ROHDE & SCHWARZ

SMT03

The Rohde & Schwarz SMT03 is a versatile analog RF signal generator covering a frequency range from 5 kHz to 3 GHz. Designed for conventional analog receiver measurements and EMS (Electromagnetic Susceptibility) testing, it provides high signal quality, high level accuracy, and flexible sweep functions. The SMT03 supports standard AM, FM, Phase, and Pulse modulation, with broadband capabilities and specialized options for VOR/ILS avionics and stereo broadcast testing.

SPECIFICATIONS

Frequency

Minimum Frequency	5 kHz Hz
Maximum Frequency	3 GHz Hz
Frequency Resolution	0.1 Hz
Reference Oscillator Aging (Standard)	< 1 ppm / year
Reference Oscillator Aging (Option SM-B1)	< 1 x 10^-9 / day
Frequency Settling Time	< 10 ms

Output

Maximum Output Power	13 dBm dBm
Output Power Range	-144 dBm to +13 dBm
Phase Noise	< -122 dBc/Hz (at 1 GHz, 20 kHz offset)

Modulation

Modulation	AM, FM, Phase (ϕM), Pulse (VOR/ILS & Stereo by option)
Sweep Modes	RF, LF, Level sweep (programmable)
Amplitude Modulation Depth	0 to 100%
Internal LF Generator Frequency	0.1 Hz to 500 kHz
Internal LF Generator Resolution	0.1 Hz

General

Reference Oscillator	TCXO (Standard), OCXO (Option SM-B1)
Interfaces	IEEE-488 (GPIB)
Display	Large, backlit LCD

Physical

Power Supply	100 to 120 V / 220 to 240 V AC, 47 to 440 Hz

Frequency Modulation (FM)

Broadband FM Range	DC to 8 MHz

RF Output and Level

Output Impedance	50 Ω

Interfaces and Connectivity

RF Output Connector	N female

Environmental and Compliance

Calibration Interval	3 years

Output Level

Level Resolution	0.1 dB

Spectral Purity

Harmonics	< -30 dBc (output level <= +10 dBm)
Subharmonics	None (f <= 1.5 GHz), < -40 dBc (f > 1.5 GHz)
Non-Harmonic Spurious Signals	< -70 dBc (f <= 1.5 GHz), < -64 dBc (f > 1.5 GHz) at > 10 kHz offset

Output Power

Level Settling Time	< 10 ms
Maximum DC Voltage at RF Output	50 V

Inputs & Outputs

External Reference Input Frequency	10 MHz
Reference Frequency Output	10 MHz

Environmental

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

TECHNOLOGY

RF Signal Generation

APPLICATIONS

Receiver Measurements, EMS Testing, Avionics (VOR/ILS), FM Sound Broadcast Testing