

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8590L

The Agilent Keysight 8590L is a reliable, low-cost, portable RF spectrum analyzer covering 9 kHz to 1.8 GHz. It is engineered for general-purpose RF testing, incorporating a user-friendly interface, 10 resolution bandwidth filters down to 1 kHz, and an optional tracking generator for scalar component testing.

SPECIFICATIONS

General

Interfaces	GPIB & Parallel (Option 041) or RS-232 & Parallel (Option 043)
Display	CRT monochrome raster scan

Physical

Power Supply	86 to 127 V AC / 195 to 253 V AC, 47 to 66 Hz, <150 VA power consumption
Operating Temperature	0 °C to +55 °C °C
Dimensions (W×H×D)	325 mm × 184 mm × 461 mm mm
Weight	14.5 kg

Frequency Specifications

Frequency Range	9 kHz to 1.8 GHz
Frequency Span Range	0 Hz (zero span), 10 kHz to 1.8 GHz
Internal Reference Frequency Aging Rate	±2 ppm/year
Internal Reference Frequency Temperature Stability	±5 ppm

Bandwidth Specifications

Resolution Bandwidth (RBW) Range	1 kHz to 3 MHz in 1, 3, 10 sequence
Number of RBW Filters	8
Video Bandwidth (VBW) Range	30 Hz to 1 MHz in 1, 3, 10 sequence

Amplitude Specifications

Measurement Range	-115 dBm to +30 dBm
Maximum Safe Input Level (AC)	+30 dBm (1 W)
Displayed Average Noise Level (DANL)	-115 dBm (with 1 kHz RBW)
Input Attenuator Range	0 to 70 dB in 10 dB steps
Scale Log Range	0 to -80 dB

Sweep and Trigger

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

Inputs and Outputs

RF Input Connector Type	Type N female, 50 ohms (standard)
RF Input Impedance	50 ohms (standard), 75 ohms (Option 001)
External Reference Input Frequency	10 MHz

Environmental and Compliance

Storage Temperature Range	-40 °C to +75 °C
Relative Humidity Limit	95% RH (non-condensing)
Altitude Limit	4,600 meters
Recommended Calibration Cycle	1 year

Available Options and Hardware Configurations

Tracking Generator Option	Option 015 (9 kHz to 1.8 GHz, 50 ohms) / Option 016 (9 kHz to 1.8 GHz, 75 ohms)
75 Ohm Input Impedance Option	Option 001
GPIO and Parallel Interface Option	Option 041
RS-232 and Parallel Interface Option	Option 043

Performance

Calibrator Output Frequency	300 MHz
Calibrator Output Amplitude	-20 dBm $\pm$ 0.4 dB
Second Harmonic Distortion	< -70 dBc for -40 dBm mixer level (>10 MHz)
Third-Order Intermodulation Distortion	< -70 dBc for two -30 dBm tones at mixer (>10 MHz)
1 dB Gain Compression	> 0 dBm at mixer (>10 MHz)

Sweep

Zero Span Sweep Time Range	20 ms to 100 s (20 μ s to 100 s with Option 101)
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Frequency

Span Accuracy	$\pm$ 3% of span
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Amplitude

Log Scale Fidelity	$\pm$ 0.1 dB/dB over 0 to -80 dB from reference level (maximum $\pm$ 1.5 dB cumulative over 0 to -70 dB, $\pm$ 2.5 dB over 0 to -80 dB)
Linear Scale Fidelity	$\pm$ 3% of reference level

Tracking Generator Options

Tracking Generator Frequency Range	9 kHz to 1.8 GHz (Option 010 / 011)
Tracking Generator Output Level Range	-1 to -66 dBm (Option 010), +42.8 to -22.2 dBmV (Option 011)

Demodulation Options

AM/FM Demodulation	Available with speaker and headphone jack (Option 102)
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Resolution Bandwidth

RBW Shape Factor (60 dB/3 dB)	< 15:1
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Memory & Storage

Internal Memory Storage	Up to 50 states and/or traces
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Amplitude Accuracy & Dynamic Range

Residual Responses	< -90 dBm (150 kHz to 1.8 GHz, 0 dB attenuation)
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General Specifications

Warm-up Time	30 minutes
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Inputs & Outputs

Sweep Output	BNC female, 0 to +10 V ramp
External Trigger Input	BNC female, TTL levels

Tracking Generator

Tracking Generator Harmonics (Option 010)	< -25 dBc (at -1 dBm output level)
Tracking Generator Spurious (Option 010)	< -30 dBc

TECHNOLOGY

Superheterodyne Spectrum Analyzer

APPLICATIONS

RF and wireless signal monitoring, scalar network analysis, and general-purpose laboratory testing

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