Signal Hound®

SM435C Real-Time Spectrum Analyzer

Signal Hound designs and builds powerful, affordable spectrum analyzers and signal generators for engineers, operators and RF professionals around the globe.

REAL-TIME SPECTRUM ANALYSIS UTILIZING A 10 GIGABIT SFP+ PORT - UNPARALLELED SPEED AND PERFORMANCE.

The SM435C is a high-performance spectrum analyzer and monitoring receiver with a 10 Gigabit Ethernet SFP+ port, which enables the SM435C to communicate with a PC over long distances using fiber optic cable. Tuning from 100 kHz to 43.5 GHz, the analyzer has 160 MHz of instantaneous bandwidth (IBW), 110 dB of dynamic range, 1 THz/sec sweep speed at 30 kHz RBW, and ultra-low phase noise to rival even the most expensive spectrum analyzers on the market. As a front-end spectrum analyzer and monitoring receiver, the SM435C provides accurate RF data when it's needed most.

APPLICATIONS

- General Purpose RF Test & Measurement
- EMC pre-compliance
- Phase Noise Characterization
- EVM
- Channel Characterization
- CCDF
- WiFi Characterization
- BlueTooth Characterization
- Calibration
- Manufacturing Test
- RF Power Measurement
- Demodulation
- Antenna Pattern Measurement

FEATURES

- 1 THz/sec Sustained Sweep Speed
- 110 dB of Dynamic Range
- 20 MHz to 43.5 GHz Sub-Octave Preselector
- Spectrum Monitoring
- Ultra-low Phase Noise
- Real-time Analysis Features

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MADE IN USA

SM435C Real-Time Spectrum Analyzer & Monitoring Receiver

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Preliminary Specifications

Frequency Range	100 kHz to 43.5 GHz
Sweep Speed	Speed / RBW • 1 THz/sec ≥30 kHz • 160 GHz/sec 10 kHz • 18 GHz/sec 1 kHz
Displayed Average Noise Level (DANL) REF LEVEL ≤ -20 dBm	Input Frequency Range / dBm/Hz • 100 kHz to 160 MHz -156 dBm • 160 MHz to 2.2 GHz -159 dBm • 2.2 GHz to 24 GHz -155 dBm • 24 GHz to 36 GHz -153 dBm + 0.5 dB/GHz • 36 GHz to 43.5 GHz -147 dBm + 1.1 dB/GHz
I/Q Acquisition Modes	Calibrated Streaming I/Q: up to 160MHz of selectable I/Q streaming bandwidth
Timebase Accuracy	• ±5 x 10^{-10} when locked to GPS • Holdover of ±5 x 10^{-9} /day for aging (±2 x 10^{-8} first day typ) • Holdover of ±1 x 10^{-8} for temperature over -40°C to 65°C (typ)
System Noise Figure (typ)	• 12 dB over 700 MHz to 2.5 GHz • 15 dB from 2.5 GHz to 24 GHz • 18 dB + 0.5 dB/GHz from 24 GHz to 40 GHz • 26dB + 2.0 dB/GHz from 40 GHz to 43.5 GHz
Linearity	IP_2 • 100 kHz to 20 GHz +75 dBm • 20 GHz to 43.5 GHz +70 dBm IP_3 • 100 kHz to 4 GHz +28 dBm • 4 GHz to 6 GHz +23 dBm • 6 GHz to 43.5 GHz +20 dBm
Amplitude Accuracy	100 kHz to 6 GHz • ± 2.0 dB 6 GHz to 20 GHz • ± 3.0 dB RBW filter shape • Flat-Top windowing
Residual Responses REF LEVEL ≤ -20 dBm	• 100 kHz to 6 GHz -110 dBm • 6 GHz to 15 GHz -100 dBm • 15 GHz to 44 GHz -90 dBm
SSB Phase Noise at 1 GHz Center Frequency	Offset Frequency / dBc/Hz • 10 Hz -76 • 100 Hz -108 • 1 kHz -125 • 10 kHz -136 • 100 kHz -138 • 1 MHz -138
Lo Leakage at RF Input	• 100 kHz to 6 GHz -80 dBm • 6 GHz to 24 GHz -50 dBm • 24 GHz to 43.5 GHz -75 dBm
Spurious Mixer Responses	• 100 kHz to 6 GHz -55 dBc • 6 GHz to 24 GHz -45 dBc • 24 GHz to 43.5 GHz -45 dBc
Sub-Octave Preselector Filters	20 MHz to 43.5 GHz
Synchronization	External trigger, GPIO, Internal GPS (+/-40ns)
Operating Temperature	Standard (passive cooling) 32°F to 122°F (0°C to +50°C)
Size and Weight	• 10.45” x 7.2” x 2.15” (265mm x 183mm x 55mm) • 7.77 lbs. (3.52 kg)
Power Consumption	• 9 to 16 VDC • 33 Watt Maximum
Interface	10GbE SFP+ port
System Requirements	Windows or Linux Operating System, x64_86 architecture

Ordering Options
Standard, Temperature Range 32°F to 122°F (0°C to +50°C)
Option 1, Temperature Range -40°F to 149°F (-40°C to +65°C)
Option-80 – IF Output Option (800MHz BW of IF tunable between 24GHz – 43.5GHz)