

ROHDE & SCHWARZ

SMY01

The Rohde & Schwarz SMY01 is a cost-effective RF signal generator covering the frequency range from 9 kHz to 1040 MHz. Designed for universal use in laboratory, production, and servicing environments, the SMY01 offers high level accuracy, low SSB phase noise, and versatile analog modulation capabilities including AM, FM, and phase modulation. With an integrated AF synthesizer spanning 1 Hz to 500 kHz and support for automatic test systems via its GPIB interface, the SMY01 provides excellent price-to-performance for testing receivers and RF components.

SPECIFICATIONS

Frequency

Minimum Frequency	9 kHz Hz
Maximum Frequency	1040 MHz Hz
Frequency Resolution	1 Hz

Output

Maximum Output Power	13 dBm dBm
Output Power Range	-140 dBm to +13 dBm (up to +19 dBm overrange)
Phase Noise	-114 dBc/Hz (at 20 kHz offset, 1 GHz carrier)

Modulation

Modulation	AM, FM, Phase Modulation (ϕ M)
Sweep Modes	RF Sweep
AM Distortion	< 1% (at 30% AM, $f_{\text{mod}} = 1$ kHz)
FM Distortion	< 0.5% (at 100 kHz deviation, $f_{\text{mod}} = 1$ kHz)
Internal Modulation Frequencies	400 Hz / 1 kHz standard; 1 Hz to 500 kHz (with Option SMY-B2)

General

Reference Oscillator	TCXO (Standard): < 1×10^{-6} /year aging; OCXO (Option SMY-B1): < 1×10^{-9} /day aging
Interfaces	GPIB (IEC625/IEEE488), SEQ input
Display	LCD

Physical

Power Supply	100 V / 120 V / 220 V / 240 V $\pm$ 10% (selectable), 47 Hz to 440 Hz
Dimensions (W×H×D)	435 mm x 147 mm x 350 mm mm
Weight	12 kg kg

Frequency Specifications

Frequency Range	9 kHz to 1040 MHz
FM Bandwidth	2 MHz (for fast FSK and telemetry applications)

Amplitude Specifications

Amplitude Level Range	-140 dBm to +13 dBm
Overrange Output Level	+19 dBm
Non-interrupting Level Setting Range	20 dB

Spectral Purity

SSB Phase Noise	-114 dBc/Hz (at 20 kHz offset, 1 GHz carrier)
Harmonics	< -30 dBc (for output levels < 10 dBm)
Non-harmonics	< -70 dBc (> 50 kHz offset from carrier)

Analog Modulation

Modulation Generator Range	1 Hz to 500 kHz
FM-DC Maximum Deviation	up to 800 kHz

Sweep and Operating Modes

Operating Modes	AM, FM, Phase Modulation, FM-DC, RF Sweep, Sequence function
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System Connectivity and Interfaces

Remote Control Interface	IEC625 / IEEE488
Sequence Input Connector	SEQ input

Level

Level Resolution	0.1 dB
Level Error	< 1 dB (for levels > -127 dBm)

Protection

Overvoltage Protection	Max. 50 W from a 50 Ω source, max. 35 V DC
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Power

Power Consumption	65 VA max. (typical 45 W)
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RF Output

Output Impedance	50 Ω
VSWR	< 1.5 (for levels < 0 dBm), < 1.8 (for levels > 0 dBm)
RF Output Connector	N-female, front-panel

Amplitude Modulation

AM Modulation Depth Range	0% to 100%
AM External Input Impedance	100 k Ω

Frequency Modulation

FM External Input Impedance	100 k Ω
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Reference Frequency

Reference Input Frequency	10 MHz
Reference Output Frequency	10 MHz
Standard Reference Oscillator Aging	< 1 × 10 ⁻⁶ / year
Optional OCXO Reference Aging (Option SMY-B1)	< 1 × 10 ⁻⁹ / day

Environmental

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

Standards

EMC Compliance	MIL-STD-461B, VDE 0871 Class B
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TECHNOLOGY

RF Signal Generator

APPLICATIONS

Receiver testing (AM, FM, phase modulation, stereo), component measurements, VCO simulation, and general-purpose RF lab use

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