

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8592L

The Keysight (Agilent/HP) 8592L is a portable microwave spectrum analyzer designed to offer frequency-accurate RF and microwave measurements. Covering a wide frequency range up to 22 GHz, it features an easy-to-use interface with over 200 built-in functions, dual-interface options for remote control and printing, and dedicated measurement routines.

SPECIFICATIONS

General

Interfaces	Optional dual interfaces: Option 041 (GPIB and Parallel) or Option 043 (RS-232 and Parallel)
Display	Monochrome CRT

Physical

Power Supply	86 to 127 V AC / 195 to 250 V AC, 47 to 66 Hz, < 150 VA
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	373 mm × 188 mm × 461 mm (with handle, feet, and bumpers) mm
Weight	15.6 kg kg

Frequency Specifications

Frequency Range	9 kHz to 22 GHz
Frequency Span Range	0 Hz (zero span), 50 kHz to 22 GHz
Frequency Reference Aging Rate	$\pm 2 \times 10^{-6}$ / year
Frequency Reference Temperature Stability	$\pm 5 \times 10^{-6}$
Sweep Time Range (Span > 0 Hz)	20 ms to 100 s
Sweep Time Range (Zero Span)	20 μ s to 100 s
Sweep Trigger Sources	Free Run, Single, Line, Video, External

Amplitude Specifications

Measurement Range	-112 dBm to +30 dBm
Maximum Safe RF Input Power	+30 dBm (1 Watt)
Maximum Safe DC Input Voltage	0 V DC
Displayed Average Noise Level (DANL)	-112 dBm @ 1 GHz (with 1 kHz RBW)
Input Attenuator Range	0 to 70 dB
Input Attenuator Steps	10 dB
Reference Level Range	-120 dBm to +30 dBm
Log Display Scale	1, 2, 5, 10 dB/division
Linear Display Scale	Linear scale (V, W, A)

Resolution and Video Bandwidths

Resolution Bandwidth (RBW) Range	1 kHz to 3 MHz
Resolution Bandwidth Steps	1, 3, 10 sequence
Video Bandwidth (VBW) Range	30 Hz to 1 MHz
Video Bandwidth Steps	1, 3, 10 sequence

Front Panel Connections

RF Input Connector Type	Type-N female (50 ohm, standard)
RF Input Impedance	50 ohms
Calibrator Output Power Level	-20 dBm
Calibrator Output Frequency	300 MHz
Calibrator Connector Type	BNC female

Rear Panel Connections

Auxiliary Video Output	0 to 1 V
Auxiliary IF Output	21.4 MHz, BNC female
Sweep Output	0 to 10 V ramp, BNC female
10 MHz Reference Input	BNC female
10 MHz Reference Output	BNC female

Measurement and Display Functions

Trace Modes	Clear/Write, Max Hold, Min Hold, View, Blank
Number of Measurement Traces	3 (Trace A, Trace B, Trace C)
Trace Detection Modes	Peak, Sample, Negative Peak
Marker Functions	Normal, Delta, Marker to CF, Marker to Ref Level, Marker Noise, Counter
One-Button Measurement Routines	Adjacent Channel Power (ACP), Signal Bandwidth, Third Order Intercept (TOI)
Internal Save/Recall Registers	Up to 228 states and traces

Power and Physical Specifications

Dimensions (without handle/feet)	325 mm W × 163 mm H × 427 mm D
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Environmental and Compliance

Storage Temperature Range	-40 to +75 °C
Humidity Limits	95% RH @ 40 °C
Altitude Limits	4,572 m (operating)

Power Requirements

Power Consumption	< 150 VA (without options)
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Performance

Microwave Input Tuning	Unpreselected
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Display

Display Graticule	8 x 10 division
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Compliance

Electromagnetic Compatibility	Conforms to CISPR Publication 11 and EN 55011 Class A
Safety Standards	Designed in accordance with IEC 348 and UL 1244

Dynamic Range

Third-Order Intermodulation Distortion	<-70 dBc (for two -30 dBm tones at the input mixer, >10 MHz)
Second-Harmonic Distortion (10 MHz to 2.9 GHz)	<-70 dBc (for -30 dBm tone at the input mixer)
1 dB Gain Compression	>-10 dBm (for mixer level, >10 MHz)
Residual Responses (150 kHz to 6.4 GHz)	<-90 dBm (0 dB RF attenuation, terminated input)
Residual Responses (6.4 to 22 GHz)	<-80 dBm (0 dB RF attenuation, terminated input)

Frequency

Preselector Tuning Range	None (unpreselected)
Span Accuracy (Span <= 10 MHz)	±2% of span

Amplitude Accuracy

Frequency Response (9 kHz to 2.9 GHz)	±1.5 dB (referred to 300 MHz cal signal)
Linear Scale Fidelity	±3% of Reference Level

Options

Option 1D5 Frequency Reference Aging Rate	<±1 x 10 ⁻⁷ per year
Option 130 Resolution Bandwidth Range	30 Hz to 3 MHz
Option 041 Interface	GPIB and Parallel Printer Interface
Option 043 Interface	RS-232 and Parallel Printer Interface

TECHNOLOGY

Superheterodyne Spectrum Analyzer

APPLICATIONS

Microwave and RF Signal Analysis, Spectral Purity Testing, General-Purpose Laboratory Measurement

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