

ROHDE & SCHWARZ

SMC100A

The Rohde & Schwarz SMC100A is an exceptionally compact and cost-effective analog RF signal generator. Operating in the frequency range from 9 kHz to 1.1 GHz or 3.2 GHz, it delivers outstanding signal purity, fast frequency/level switching, and integrated AM/FM/φM/pulse modulation capabilities. It is ideally optimized for service, education, and field operations, offering self-test capabilities and user-replaceable modules to minimize total cost of ownership.

SPECIFICATIONS

Frequency

Minimum Frequency	9 kHz Hz
Maximum Frequency	3.2 GHz (option-dependent) Hz
Frequency Options	R&S@SMC-B101 (9 kHz to 1.1 GHz), R&S@SMC-B103 (9 kHz to 3.2 GHz)
Frequency Setting Time	< 5 ms
Reference Frequency Nominal Value	10 MHz
Reference Frequency Temperature Stability (Standard)	$\pm 1 \times 10^{-6}$
Reference Frequency Aging Rate per Year (Standard)	$\pm 1 \times 10^{-6}$
External Reference Input Frequency	10 MHz

Output

Maximum Output Power	+17 dBm (typical) dBm
Phase Noise	typ. -111 dBc/Hz at 20 kHz offset (1 GHz carrier)

Modulation

Modulation	AM, FM, φM, pulse modulation
External Modulation Input Impedance	100 kOhm (nominal)

General

Reference Oscillator	10 MHz (optional high-stability OCXO available)
Interfaces	USB host, USB device, LAN (optional GPIB)

Physical

Power Supply	100 V to 240 V AC, 50 Hz to 60 Hz / 400 Hz
Weight	3.9 kg kg

Level and Amplitude

Specified Level Range	–120 dBm to +13 dBm
Level Setting Time	< 5 ms
Level Uncertainty	< 0.9 dB
Output Impedance	50 Ω
Electronic Attenuator	Wear-free electronic
Over-voltage Protection	Integrated (up to 50 W reverse power, 50 V DC)
Level Calibration Support	Repeatability and accuracy verification via R&S®NRP-Z91/-Z92 power sensors

Spectral Purity

Harmonics	<-30 dBc (for levels < +10 dBm)
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Frequency Modulation (FM)

FM Operating Modes	Internal, external, internal + external
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Amplitude Modulation (AM)

AM Operating Modes	Internal, external, internal + external
AM Depth Range	0% to 100%

Phase Modulation (PhiM)

Phase Modulation Operating Modes	Internal, external, internal + external
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Interfaces and Connectivity

RF Output Connector	N female, 50 Ω
USB Interface Ports	USB host (Type A), USB device (Type B)

General, Environmental and Physical

Operating Temperature Range	0 °C to +55 °C
Form Factor	½ x 19", 2 height units (2U)

Interfaces & Software

SCPI Compatibility	SCPI 1999.0 compliant
LXI Compliance	LXI Class C

User Interface

Display Type	Color LCD
Display Resolution	320 x 240 pixels

Power Supply

AC Input Voltage Range	100 V to 240 V AC
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Service & Reliability

Recommended Calibration Interval	3 years
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Interfaces & Connectivity

Power Sensor Compatibility	Direct connection of R&S NRP-Zxx USB power sensors
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TECHNOLOGY

RF Signal Generator

APPLICATIONS

Service, maintenance, training, education, and field 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.