

ROHDE & SCHWARZ

FSP3

The Rohde & Schwarz FSP3 is a high-performance general-purpose spectrum analyzer covering the 20 Hz to 3 GHz frequency range. It is designed for demanding development and production environments, featuring an exceptionally low total measurement uncertainty of 0.5 dB, fast measurement speeds up to 80 measurements per second, and a wide array of standard evaluation routines (TOI, ACPR, OBW, CCDF, APD). With an innovative hardware design, standard electronic attenuator, and advanced filtering options, the FSP3 delivers outstanding RF characteristics and high throughput.

SPECIFICATIONS

General

Interfaces	GPIO (IEEE 488)
Display	21 cm (8.4 in) color TFT LCD
Recommended Calibration Interval	1 year

Physical

Power Supply	100 V to 240 V AC, 50 Hz to 400 Hz
Operating Temperature	0 to 50 °C

Frequency Characteristics

Frequency Range	9 kHz to 3 GHz
Spectral Purity / Phase Noise (10 kHz offset)	-113 dBc/Hz (typ., CF 500 MHz)

Resolution and Video Bandwidths

Resolution Bandwidth (RBW) Range (-3 dB)	1 Hz to 10 MHz
FFT Filters	1 Hz to 30 kHz
Channel Filters	100 Hz to 5 MHz (including RRC filters)

Displayed Average Noise Level (DANL)

Displayed Average Noise Level (DANL)	-155 dBm (normalized to 1 Hz)
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Level Accuracy

Total Measurement Uncertainty	0.5 dB
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Measurement Functions and Detectors

Standard Measurement Functions	TOI, ACP(R), OBW, CCDF, APD, Fast ACP in time domain
Detectors	Includes quasi-peak detector for EMI bandwidths

Inputs and Outputs

RF Input Connector	N female
RF Input Impedance	50 Ω

Options and Upgrades

Firmware/Software Measurement Personalities	GSM/EDGE, Bluetooth, WCDMA/HSDPA/TD-SCDMA, CDMA2000/1xEV-DV/1xEV-DO, WLAN
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Frequency

Frequency Resolution	0.01 Hz
Reference Frequency Aging	1 x 10 ⁻⁶ /year (Standard), 1 x 10 ⁻⁷ /year (with Option FSP-B4)
Reference Frequency Output	10 MHz
Frequency Counter Resolution	Selectable from 0.1 Hz to 10 kHz

Bandwidth

Video Bandwidth (VBW)	1 Hz to 10 MHz
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Sweep

Sweep Time (Span > 0 Hz)	2.5 ms to 16000 s
Sweep Time (Zero Span)	1 μs to 16000 s

Amplitude & Level

Maximum DC Voltage	50 V
Maximum CW RF Power	+30 dBm (1 W)
Level Measurement Range	Displayed Average Noise Level to +30 dBm
1 dB Compression Point	+5 dBm (nominal, 0 dB RF attenuation)

Spurious Responses

Residual Responses	< -103 dBm (no signal at input, 0 dB RF attenuation)
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Trigger

Trigger Modes	Free run, video, external, IF power
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Bandwidths

EMI Bandwidths (-6 dB)	200 Hz, 9 kHz, 120 kHz, 1 MHz (CISPR compliant)
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Trace & Display

Number of Traces	3 per measurement window
Trace Functions	Clear/Write, Max Hold, Min Hold, Average, View
Logarithmic Level Display Units	dBm, dBμV, dBmV, dBμA, dBpW
Linear Level Display Units	μV, mV, V, μA, mA, A, pW, nW, μW, mW, W
Marker Functions	Peak, Next Peak, Marker to Center, Marker to Reference Level, Noise Marker, Phase Noise Marker, Frequency Counter

Inputs & Outputs

IF Output Frequency	21.4 MHz
IF Output Connector	BNC (female), 50 Ω
Reference I/O Connectors	BNC (female), 50 Ω
AF / Demodulator Output	AM/FM demodulator, built-in speaker and headphone jack

Environmental

Storage Temperature Range	-40 °C to +70 °C
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TECHNOLOGY

Spectrum Analysis

APPLICATIONS

RF/Microwave development, production test, and communication standards analysis (GSM, Bluetooth, WCDMA, WLAN)

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