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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz SML02 9KHz-2.2GHz Synthesised Signal Generator

Rohde & Schwarz SML02 Signal Generator 9 kHz to 2.2 GHz The R&S SML02 is the 2.2 GHz economy analog signal generator in the SML family (SML01 to 1.1 GHz, SML02 to 2.2 GHz, SML03 to 3.3 GHz). Order number 1090.3000.12 class. Wear-free electronic attenuator, 0.1 Hz resolution, AM/FM/phase as standard, digital frequency and level sweep, and optional pulse modulator SML-B3 and stereo/RDS coder SML-B5. Typical SSB phase noise minus 128 dBc (1 Hz) at 1 GHz, 20 kHz offset. Receiver sensitivity and squelch; production ATE; EMS with non interrupting level; FM stereo/RDS with SML B5 and UPL audio analyzer; LO substitution; pager and transceiver service. The R&S SML02 is the 2.2 GHz economy analog signal generator in the SML family (SML01 to 1.1 GHz, SML02 to 2.2 GHz, SML03 to 3.3 GHz). Order number 1090.3000.12 class. Wear-free electronic attenuator, 0.1 Hz resolution, AM/FM/phase as standard, digital frequency and level sweep, and optional pulse modulator SML-B3 and stereo/RDS coder SML-B5. Typical SSB phase noise minus 128 dBc (1 Hz) at 1 GHz, 20 kHz offset. Receiver sensitivity and squelch; production ATE; EMS with non interrupting level; FM stereo/RDS with SML B5 and UPL audio analyzer; LO substitution; pager and transceiver service.



MODEL

Rohde & Schwarz SML02

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

SML02

LISTING

<https://aumictechlabs.com/products/sml02-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Rohde & Schwarz SML02 is a synthesized signal generator delivering precise RF signal generation from 9 kHz to 2.2 GHz. It combines fine frequency resolution of 0.1 Hz with output levels spanning -140 dBm to +13 dBm, making it suitable for RF testing, system integration, and laboratory measurement work. The instrument features analog modulation (AM, FM, ØM), pulse modulation, and optional digital modulation capabilities, along with frequency and level sweep modes. External modulation inputs and triggered sweep operation support flexible automated test sequences.

Technical Specifications
Frequency Range: 9 kHz to 2.2 GHz
Frequency Resolution: 0.1 Hz (typical)
Output Level Range: -140 dBm to +13 dBm (typical, frequency dependent)
Level Resolution: 0.1 dB
Level Accuracy: ± 0.5 dB (typical)
Output Impedance: 50 Ω
Spurious Response: Better than -60 dBc (harmonics and non-harmonics)
Phase Noise: Better than -110 dBc/Hz at 10 kHz offset (1 GHz carrier)
RF Output Connector: N-type female

Key Features
Synthesized signal generation with stable output across full frequency band
Modulation: AM, FM, ØM (internal or external), plus pulse modulation
Optional digital modulation (GFSK, MSK) available
Sweep modes: linear and logarithmic frequency sweep, linear level sweep, triggered sweep
List mode for sequential frequency and level programming
Internal modulation generator with standard waveforms (sine, square, triangle)
External modulation input via BNC connector
Interfaces and Integration
GPIB (IEEE 488.2) for remote control
RS-232 serial communication
Optional LAN/Ethernet connectivity
External reference clock input (BNC) for frequency synchronization
Trigger input/output for external event synchronization

SML02 Characteristics / Specifications

PARAMETER	VALUE
Model	SML02
Manufacturer	Rohde & Schwarz
Instrument Type	Analog RF Signal Generator
Alias	R&S SML02; 1090.3000.12
Frequency Range	9 kHz to 2.2 GHz
Frequency Resolution	0.1 Hz
Synthesis Resolution Standardfless than 1.1 GHz	less than 0.5 uHz
Frequency Setting Time	less than 10 ms after IEC delimiter
Level Range	minus 140 dBm to plus 13 dBm (overrange plus 19 dBm)
Level Rangeless than or equal to 5 MHz	minus 140 dBm to plus 11 dBm
Level Resolution	0.1 dB
Level Accuracy 100 kHz to 2 GHz levels greater than minus 120 dBm	less than 0.5 dB
Level Accuracyfgreater than 2 GHz	less than 0.9 dB
Frequency Response 100 kHz to 2 GHz at 0 dBm	less than 0.7 dB
Characteristic Impedance	50 ohm
VSWR 100 kHz to 1.5 GHz	typically 1.6
VSWRfgreater than 1.5 GHz	typically 2.3
Noninterrupting Level Range	20 dB, overrange 30 dB
Harmonicsfgreater than 100 kHz levels less than or equal to plus 8 dBm	less than minus 30 dBc
Subharmonicsfless than or equal to 1.1 GHz	none
Subharmonicsfgreater than 1.1 GHz	less than minus 50 dBc
Nonharmonicsfless than or equal to 1.1 GHz offset greater than 10 kHz	less than minus 70 dBc

