

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8561E

The Keysight (formerly Agilent / HP) 8561E is a portable RF spectrum analyzer delivering benchtop-level measurement capability in a highly ruggedized package. Operating continuously from 30 Hz to 6.5 GHz, it combines outstanding phase noise, wide dynamic range, and synthesized tuning. Standard features include fast digital resolution bandwidths down to 1 Hz, a precision timebase, and built-in measurement personalities for adjacent-channel power, occupied bandwidth, and time-gated measurements. Compliant with MIL-T-28800 ruggedness standards, it is engineered to withstand harsh environmental conditions in both field and manufacturing applications.

SPECIFICATIONS

General

Interfaces	GPIO (IEEE-488)
Display	Monochrome CRT

Physical

Operating Temperature	-10 to +55 °C
Dimensions (W×H×D)	337 × 187 × 461 mm
Weight	20 kg kg

Frequency Specifications

Frequency Range	30 Hz to 6.5 GHz (Continuous)
Frequency Band Breakdown	Band 0: 30 Hz to 2.9 GHz; Band 1: 2.75 GHz to 6.5 GHz
Resolution Bandwidth (RBW) Range	1 Hz to 2 MHz (1, 3, 10 sequence)
Fast Digital Resolution Bandwidths	1, 3, 10, 30, 100 Hz
Video Bandwidth (VBW) Range	1 Hz to 3 MHz (1, 3, 10 sequence)
Phase Noise (SSB) at 10 kHz Offset	≤ -113 dBc/Hz (at 1 GHz)

Amplitude Specifications

Maximum Safe Input Level (Average Power)	+30 dBm (1 W) continuous
Maximum Safe DC Voltage	0 V (DC coupled), 50 V (AC coupled)
Input Attenuator Range	0 to 70 dB
Input Attenuator Step Size	10 dB
Reference Level Range	-119.9 dBm to +30.0 dBm
Log Scale Fidelity	±0.85 dB (0 to -90 dB from reference level)
Linear Scale Fidelity	±3% of reference level
Calibration Output Signal	300 MHz, -10 dBm ±0.3 dB

Sweep and Triggering

Sweep Time (Span > 0 Hz)	50 ms to 100 s
Sweep Time (Zero Span)	50 μ s to 100 s

Trace and Display

Trace Detectors	Normal, Peak, Sample, Negative Peak
Standard Measurement Personalities	Adjacent channel power (ACP), channel power, carrier power, occupied bandwidth (OBW) percentage, time-gated measurements

Inputs, Outputs, and Interfaces

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

Environmental and Compliance

Storage Temperature	-51 $^{\circ}$ C to +71 $^{\circ}$ C
Shock and Vibration Tolerance	MIL-T-28800 Class 3

Sweep Specifications

Sweep Points per Trace	601
Sweep Time Accuracy (Span > 0 Hz)	$\pm$ 10%
Sweep Time Accuracy (Zero Span)	$\pm$ 1%

Demodulation

Audio Demodulation	AM and FM
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Tracking Generator (Option 002)

Tracking Generator Frequency Range	300 kHz to 2.9 GHz (Option 002 only)
Tracking Generator Output Power	-80 dBm to -10 dBm (Option 002 only)

Front Panel Connections

Probe Power Output	+15 VDC, -12.6 VDC (150 mA max)
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Frequency

Frequency Span Range	0 Hz, 100 Hz to 6.5 GHz
Resolution Bandwidth Selectivity (60 dB / 3 dB)	< 15:1 (300 Hz to 2 MHz), < 5:1 (10 Hz to 100 Hz)

Amplitude

Measurement Range	Displayed Average Noise Level (DANL) to +30 dBm
Amplitude Display Range	1, 2, 5, 10 dB/div (10 divisions) log; 10 divisions linear
LO Emission (at RF Input)	≤ -80 dBm (with 10 dB attenuation)

TECHNOLOGY

Superheterodyne RF Spectrum Analysis

APPLICATIONS

RF Component Testing, Digital Radio Measurements, Phase Noise Analysis, Field Maintenance

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