

ROHDE & SCHWARZ

SMT02

The Rohde & Schwarz SMT02 is a high-performance analog RF signal generator covering a frequency range of 5 kHz to 1.5 GHz. Designed to handle the complete spectrum of conventional receiver measurements, EMS testing, and specialized avionics/stereo application testing, the SMT02 is renowned for its exceptional signal quality, precise level accuracy, and versatile modulation modes, including broadband FM, phase modulation, and pulse modulation.

SPECIFICATIONS

Frequency

Minimum Frequency	5 kHz Hz
Maximum Frequency	1.5 GHz Hz
Frequency Resolution	0.1 Hz

Output

Maximum Output Power	+13 dBm dBm
Output Power Range	-144 dBm to +13 dBm

Modulation

Modulation	AM, FM, Phase Modulation (ϕ M), Pulse Modulation
Sweep Modes	RF, LF, Level

General

Reference Oscillator	10 MHz (TCXO standard, aging < 1 ppm/year; Option SM-B1 OCXO, aging < 1 x 10 ⁻⁹ /day)
Interfaces	GPIO (IEEE 488.2), RS-232
Display	Large, backlit LCD

Physical

Power Supply	100 V to 240 V AC, 47 Hz to 440 Hz
Dimensions (W×H×D)	435 mm × 147 mm × 460 mm mm
Weight	16 kg kg

Frequency Specifications

Frequency Range	5 kHz to 1.5 GHz
Internal Reference Frequency	10 MHz

Amplitude Specifications

Minimum Output Power	-144 dBm
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Analog Modulation

FM DC Carrier Accuracy	High carrier frequency accuracy maintained in FM DC mode
Modulation Modes	AM, FM, Phase Modulation (ϕ M), Pulse Modulation

Sweep and Operating Modes

External Frequency Response Compensation	Programmable level correction
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Hardware and Software Options

Stereo Generator Option	SM-B6 (for measurements on FM sound broadcast transmitters/receivers)
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System Connectivity and Interfaces

RF Shielding	Minimum RF leakage design
Display Type	Large, backlit LCD

Spectral Purity

Harmonics	<-30 dBc (for output levels < +10 dBm)
Non-harmonics	<-70 dBc (at >10 kHz offset, $f < 1.5$ GHz)

Amplitude Modulation

AM Depth Range	0% to 99%
AM Resolution	0.1%
AM Distortion	<1% (at 1 kHz, $m = 30\%$)

Level & Output

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

Internal Modulation Generator

Internal LF Generator Frequency Range	0.1 Hz to 500 kHz
Internal LF Generator Resolution	0.1 Hz

RF Output

Output Impedance	50 Ω
VSWR	< 1.5 (for RF levels < 0 dBm)
Reverse Power Protection	50 W (from 50 Ω source), 35 V DC max.

Level

Level Switching Time	< 25 ms
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Environmental

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

Power

Power Consumption	75 VA (typical), 150 VA (maximum)
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Phase

Phase Offset Adjustment	Adjustable in 1° steps
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Reference Oscillator

Reference Frequency Temperature Stability	< 2 × 10 ⁻⁶ (0 °C to +55 °C)
Reference Frequency Aging	< 1 × 10 ⁻⁶ / year (standard)
Option SMT-B1 Reference Aging	< 1 × 10 ⁻⁹ / day, < 1 × 10 ⁻⁷ / year

TECHNOLOGY

Analog RF Signal Generation

APPLICATIONS

Analog receiver measurements, EMS measurements, avionics and stereo broadcast transmitter/receiver testing

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