

ROHDE & SCHWARZ

SMA100A

The Rohde & Schwarz SMA100A is a premium analog signal generator designed for development, production, and service environments. Operating from 9 kHz up to 6 GHz, it combines excellent signal purity with exceptionally fast setting times. It supports CW, AM, FM, Phase, and Pulse modulation, with available options for high-speed DDS frequency hopping and an independent low-jitter clock synthesizer.

SPECIFICATIONS

Frequency

Minimum Frequency	9 kHz Hz
Maximum Frequency	6 GHz Hz
Frequency Resolution	0.01 Hz
Frequency Setting Time	< 3 ms (across entire frequency range)
Frequency Options	9 kHz to 3 GHz (Option SMA-B103) / 9 kHz to 6 GHz (Option SMA-B106)

Output

Maximum Output Power	+18 dBm (standard, typical up to 3 GHz) / +28 dBm (typical, with high power option) dBm
Output Power Range	-120 dBm to +18 dBm (standard, configuration dependent); up to +28 dBm typical with high-power options
Phase Noise	typ. -135 dBc/Hz (at 1 GHz carrier, 20 kHz offset)

Modulation

Modulation	AM, FM, Phase (ϕ M), Pulse, CW
Amplitude Modulation (AM) Depth	0 % to 100 %

General

Interfaces	GPIO, LAN, USB
Display	Graphical UI with signal flow block diagram
Recommended Calibration Interval	3 years

Physical

Power Supply	100 V to 240 V AC, 50 Hz to 60 Hz; 100 V to 120 V AC, 400 Hz
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Level / Amplitude

Electronic Attenuator	Built-in over entire frequency range
Overvoltage Protection	Built-in over entire frequency range

Spectral Purity

Non-harmonics / Spurious	typ. -100 dBc
Harmonics	<-30 dBc

Pulse Modulation

On/Off Ratio	> 80 dB
Rise/Fall Time	typ. 10 ns

Internal Modulation Generator (LF)

Frequency Range	Up to 1 MHz (standard), up to 10 MHz (with SMA-K24 multifunction option)
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Front & Rear Panel Interfaces

Remote Control Interfaces (LAN/GPIB/USB)	LAN, GPIB, USB (Host/Device)
USB Host Ports	Provided for keyboard, mouse, memory stick

Options & Enhancements

Low-Jitter Clock Synthesizer Option	Up to 1.5 GHz differential clock signals (with R&S SMA-B29)
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Software & Control

Command Set	Selectable SCPI- or 8662A/63A-compatible IEC/IEEE
Remote Operation Tool	VNC Supported

Level Performance

Level Resolution	0.01 dB
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Inputs & Outputs

RF Output Connector	N female
Reference Frequency Input	BNC female
Reference Frequency Output	BNC female (10 MHz)

Environmental

Operating Temperature Range	0 °C to +55 °C
Storage Temperature Range	-40 °C to +71 °C

Outputs

Output Impedance	50 Ω
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Compliance

Safety Standards	IEC/EN 61010-1, UL 61010-1, CAN/CSA-C22.2 No. 61010-1
EMC Compliance	EN 61326-1 (industrial environment), EN 55011 Class A

TECHNOLOGY

Analog Signal Generation

APPLICATIONS

RF and Microwave Test & Measurement, Component Testing, Receiver Testing, Production, Service

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