

ROHDE & SCHWARZ

FSW8

The Rohde & Schwarz FSW8 is a high-performance signal and spectrum analyzer offering an operating frequency range from 2 Hz to 8 GHz. It provides exceptional RF performance characterized by exceptionally low phase noise, wide analysis bandwidth up to 160 MHz with options, and excellent dynamic range. Designed for demanding applications such as radar analysis, oscillator characterization, and wireless communications, the FSW8 features a large 12.1-inch touchscreen and multi-standard radio analysis capabilities.

SPECIFICATIONS

General

Interfaces	LAN, USB, GPIB (IEEE-488)
Display	12.1-inch (31 cm) high-resolution touchscreen
Warm-up Time	30 minutes
Recommended Calibration Interval	1 year

Physical

Power Supply	100 V to 240 V AC, 50 Hz to 60 Hz / 400 Hz
Operating Temperature	+5 to +50 °C
Dimensions (W×H×D)	462 mm × 240 mm × 504 mm mm
Weight	18.6 (without options) kg

Frequency

Frequency Range	2 Hz to 8 GHz
Total Measurement Uncertainty (up to 8 GHz)	< 0.4 dB
Internal Reference Frequency	10 MHz

Bandwidth

Resolution Bandwidth (RBW) Range	1 Hz to 10 MHz (standard filter)
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Amplitude and Level Characteristics

Display Range	Displayed noise floor up to +30 dBm
WCDMA ACLR Dynamic Range	88 dB (with noise cancellation)
DANL (2 GHz)	-156 dBm (1 Hz) typical
DANL (8 GHz)	-156 dBm (1 Hz) typical
DANL (2 GHz, noise cancellation on, preamp off)	-169 dBm (1 Hz) typical
DANL (8 GHz, with FSW-B24 preamplifier option)	-169 dBm (1 Hz) typical
Third-Order Intercept ($f < 1$ GHz)	+30 dBm typical
Third-Order Intercept ($f < 3$ GHz)	+25 dBm typical
Phase Noise (10 kHz offset, 1 GHz carrier)	-137 dBc (1 Hz) typical
Maximum Safe Input Voltage (DC, AC coupled)	50 V
Maximum Safe Input Voltage (DC, DC coupled)	0 V
Maximum Safe Input Power (CW, RF atten = 0 dB)	20 dBm (0.1 W)
Maximum Safe Input Power (CW, RF atten ≥ 10 dB)	30 dBm (1 W)
Maximum Pulse Voltage	150 V (RF atten ≥ 10 dB)
Maximum Pulse Energy	1 mWs (RF atten ≥ 10 dB, 10 μ s)

Inputs and Outputs

RF Input Connector Type	N female (50 Ω)
Power Sensor Support	Integrated support for R&S@NRP-Zxx power sensors

Display and User Interface

User Interface Features	Smartgrid, MultiView, Flat menu structures
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RF Input

RF Input Impedance	50 Ω
Input Attenuator	0 dB to 79 dB (1 dB steps)

Data Analysis

Trace Detectors	Max Peak, Min Peak, Auto Peak, Sample, RMS, Average
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Trigger

Trigger Sources	Free Run, Video, External, IF Power, RF Power, Time
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Signal Analysis & Measurement

Trace Functions	Clear/write, Max hold, Min hold, Average, View
Maximum Traces per Window	6 traces

Environmental

Storage Temperature Range	-40 °C to +70 °C
Maximum Operating Altitude	4600 m (15100 ft)

Compliance

Safety Compliance	IEC 61010-1, EN 61010-1, UL 61010-1, CAN/CSA-C22.2 No. 61010-1
EMC Compliance	EN 61326-1, EN 61326-2-1, CISPR 11 / EN 55011 (Class A)

TECHNOLOGY

Signal and Spectrum Analysis

APPLICATIONS

Radar System Analysis, Spurious Emissions Testing, Oscillator Phase Noise Measurement, Wireless Communications R&D

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