

**Aumictech**

Test & measurement · bought, sold, repaired, calibrated

Data Sheet

August 13, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 86205A RF Bridge, 50 Ohm, 300 kHz to 6 GHz

Keysight 86205A 50 Ohm RF Bridge 300 kHz to 6 GHz The Keysight (HP/Agilent) 86205A is a high-directivity 50 ohm RF bridge for accurate reflection measurements and signal leveling from 300 kHz to 6 GHz. It combines broadband directional-bridge performance with low insertion loss and flat coupling factor for scalar/vector analyzer and spectrum analyzer test setups. The Keysight (HP/Agilent) 86205A is a high-directivity 50 ohm RF bridge for accurate reflection measurements and signal leveling from 300 kHz to 6 GHz. It combines broadband directional-bridge performance with low insertion loss and flat coupling factor for scalar/vector analyzer and spectrum analyzer test setups.



MODEL

**Agilent / Keysight
86205A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

86205A

LISTING

<https://aumictechlabs.com/products/86205a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 86205A is a 50-ohm RF bridge for scalar and vector network analysis across 300 kHz to 6 GHz. It delivers high directivity and stable insertion loss for precision return loss and VSWR measurements on devices ranging from high to low reflection coefficients. The flat coupling factor ensures consistent power leveling across the frequency band, critical for measurements on power-sensitive components. Technical Specifications Frequency Range: 300

kHz to 6 GHz Impedance: 50 Ohms (nominal) Directivity: 30 dB (300 kHz to 5 MHz) 40 dB (5 MHz to 2 GHz) 30 dB (2 GHz to 3 GHz) 20 dB (3 GHz to 5 GHz, typical) 16 dB (5 GHz to 6 GHz, typical) Port Match (SWR): 23 dB return loss, 1.15 SWR (300 kHz to 2.0 GHz) 20 dB return loss, 1.22 SWR (2.0 GHz to 3 GHz) 18 dB return loss, 1.29 SWR (3 GHz to 5 GHz, typical) 16 dB return loss, 1.38 SWR (5 GHz to 6 GHz, typical) Insertion Loss: Nominally 1.5 dB + 0.1 dB/GHz Coupling Factor: Nominal 16 dB +0.15 dB/GHz (3 GHz) ± 0.2 dB deviation (3 GHz) Operating Temperature Range: 0 °C to 55 °C Connectors: Type-N (female) Physical: 160 mm W $\times$ 93 mm H $\times$ 23 mm D; 0.57 kg

Key Features Wideband operation from 300 kHz through 6 GHz in single unit High directivity in mid-band (40 dB at 5 MHz to 2 GHz) for accurate low-loss measurements Stable coupling factor across band with ± 0.2 dB deviation below 3 GHz Low, flat insertion loss supports power leveling in sensitive measurement setups

Typical Applications Return loss and VSWR characterization Scalar network analysis Reflection measurements on passive and active devices Cable and component testing in production environments

Compatibility & Integration Interfaced via Type-N (female) connectors. Compatible with Agilent/Keysight 8753 family vector network analyzers, Keysight ENA series (E5061/71), scalar and vector network analyzers, and spectrum analyzers.

Features & description

From manufacturer datasheet

Features

- Frequency range 300 kHz to 6 GHz • 50 ohm nominal impedance TypeNfemale connectors • Directivity 30 dB to 3 GHz 40 dB midband class • Coupling factor 16 dB plus 0.15 dB/GHz below 3 GHz
- Insertion loss 1.5 dB plus 0.1 dB/GHz • Maximum input power 25 dBm

Applications

- 50 ohm reflection and return-loss measurements • Signal leveling and power monitoring • Swept transmission and reflection scalar measurements • ENA E5061/E5071 family accessory use

