KEYSIGHT TECHNOLOGIES (AGILENT HP)

8596E

The Agilent / HP 8596E is a portable microwave spectrum analyzer that operates from 9 kHz to 12.8 GHz. As part of the 8590E series, it is designed to offer a flexible, modular architecture with a four-slot cardcage for plug-in performance options, downloadable measurement personalities, and dual-interface connectivity. It combines a wide frequency range with features such as one-button measurement routines and a split-screen display to simplify complex testing in communications, EMC, and component test applications.

SPECIFICATIONS

Physical

Operating Temperature	0 to +55 °C
Weight	16.4 kg

Frequency Characteristics

Frequency Range	9 kHz to 12.8 GHz
Frequency Bands	Band 0: 9 kHz - 2.9 GHz; Band 1: 2.75 - 6.5 GHz; Band 2: 6.0 - 12.8 GHz
Resolution Bandwidth (RBW) Range	1 kHz to 3 MHz (in 1-3-10 sequence)
Video Bandwidth (VBW) Range	30 Hz to 1 MHz

Sweep and Triggering

Sweep Time Range (Span > 0 Hz)	20 ms to 100 s
Sweep Time (Zero Span)	20 µs to 100 s
Trigger Source	Free Run, Single, Line, Video, External

Amplitude Characteristics

Amplitude Range	Displayed Average Noise Level to +30 dBm
Maximum Safe Input Level (Average Continuous Power)	+30 dBm (1 W)

Inputs and Outputs

RF Input Connector Type	Type-N (female)
RF Input Impedance	50 Ω
External Reference Input Frequency	10 MHz
Reference Output Frequency	10 MHz

Options and Configurations

Tracking Generator Option	Built-in tracking generator available (Option 010 / 011)
Narrow Resolution Bandwidth Option	30 Hz, 100 Hz, 300 Hz (Option 130)
Time-Gated Spectrum Analysis Option	Available (Option 105)
AM/FM Demodulator Option	Available (Option 102)
Quasi-Peak Detector Option	Available (Option 103)
Fast Time Domain Sweeps Option	Available (Option 101)

Amplitude

Input Attenuator Range	0 to 70 dB (in 10 dB steps)
Maximum Safe Input Level (DC)	0 V (Standard)
Amplitude Units	dBm, dBmV, dBµV, V, W
Input Attenuator Step Size	10 dB

Spectral Purity

Phase Noise	≤ -105 dBc/Hz (at 30 kHz offset, 1 GHz center frequency)

Frequency

Frequency Reference Aging Rate	± 2 × 10^-6 / year (Standard) / ± 1 × 10^-7 / year (Option 004 precision reference)
Marker Frequency Resolution	Span / 400

Calibration

Calibrator Frequency	300 MHz
Calibrator Amplitude	-20 dBm

Power

Power Consumption	< 500 VA

Display & Measurement

Trace Points	401

Bandwidth

Resolution Bandwidth (RBW) Selectivity	15:1 (60 dB / 3 dB)

Performance

Residual Responses	< -90 dBm (0 dB attenuation, > 1 MHz)

TECHNOLOGY

Superheterodyne Spectrum Analyzer

APPLICATIONS

Microwave and RF spectrum analysis, component test, electromagnetic compatibility (EMC), lightwave, and wireless communications.