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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 11666A

HP Agilent 11666A Broadband Reflectometer Bridge The HP 11666A is a broadband reflectometer bridge for scalar network measurements. OEM 11664A detector manual describes the 11666A as allowing transmission and reflection measurements from 0.015 to 18 GHz, housing two detectors (reflection port and reference port) so that only one 11664A detector is required for ratio measurement when used with 8755C or 8756A scalar analyzers. Scalar transmission and reflection measurements from 15 MHz to 18 GHz with 8755/8756 analyzers. The HP 11666A is a broadband reflectometer bridge for scalar network measurements. OEM 11664A detector manual describes the 11666A as allowing transmission and reflection measurements from 0.015 to 18 GHz, housing two detectors (reflection port and reference port) so that only one 11664A detector is required for ratio measurement when used with 8755C or 8756A scalar analyzers. Scalar transmission and reflection measurements from 15 MHz to 18 GHz with 8755/8756 analyzers. Built-in reference and reflection detectors



MODEL

**Agilent / Keysight
11666A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

11666A

LISTING

<https://aumictechlabs.com/products/11666a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 11666A is a reflectometer bridge engineered for reflection coefficient measurements across microwave frequencies. Operating as a resistive Wheatstone Bridge extended to microwave bands, it integrates two Schottky diode detectors to sample incident and reflected signals, enabling ratio-based measurements when connected to a network analyzer. The

bridge architecture - with three arms terminated at 50 ohms - produces a voltage across the measurement port directly proportional to the device-under-test reflection coefficient. This design provides effective external leveling, isolating the measurement port from source and bridge input mismatches.

Technical Specifications

Frequency Range: 40 MHz to 18 GHz
Impedance: 50 ohm
Input SWR: 1.92
Maximum Input Power: +15 dBm
Output SWR: 1.25 (40 MHz to 8 GHz); 1.27 (8 to 12 GHz); 1.32 (12 to 18 GHz)
Insertion Loss: 6 dB nominal (input to either output)
Equivalent Directivity: 30 dB (40–100 MHz), 38 dB (0.1–1 GHz), 36 dB (1–2 GHz), 33 dB (2–4 GHz), 29 dB (4–8 GHz), 27 dB (8–12 GHz), 26 dB (12–18 GHz)
Frequency Tracking (incident and test port, including 1.1 dB from 11664A Detector): <3.2 dB
Connectors: Type N-Female (input/output); APC-7 optional
Cable Length: 1219 mm
Dimensions: 69.9 mm H × 69.9 mm W × 46.4 mm D
Weight: 0.7 kg (net); 2.26 kg (shipping)

Key Features

- Dual Schottky diode detector configuration captures incident and reflected signals
- Frequency-dependent directivity optimized across full 40 MHz to 18 GHz range
- Compact form factor with attached 48-inch cable
- Output SWR controlled to 1.32 maximum across entire operating band

Typical Applications

- Device reflection measurements and return loss characterization
- Simultaneous insertion and return loss ratio measurements (with external 11664A Detector)
- Impedance and reflection coefficient determination on network analyzers

Compatibility & Integration

The 11666A integrates with the Agilent/Keysight 8755C Network Analyzer. External connection of the 11664A Detector enables simultaneous dual-measurement capability.

Features & description

From manufacturer datasheet

Built-in reference and reflection detectors

Single external 11664A needed for ratio 0.015 to 18 GHz coverage Works with 8755C and 8756A 27.8 kHz squarewave modulation from the analyzer Technical Specifications Model: 11666A Instrument Type: broadband reflectometer bridge Frequency Range: 0.015 GHz to 18 GHz Minimum Frequency: 15 MHz Maximum Frequency: 18 GHz Internal Detectors: two (reflection port and reference port) External Detector For Ratio: one HP 11664A Partner Analyzers: 8755C swept amplitude analyzer or 8756A scalar network analyzer Modulation: 27.8 kHz squarewave from the analyzer Measurement Types: transmission and reflection (amplitude) Architecture: directional bridge with integrated detectors Manufacturer: HP Agilent Keysight Use Case: scalar network analysis Rf Ports: reflection, reference, and test Ratio Measurement: yes with one external 11664A Detector Family: 11664A class Frequency Decade Low: 15 MHz Frequency Decade High: 18 GHz System Role: reflectometer bridge Scalar Display: via 8755C/8756A CRT Connector Class: coaxial as fitted on the 11666A Dynamic Range Class: set by 11664A detectors (minus 50 to plus 10 dBm class on 11664A) Related Bridge: 85021A/C 0.01 to 18 GHz directional bridges Related Splitter: 11667A DC to 18 GHz power splitter

11666A Characteristics / Specifications

PARAMETER	VALUE
Model	11666A
Instrument Type	broadband reflectometer bridge
Frequency Range	0.015 GHz to 18 GHz
Minimum Frequency	15 MHz
Maximum Frequency	18 GHz
Internal Detectors	two (reflection port and reference port)
External Detector For Ratio	one HP 11664A
Partner Analyzers	8755C swept amplitude analyzer or 8756A scalar network analyzer
Modulation	27.8 kHz squarewave from the analyzer
Measurement Types	transmission and reflection (amplitude)
Architecture	directional bridge with integrated detectors
Manufacturer	HP Agilent Keysight
Use Case	scalar network analysis
Rf Ports	reflection, reference, and test
Ratio Measurement	yes with one external 11664A
Detector Family	11664A class
Frequency Decade Low	15 MHz
Frequency Decade High	18 GHz
System Role	reflectometer bridge
Scalar Display	via 8755C/8756A CRT
Connector Class	coaxial as fitted on the 11666A
Dynamic Range Class	set by 11664A detectors (minus 50 to plus 10 dBm class on 11664A)
Related Bridge	85021A/C 0.01 to 18 GHz directional bridges
Related Splitter	11667A DC to 18 GHz power splitter

11666A Specifications

PARAMETER	VALUE
HP Agilent 11666A Broadband Reflectometer Bridge	Overview
Applications	Scalar transmission and reflection measurements from 15 MHz to 18 GHz with 8755/8756 analyzers.
Single external 11664A needed for ratio	0.015 to 18 GHz coverage
Works with 8755C and 8756A	27.8 kHz squarewave modulation from the analyzer
Technical Specifications	Model: 11666A

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Detector Family	11664A class
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Frequency Decade High	18 GHz
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Scalar Display	via 8755C/8756A CRT
Connector Class	coaxial as fitted on the 11666A
Dynamic Range Class	set by 11664A detectors (minus 50 to plus 10 dBm class on 11664A)
Related Bridge	85021A/C 0.01 to 18 GHz directional bridges
Related Splitter	11667A DC to 18 GHz power splitter
Notes	
From HP 11664A Detector operating manual sections describing the 11666A reflectometer bridge (0.015 to 18	

GHz, two internal detectors). 11664A detector range minus 50 to plus 10 dBm, 10 MHz to 18 GHz, is the companion detector specification.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.