

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8565EC

The Keysight / Agilent 8565EC is a high-performance portable microwave spectrum analyzer offering superior sensitivity, phase noise, and dynamic range over a frequency range of 9 kHz to 50 GHz. Designed for demanding applications such as digital radio and phase noise measurements, it features a color display, rugged MIL-PRF-28800 Class 3 construction, and fast digital resolution bandwidths down to 1 Hz. Time-gated measurements and advanced power measurement functions come standard.

SPECIFICATIONS

General

Display	Color LCD
Audio Demodulation	AM and FM

Physical

Dimensions (W×H×D)	327 × 177 × 427 mm
Weight	17.3 kg

Frequency Specifications

Frequency Range	9 kHz to 50 GHz (30 Hz to 50 GHz with Option 006)
Span Range	0 Hz, 100 Hz to 50 GHz
Resolution Bandwidth (RBW) Settings	1 Hz to 2 MHz (1, 3, 10 sequence)
Fast Digital RBWs	1, 3, 10, 30, 100 Hz
Video Bandwidth (VBW) Settings	1 Hz to 3 MHz (1, 3, 10 sequence)
Phase Noise (10 kHz offset)	≤ -113 dBc/Hz (@ 1 GHz)
Continuous Sweep Range	30 Hz to 2.9 GHz (with Option 006)

Amplitude Specifications

Maximum Safe Input Level (Average Power)	+30 dBm (1 W)
Maximum DC Input Voltage	0 V (DC coupled)
1 dB Gain Compression Point	-5 dBm
Input Attenuator Range	0 to 70 dB
Input Attenuator Step Size	10 dB

Sweep and Triggering

Sweep Time Range (Span > 0 Hz)	50 ms to 100 s
Sweep Time Range (Zero Span)	50 μs to 6000 s
Sweep Trigger Modes	Free Run, Line, Single, Video, External

Features

Standard Measurements	Adjacent channel power, channel power, carrier power, occupied bandwidth percentage, time-gated measurements
PC Software Support	E4444A BenchLink software

Inputs and Outputs

RF Input Connector Type	2.4 mm (male)
RF Input Impedance	50 Ω
External Mixer LO Output Connector	SMA (female)
External Mixer IF Input Connector	SMA (female)
10 MHz Reference Input	BNC (female)
10 MHz Reference Output	BNC (female)

Environmental and Compliance

Vibration and Shock Resistance	MIL-PRF-28800 Class 3
Warm-up Time	5 minutes

Physical and Power Specifications

Power Consumption (Max)	180 W
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Frequency

Internal Reference Aging Rate	$\pm 1 \times 10^{-7}$ / year
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Calibration

Calibrator Frequency	300 MHz
Calibrator Amplitude	-10 dBm

Amplitude

Log Scale Range	1 to 15 dB/div (in 1 dB steps)
Reference Level Resolution (Log)	0.1 dB
Amplitude Scale Fidelity (Log)	± 0.85 dB maximum (0 to 90 dB range)
Linear Scale Fidelity	$\pm 3\%$ of reference level
Reference Level Range (Log)	-120 dBm to +30 dBm
Reference Level Range (Linear)	2.2 nV to 7.07 V
Reference Level Resolution (Linear)	0.1% of reference level
Amplitude Units	dBm, dBmV, dBμV, Volts, Watts

Spurious Responses

Residual Responses	< -90 dBm ($f \geq 1$ MHz, 0 dB input attenuation)
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Inputs & Outputs

IF Output Frequency	310.7 MHz
Video Output Voltage	0 to +1 V (into 50 Ω)
Sweep Output Voltage	0 to +10 V

Power Requirements

AC Voltage Range	115 VAC (+10%, -25%) or 230 VAC (+10%, -15%)
AC Line Frequency	47 to 440 Hz (115V) / 47 to 66 Hz (230V)

Environmental

Storage Temperature Range	-40 °C to +71 °C
Operating Humidity	Up to 95% relative humidity at 40°C
Maximum Operating Altitude	Up to 4,500 m (15,000 ft)
Acoustic Noise	< 5.0 Bels (ISO 7779)

Performance

Third-Order Intercept (10 MHz to 300 MHz)	> +7 dBm
Third-Order Intercept (300 MHz to 2.9 GHz)	> +15 dBm
Image Rejection (10 MHz to 2.9 GHz)	> 70 dB

Display

Display Type	Color VGA TFT LCD
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Compliance

EMI / RFI Compliance	CISPR Pub 11 Group 1 Class A
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TECHNOLOGY

Spectrum Analysis

APPLICATIONS

Microwave, RF, Digital Radio, Phase Noise

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