

ROHDE & SCHWARZ

SMP22

The Rohde & Schwarz SMP22 is a high-performance microwave signal generator designed for precise signal generation across a wide frequency range of 10 MHz to 20 GHz. Known for its outstanding spectral purity, high output power, and fast frequency switching speed, it serves as a reliable instrument for radar and communications equipment testing, EMC measurements, and general R&D laboratory applications.

SPECIFICATIONS

Frequency

Minimum Frequency	10 MHz Hz
Maximum Frequency	20 GHz Hz
Frequency Resolution	0.1 Hz

Output

Phase Noise	<-105 dBc (1 Hz) at 10 kHz offset from 10 GHz carrier
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General

Reference Oscillator	10 MHz internal reference
Interfaces	GPIB (IEEE 488.2)
Display	Backlit LCD
Reference Output Frequency	10 MHz
Warm-up Time	10 min

Physical

Power Supply	100 V to 240 V AC, 47 Hz to 440 Hz
Dimensions (W×H×D)	435 mm x 147 mm x 570 mm mm
Weight	24 kg kg

Amplitude Specifications

Level Accuracy	<±0.9 dB at 0 dBm (10 MHz to 20 GHz)
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Sweep and Operating Modes

Setup Storage	50 complete instrument setups
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Hardware and Software Options

Optional Phase Modulator	Available via option SMP-B5
Optional Pulse Modulator	Available via options SMP-B2/B3
Optional Pulse Generator	Available via option SMP-B4

System Connectivity and Interfaces

RF Output Connector	PC 3.5 mm (female)
RF Output Impedance	50 ohms

Physical and Environmental Specifications

Operating Temperature Range	0 °C to +55 °C
Storage Temperature Range	-40 °C to +70 °C

Power Requirements

Power Consumption	approx. 150 W
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Spectral Purity

Non-Harmonic Spurious	<-60 dBc (at > 10 kHz offset from carrier)
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Level

Level Resolution	0.1 dB
Output SWR	< 1.5 (for f < 2 GHz), < 2.0 (for f >= 2 GHz)

Pulse Generator (Option SMP-B12)

Pulse Generator Pulse Width Range	20 ns to 85 s
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Frequency Modulation (FM)

Maximum FM Deviation	5 MHz (at 12.4 GHz to 20 GHz carrier)
FM Bandwidth	DC to 2 MHz (DC-coupled), 10 Hz to 2 MHz (AC-coupled)

Amplitude Modulation (AM)

AM Depth Range	0% to 99%
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Phase Modulation (Option SMP-B15)

Maximum Phase Deviation	10 rad (normal mode), 100 rad (high-deviation mode)
Phase Modulation Bandwidth	DC to 100 kHz

Sweep Modes

Ramp Sweep Time Range	10 ms to 100 s
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System & Interfaces

Command Set	SCPI
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High Output Power (Option SMP-B11)

Max Output Power with Option SMP-B11	> +20 dBm (up to 18 GHz), > +18 dBm (18 GHz to 20 GHz)
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Power Supply

AC Supply Voltage Range	100 V to 240 V AC (nominal, 90 V to 265 V operating)
AC Supply Frequency Range	47 Hz to 440 Hz

TECHNOLOGY

RF and Microwave Signal Generator

APPLICATIONS

Radar Testing, Communications Equipment, EMC, R&D Calibration

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