

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8702D

The HP Keysight 8702D is a high-performance Lightwave Component Analyzer designed to characterize electro-optical (E/O), opto-electrical (O/E), and optical-to-optical (O/O) components. Integrating a built-in RF vector network analyzer with lightwave transmitters and receivers, it provides precise modulation frequency response, group delay, and electrical/optical S-parameter measurements.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488), Parallel (Centronics), External VGA Video Output
Display	9-inch color CRT

Physical

Power Supply	90 to 132 Vac (47 to 66 Hz) or 198 to 264 Vac (47 to 66 Hz), 280 VA maximum
Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	425 mm × 178 mm × 508 mm mm
Weight	21 kg kg

RF Source & Receiver Characteristics

RF Modulation Frequency Range	300 kHz to 3 GHz (standard) / 300 kHz to 6 GHz (with Option 006)
RF Frequency Resolution	1 Hz
RF Output Power Range	-85 dBm to +10 dBm
RF Power Resolution	0.05 dB
RF Test Port Impedance	50 ohms (nominal)
RF Test Port Connector Type	Type-N female

Optical Source (Transmitter) Characteristics

Wavelength Options	1300 nm (Option 011), 1550 nm (Option 012)
--------------------	--

General System Specifications

Number of Measurement Points	3, 11, 26, 51, 101, 201, 401, 801, 1601
Sweep Types	Linear frequency, logarithmic frequency, list frequency, power sweep

Display & Analysis Features

Measurement Formats	Log/linear magnitude, phase, group delay, SWR, polar, Smith chart, real/imaginary
Number of Display Channels	2 channels
Internal Storage Media	3.5-inch floppy disk drive (LIF or MS-DOS formats)

Environmental & Compliance

Storage Temperature Range	-40 °C to +70 °C
---------------------------	------------------

System Performance

E/E Dynamic Range	100 dB
E/O Dynamic Range	50 dB (typical @ 3 GHz)
O/E Dynamic Range	50 dB (typical @ 3 GHz)

Measurement Capabilities

Measurement Types	Electrical-to-Electrical (E/E), Electrical-to-Optical (E/O), Optical-to-Electrical (O/E), Optical-to-Optical (O/O)
Number of Markers	4 per display channel
Group Delay Resolution	1 ps (aperture dependent)
Calibration Types	Response, Response/Isolation, 1-Port, 2-Port, Lightwave System Calibration

Inputs & Outputs

External Reference Input	1, 2, 5, or 10 MHz (± 10 ppm)
External Trigger Input	BNC (f), TTL compatible

System Software & Control

Remote Control Protocol	HP-IB (IEEE-488.2 compatible)
-------------------------	-------------------------------

RF Source

Frequency Accuracy	± 10 ppm (at 25 °C ± 5 °C)
Harmonics	< -25 dBc (at +10 dBm)

Receiver

Magnitude Resolution	0.001 dB
Phase Resolution	0.01°
Phase Range	$\pm 180^\circ$

Power

Maximum Power Consumption	280 VA
---------------------------	--------

Compliance

Safety Standards	IEC 1010-1 / EN 61010-1
EMC Standards	CISPR 11 / EN 55011 Group 1, Class A

TECHNOLOGY

Lightwave Component Analysis

APPLICATIONS

Characterization of high-speed lasers, photodetectors, modulators, and optical fibers

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.