return loss versus frequency (output port)

Insertion loss versus frequency

— Insertion loss   — Specification

Isolation versus frequency

— Isolation   — Specification

Amplitude tracking versus frequency

— Amplitude tracking   — Specification
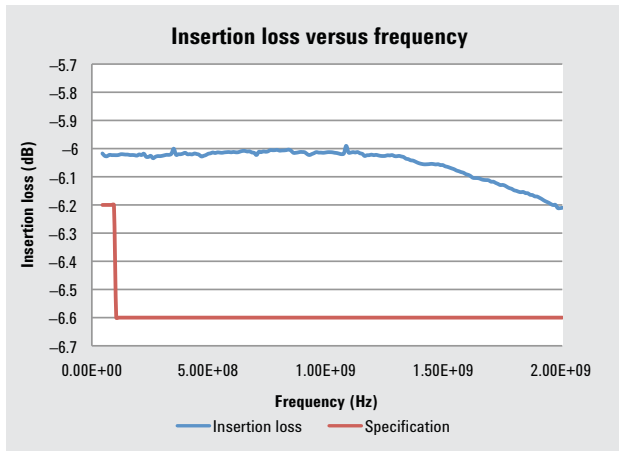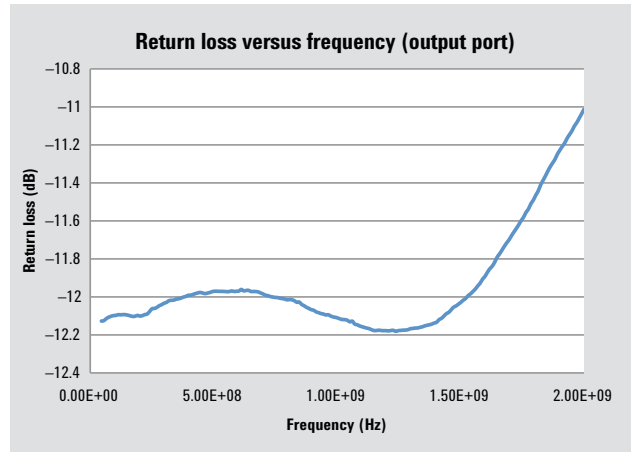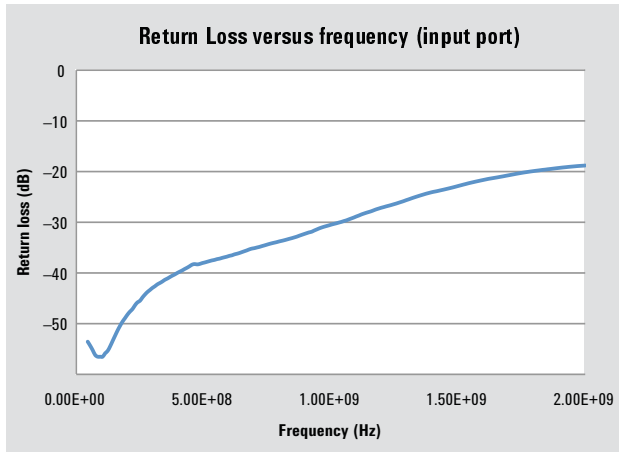
Ordering Information

11667L	Power splitter DC-2 GHz, BNC, 50 ohm

Related Literature

Differences in Application between Power Dividers and Power Splitter, Application Note, Literature number 5989-6699EN

Keysight E5061B Network Analyzer, Technical Overview, Literature number 5990-4390EN

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