86205A Characteristics / Specifications

PARAMETER	VALUE
Model	86205A
Manufacturer	Keysight / Agilent / Hewlett Packard
Instrument Type	RF Directional Bridge
Alias	86205A; HP 86205A; Agilent 86205A
Frequency range	300 kHz to 6 GHz
Impedance	50 ohms nominal
Directivity 0.3 MHz to 5 MHz	30 dB minimum
Directivity 5 MHz to 2 GHz	40 dB minimum
Directivity 2 GHz to 3 GHz	30 dB minimum
Directivity 3 GHz to 5 GHz	20 dB typical
Directivity 5 GHz to 6 GHz	6 dB typical
Port match below 2 GHz	23 dB minimum (1.15 SWR)
Port match 2 GHz to 3 GHz	20 dB minimum (1.22 SWR)
Port match 3 GHz to 5 GHz	18 dB typical (1.29 SWR)
Insertion loss	1.5 dB plus 0.1 dB/GHz
Insertion loss deviation	plus or minus 0.2 dB
Coupling factor below 3 GHz	16.0 dB plus 0.15 dB/GHz
Coupling factor above 3 GHz	16.5 dB minus 0.20 dB/GHz
Coupling factor deviation below 3 GHz	plus or minus 0.2 dB
Coupling factor deviation above 3 GHz	plus or minus 0.4 dB
Maximum input power	25 dBm
Maximum DC through arm	30 VDC 1 A
Maximum DC coupled arm	15 VDC
Connectors	TypeNfemale
Dimensions	160 W x 93 H x 23 mm D (6.3 × 3.7 × 1.0 in)

PARAMETER	VALUE
Weight net	0.57 kg (1.3 lb)
Weight shipping	1.80 kg (4.0 lb)
Operating temperature warranted	0 C to 55 C
Related higher band model	86205B
Related 75 ohm bridge	86207A
Publication	Keysight 5091-3117E bridge datasheet Notes Specs from Keysight 86205A/B and 86207A RF Bridges datasheet 5091-3117E. Confirm connector gender and whether 86205A vs 86205B variant on the unit label.
Operating temperature	warranted: 0 C to 55 C

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	warranted: 0 C to 55 C
Operating Temperature	warranted: 0 C to 55 C
Operating temperature warranted	0 C to 55 C
Related higher band model	86205B
Related 75 ohm bridge	86207A
Publication	Keysight 5091-3117E bridge datasheet Notes Specs from Keysight 86205A/B and 86207A RF Bridges datasheet 5091-3117E. Confirm connector gender and whether 86205A vs 86205B variant on the unit label.

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.

performance with low insertion loss and flat coupling factor for scalar/vector analyzer and spectrum analyzer test setups.

Applications

- 50 ohm reflection and return-loss measurements
- Signal leveling and power monitoring
- Swept transmission and reflection scalar measurements
- ENA E5061/E5071 family accessory use

Key Features

- Frequency range 300 kHz to 6 GHz
- 50 ohm nominal impedance TypeNfemale connectors
- Directivity 30 dB to 3 GHz 40 dB midband class
- Coupling factor 16 dB plus 0.15 dB/GHz below 3 GHz
- Insertion loss 1.5 dB plus 0.1 dB/GHz
- Maximum input power 25 dBm

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	86205A
Manufacturer	Keysight / Agilent / Hewlett Packard
Instrument Type	RF Directional Bridge
Alias	86205A; HP 86205A; Agilent 86205A
Frequency range	300 kHz to 6 GHz
Impedance	50 ohms nominal
Directivity 0.3 MHz to 5 MHz	30 dB minimum
Directivity 5 MHz to 2 GHz	40 dB minimum
Directivity 2 GHz to 3 GHz	30 dB minimum
Directivity 3 GHz to 5 GHz	20 dB typical
Directivity 5 GHz to 6 GHz	6 dB typical
Port match below 2 GHz	23 dB minimum (1.15 SWR)
Port match 2 GHz to 3 GHz	20 dB minimum (1.22 SWR)
Port match 3 GHz to 5 GHz	18 dB typical (1.29 SWR)
Insertion loss	1.5 dB plus 0.1 dB/GHz
Insertion loss deviation	plus or minus 0.2 dB
Coupling factor below 3 GHz	16.0 dB plus 0.15 dB/GHz
Coupling factor above 3 GHz	16.5 dB minus 0.20 dB/GHz

PARAMETER	VALUE
Coupling factor deviation below 3 GHz	plus or minus 0.2 dB
Coupling factor deviation above 3 GHz	plus or minus 0.4 dB
Maximum input power	25 dBm
Maximum DC through arm	30 VDC 1 A
Maximum DC coupled arm	15 VDC
Connectors	TypeNfemale
Dimensions	160 W x 93 H x 23 mm D (6.3 x 3.7 x 1.0 in)
Weight net	0.57 kg (1.3 lb)
Weight shipping	1.80 kg (4.0 lb)
Operating temperature warranted	0 C to 55 C
Related higher band model	86205B
Related 75 ohm bridge	86207A
Publication	Keysight 5091-3117E bridge datasheet

Notes

Specs from Keysight 86205A/B and 86207A RF Bridges datasheet 5091-3117E. Confirm connector gender and whether 86205A vs 86205B variant on the unit label.

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

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 13, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.