

KEYSIGHT TECHNOLOGIES (AGILENT HP)

E4403B-BAS

The Keysight (formerly Agilent/HP) E4403B-BAS is a reliable, general-purpose basic spectrum analyzer from the ESA-L series, designed for bench-top, manufacturing, and service environments. It offers a frequency range of 9 kHz to 3.0 GHz, delivering rapid measurements and high accuracy. The 'BAS' configuration provides excellent core value with features like PowerSuite one-button measurements, a 5-minute warm-up time, and backwards compatibility with 8590 series code.

SPECIFICATIONS

General

Interfaces	GPIO / RS-232 (Option dependent)
Display	High-resolution color LCD
Recommended Calibration Cycle	1 year

Physical

Power Supply	90 to 132 Vrms (47 to 440 Hz) / 195 to 250 Vrms (47 to 66 Hz), < 300 W
Operating Temperature	0 to 55 °C
Dimensions (W×H×D)	373 × 222 × 409 mm
Weight	13.2 kg

Frequency Specifications

Frequency Range	9 kHz to 3.0 GHz
Frequency Span Range	0 Hz (Zero Span), 100 Hz to 3.0 GHz
Sweep Time Range	4 ms to 4000 s (Span > 0 Hz), 50 μs to 4000 s (Zero Span)
Frequency Reference Aging Rate	± 2 × 10 ⁻⁶ / year

Bandwidth Specifications

Resolution Bandwidth (RBW) Range	1 kHz to 5 MHz (Standard), 10 Hz to 300 Hz (Narrow RBW Optional)
----------------------------------	--

Amplitude & Level Specifications

Maximum Safe Input Level (Average Continuous Power)	+30 dBm (1 W)
Input Attenuator Range	0 to 60 dB
Input Attenuator Step Size	5 dB
1 dB Gain Compression Point	0 dBm (Total power at input mixer)

Dynamic Range & Spurious Responses

Third-Order Intercept (TOI)	+7.5 dBm
Phase Noise (10 kHz offset)	≤ -90 dBc/Hz (at 1 GHz)

Tracking Generator (Option-Dependent)

Tracking Generator Frequency Range	9 kHz to 3.0 GHz (Option dependent)
Tracking Generator Output Impedance	50 Ω (Option dependent)

Demodulation & Measurement Features

Measurement Personalities	PowerSuite one-button RF power measurements
Programming Compatibility	SCPI programming, IVI COM driver support, 8590 series code compatibility

Connectivity & Interfaces

RF Input Connector Type	Type-N (female)
RF Input Impedance	50 Ω

Environmental & Compliance

Warm-up Time	5 minutes (to guaranteed measurement accuracy)
--------------	--

Amplitude

Amplitude Scale Units	dBm, dBmV, dBuV, Volts, Watts
Log Scale Display	0.1 to 20 dB/div (in 0.1 dB steps)
Linear Scale	10 divisions
Amplitude Readout Resolution	0.01 dB (Log scale), 0.04% of Reference Level (Linear scale)

Processing

Trace Detectors	Normal, Peak, Sample, Negative Peak
-----------------	-------------------------------------

Sweep & Trigger

Sweep Trigger Modes	Free Run, Single, Line, Video, External
---------------------	---

Inputs & Outputs

External Trigger Input	BNC(f), TTL levels
10 MHz Reference Input	BNC(f), -15 to +10 dBm
10 MHz Reference Output	BNC(f), > 0 dBm into 50 Ω

Environmental

Storage Temperature Range	-40 °C to +75 °C
Operating Humidity	< 95% relative humidity

Compliance

EMC Compliance	CISPR 11, IEC 61326
----------------	---------------------

General Performance

Number of Trace Points	401
------------------------	-----

Power

Power Consumption (Maximum)	< 300 W
AC Power Requirements	90 to 132 Vrms (47 to 440 Hz), 195 to 250 Vrms (47 to 66 Hz)

Sweep

Sweep Time Accuracy	±1%
---------------------	-----

TECHNOLOGY

Spectrum Analysis

APPLICATIONS

General-Purpose RF Test & Measurement

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