

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8591E

The Keysight (formerly Agilent / HP) 8591E is a portable RF spectrum analyzer offering a frequency range of 9 kHz to 1.8 GHz. Part of the 8590E series, it provides reliable RF performance, an intuitive split-screen interface, and a four-slot cardcage for adding optional measurement personalities and hardware interfaces. It is well-suited for component testing, electromagnetic compatibility (EMC) evaluation, and communications applications, and can be configured with an optional built-in tracking generator for stimulus-response measurements.

SPECIFICATIONS

General

Display	CRT (split-screen capable)
Data Storage	Built-in memory card reader

Physical

Power Supply	90 to 132 Vrms (47 to 440 Hz) / 195 to 250 Vrms (47 to 66 Hz), < 500 VA
Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	325 × 163 × 427 mm mm
Weight	14.5 kg (net, basic configuration) / up to 16.4 kg (with options) kg

Frequency Specifications

Frequency Range	9 kHz to 1.8 GHz
Frequency Reference Aging	$\pm 2 \times 10^{-6}$ / year (standard) ; $\pm 1 \times 10^{-7}$ / year (Option 004)
Resolution Bandwidth (RBW) Range	1 kHz to 3 MHz in 1, 3, 10 sequence (30 Hz to 300 Hz available with Option 130)
Video Bandwidth (VBW) Range	30 Hz to 1 MHz (1 Hz to 1 MHz with Option 130)
Sweep Time Range	20 ms to 100 s (span > 0) ; 20 μ s to 100 s (zero span)
Phase Noise (SSB) at 30kHz offset	≤ -105 dBc/Hz (at 1 GHz center frequency)

Amplitude Specifications

Measurement Range	Displayed average noise level (DANL) to +30 dBm
Maximum Safe Input Level (Continuous Power)	+30 dBm (1 W)
Displayed Average Noise Level (DANL)	≤ -115 dBm (1 MHz to 1.8 GHz, 1 kHz RBW) ; ≤ -130 dBm (with Option 130, 30 Hz RBW)
Input Attenuator Range	0 to 60 dB
Input Attenuator Step Size	10 dB

Tracking Generator Specifications (Options)

Tracking Generator Frequency Range	9 kHz to 1.8 GHz (Option 010)
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Inputs, Outputs, and Interfaces

RF Input Connector Type	Type-N (female)
RF Input Impedance	50 Ω (standard) / 75 Ω (Option 001)

Signal Analysis and Processing

Measurement Functions	Cable TV/broadcast, component test, electromagnetic compatibility (EMC), lightwave, and wireless communications (via downloadable personalities)
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Power and Physical Specifications

Expansion Architecture	Four slot cardcage for plug-in performance options
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Amplitude

Amplitude Units	dBm, dBmV, dBμV, V, W
Calibrator Amplitude	-20 dBm ± 0.4 dB
Linear Scale Fidelity	±3% of Reference Level
Reference Level Resolution	0.01 dB (log scale), 0.12% of reference level (linear scale)

Frequency

Calibrator Frequency	300 MHz
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Features

Demodulation	AM and FM demodulation (includes built-in speaker)
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Spectral Purity & Distortion

Third-Order Intermodulation	<-70 dBc (10 MHz to 1.8 GHz, -30 dBm mixer level)
Second Harmonic Distortion	<-70 dBc (10 MHz to 1.8 GHz, -40 dBm mixer level)
Residual Responses	<-90 dBm (≥ 1 MHz, 0 dB attenuation, terminated input)

Sweep

Sweep Trigger Modes	Free run, single, line, video, external
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Options & Accessories

Tracking Generator Power Resolution (Option 010)	0.1 dB
Narrow Resolution Bandwidths (Option 130)	30 Hz, 100 Hz, 300 Hz

TECHNOLOGY

RF

APPLICATIONS

Spectrum Analysis

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