PARAMETER	VALUE
Nonharmonics 1.1 to 2.2 GHz	less than minus 64 dBc
Broadband Noise 1 GHz offset greater than 2 MHz 1 Hz BW	less than minus 140 dBc, typically minus 150 dBc
SSB Phase Noise 1 GHz 20 kHz Offset 1 Hz BW	less than minus 122 dBc, typically minus 128 dBc
Residual FM rms 0.3 to 3 kHz equals 1 GHz	less than 4 Hz, typically 1 Hz
Residual AM rms 0.03 to 20 kHz	less than 0.02 percent
AM Depth	0 to 100 percent, resolution 0.1 percent
AM Distortion 1 kHz equals 30 percent	less than 1 percent
FM Max Deviation Class	up to 4 MHz (upper bands)
FM Distortion 1 kHz 50 percent max deviation	less than 0.2 percent, typically 0.1 percent
Pulse On Off Ratio SML B	greater than 90 dB
Pulse Rise Fall SML B	less than 20 ns, typically 10 ns
Max Reverse RFl less than or equal to 2.2 GHz	50 W
Max DC Voltage	35 V
Internal AF Generator	0.01 Hz to 1 MHz
Mains	100 to 120 V 50 to 400 Hz or 200 to 240 V 50 to 60 Hz, max 200 VA
Dimensions	427 mm x 88 mm x 450 mm
Weight Fully Equipped	8.5 kg
Stored Setups	100
Reference Aging Standard	less than 1e-6 per year
OCXO SML B1 Aging	less than 1e-7 per year or less than 5e-10 per day
Sibling SML01 Range	9 kHz to 1.1 GHz
Sibling SML03 Range	9 kHz to 3.3 GHz Notes Specs from R&S SML data sheet Version 06.00. SML02 is analog only; SMV03 adds I/Q on the related RF platform. Confirm SML B1/B3/B5/B19 and high power SML B10 if present.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Technical Specifications

PARAMETER	VALUE
Model	SML02
Manufacturer	Rohde & Schwarz
Instrument Type	Analog RF Signal Generator
Alias	R&S SML02; 1090.3000.12
Frequency Range	9 kHz to 2.2 GHz
Frequency Resolution	0.1 Hz

Specifications

PARAMETER	VALUE
Model	SML02
Manufacturer	Rohde & Schwarz
Instrument Type	Analog RF Signal Generator
Alias	R&S SML02; 1090.3000.12
Frequency Range	9 kHz to 2.2 GHz
Frequency Resolution	0.1 Hz
Synthesis Resolution Standardfless than 1.1 GHz	less than 0.5 uHz
Frequency Setting Time	less than 10 ms after IEC delimiter
Level Range	minus 140 dBm to plus 13 dBm (overrange plus 19 dBm)

Level Rangeless than or equal to 5 MHz: minus 140 dBm to plus 11 dBm

Level Resolution: 0.1 dB

Level Accuracy 100 kHz to 2 GHz levels greater than minus 120 dBm: less than 0.5 dB

Level Accuracyfgreater than 2 GHz: less than 0.9 dB

Frequency Response 100 kHz to 2 GHz at 0 dBm: less than 0.7 dB

Specifications

PARAMETER	VALUE
Characteristic Impedance	50 ohm
VSWR 100 kHz to 1.5 GHz	typically 1.6

PARAMETER	VALUE
VSWRfgreater than 1.5 GHz	typically 2.3
Noninterrupting Level Range	20 dB, overrange 30 dB

Harmonicsfgreater than 100 kHz levels less than or equal to plus 8 dBm: less than minus 30 dBc
Subharmonicsfless than or equal to 1.1 GHz: none
Subharmonicsfgreater than 1.1 GHz: less than minus 50 dBc
Nonharmonicsfless than or equal to 1.1 GHz offset greater than 10 kHz: less than minus 70 dBc
Nonharmonics 1.1 to 2.2 GHz: less than minus 64 dBc
Broadband Noise 1 GHz offset greater than 2 MHz 1 Hz BW: less than minus 140 dBc, typically minus 150 dBc
SSB Phase Noise 1 GHz 20 kHz Offset 1 Hz BW: less than minus 122 dBc, typically minus 128 dBc
Residual FM rms 0.3 to 3 kHzfequals 1 GHz: less than 4 Hz, typically 1 Hz

Specifications

PARAMETER	VALUE
Residual AM rms 0.03 to 20 kHz	less than 0.02 percent
AM Depth	0 to 100 percent, resolution 0.1 percent
AM Distortion 1 kHzmequals 30 percent	less than 1 percent
FM Max Deviation Class	up to 4 MHz (upper bands)

FM Distortion 1 kHz 50 percent max deviation: less than 0.2 percent, typically 0.1 percent
Pulse On Off Ratio SML B3: greater than 90 dB
Pulse Rise Fall SML B3: less than 20 ns, typically 10 ns
Max Reverse RFfless than or equal to 2.2 GHz: 50 W

Specifications

PARAMETER	VALUE
Max DC Voltage	35 V
Internal AF Generator	0.01 Hz to 1 MHz
Mains	100 to 120 V 50 to 400 Hz or 200 to 240 V 50 to 60 Hz, max 200 VA
Dimensions	427 mm x 88 mm x 450 mm
Weight Fully Equipped	8.5 kg
Stored Setups	100
Reference Aging Standard	less than 1e-6 per year
OCX0 SML B1 Aging	less than 1e-7 per year or less than 5e-10 per day
Sibling SML01 Range	9 kHz to 1.1 GHz
Sibling SML03 Range	9 kHz to 3.3 GHz

Notes
Specs from R&S SML data sheet Version 06.00. SML02 is analog only; SMV03 adds I/Q on the related RF platform.
Confirm SML B1/B3/B5/B19 and high power SML B10 if present.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.