

KEYSIGHT TECHNOLOGIES (AGILENT HP)

E4405B

The Keysight (Agilent/HP) E4405B is a mid-performance ESA-E series spectrum analyzer offering a frequency range of 100 Hz to 13.2 GHz. Designed for general-purpose RF and microwave measurements, it combines lab-grade capabilities with rugged portability, featuring ± 0.4 dB amplitude accuracy, a TOI of +16 dBm, and segmented sweep functions.

SPECIFICATIONS

General

Display	16.5 cm (6.5 in) VGA color LCD
Calibration Cycle	1 year

Physical

Power Supply	90-132 Vrms (47-440 Hz), 195-250 Vrms (47-66 Hz), < 300 W
Operating Temperature	0 to 55 °C
Dimensions (W×H×D)	373 × 222 × 409 mm
Weight	17.1 kg

Frequency Specifications

Frequency Range	9 kHz to 13.2 GHz
Phase Noise	≤ -90 dBc/Hz @ 10 kHz offset (1 GHz carrier)
Internal Reference Frequency	10 MHz

Amplitude Specifications

Absolute Amplitude Accuracy	± 0.4 dB
Input Attenuator Range	0 to 65 dB (in 5 dB steps)
Maximum Safe Input Level	+30 dBm (1 W) continuous
Amplitude Measurement Range	Displayed Average Noise Level (DANL) to +30 dBm
Detectors	Normal, Peak, Sample, Negative Peak, Average

Inputs and Outputs

RF Input Impedance	50 Ω
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General Specifications

Warm-Up Time	5 minutes (to guaranteed measurement accuracy)
Display Resolution	640 × 480

Power Requirements

Maximum Power Consumption	< 300 W
AC Supply Voltage	90-132 Vrms or 195-250 Vrms
AC Supply Frequency	47-440 Hz (90-132 V) / 47-66 Hz (195-250 V)

Inputs & Outputs

RF Input Connector	Type-N female
Display/Video Output	VGA analog, 15-pin mini D-Sub (rear panel)
IF Output	21.4 MHz (with Option A4J)

Sweep and Trace Specifications

Trace Points	401
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Bandwidth

Resolution Bandwidth Selectivity (-60 dB / -3 dB)	< 15:1
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Sweep

Sweep Time (Span ≥ 10 Hz)	1 ms to 4000 s
Sweep Time (Zero Span)	50 μs to 4000 s

Frequency

Reference Oscillator Aging Rate	$\pm 2 \times 10^{-6}$ / year (standard); $\pm 1 \times 10^{-7}$ / year (with Option 1D5)
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Amplitude

1 dB Gain Compression	0 dBm (total power at input mixer)
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Spurious Responses

Residual Responses	< -90 dBm (input terminated, 0 dB attenuation)
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Environmental

Storage Temperature Range	-40 °C to +75 °C
Operating Humidity	< 95% relative humidity at 40 °C (non-condensing)

APPLICATIONS

General-purpose RF and microwave measurement

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