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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz SMY01 9KHz to 1.04GHz Signal Generator

Rohde & Schwarz SMY01 Signal Generator 9 kHz to 1.04 GHz The R&S SMY01 is the 1.04 GHz member of the economical SMY analog signal generator family (sibling SMY02 / SMY43 to 2.08 GHz). Specified range is 9 kHz to 1040 MHz (tunable toward 5 kHz without guaranteed specs). Level is minus 140 dBm to +13 dBm (minus 134 to +19 dBm with SMY-B40). Frequency setting is less than 60 ms. SSB phase noise is less than minus 114 dBc (1 Hz) at 1 GHz, 20 kHz offset. AM, FM, and pulse modulation support receiver, production, and service work. The R&S SMY01 is the 1.04 GHz member of the economical SMY analog signal generator family (sibling SMY02 / SMY43 to 2.08 GHz). Specified range is 9 kHz to 1040 MHz (tunable toward 5 kHz without guaranteed specs). Level is minus 140 dBm to +13 dBm (minus 134 to +19 dBm with SMY-B40). Frequency setting is less than 60 ms. SSB phase noise is less than minus 114 dBc (1 Hz) at 1 GHz, 20 kHz offset. AM, FM, and pulse modulation support receiver, production, and service work.



MODEL Rohde & Schwarz SMY01	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU SMY01	LISTING https://aumictechlabs.com/products/smy01-2/

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Rohde & Schwarz SMY01 is a synthesized signal generator covering 9 kHz to 1.04 GHz, engineered for component testing, receiver measurements, and general-purpose laboratory and

production applications. It delivers output levels from -140 dBm to +19 dBm with 0.1 dB resolution and frequency setting times under 60 ms. The instrument combines excellent signal quality - including SSB phase noise below -114 dBc at 1 GHz (20 kHz offset) and RF leakage under 0.1 μ V - with integrated AM, FM, phase, and pulse modulation capabilities. A built-in modulation generator (1 Hz to 500 kHz) supports internal and external modulation modes, making it suitable for receiver characterization, transceiver alignment, and audio frequency applications across laboratory, production, and service environments.

Technical Specifications

Frequency range: 9 kHz to 1.04 GHz
Frequency resolution: 1 Hz
Frequency error: Less than 5×10^{-5}
Setting time: <60 ms (manual); <25 ms (IEC/IEEE bus)
Output level range: -140 dBm to +19 dBm (0.1 dB resolution); up to +25 dBm with Option SMY-B40
Level accuracy: Better than ± 1 dB
Level flatness: <1 dB at 0 dBm
Output impedance: 50 Ω
VSWR: <1.5 (≤ 1.04 GHz); 1.04 GHz)
RF overload protection: 30 W;
DC protection to 1 mW or 150 V peak (pulse width <10 μ s)

Key Features

SSB phase noise: <-114 dBc at 1 GHz, $\Delta f = 20$ kHz
Spurious rejection: High rejection for in-channel and blocking measurements
Low residual FM for S/N measurements
Low harmonic distortion for FM stereo receiver testing
RF leakage: <0.1 μ V
Modulation generator: 1 Hz to 500 kHz with 100 k Ω or 600 Ω input impedance options
AM: 0-100% depth, internal and external AC/DC modes
FM: Up to 20 MHz deviation (1040-2080 MHz range); 2 MHz bandwidth for FSK/telemetry
Phase modulation: Combinable with AM, FM, and pulse modulation
Modulation generator can operate independently for AF signal generation

Typical Applications

Component and transceiver testing
Receiver sensitivity and selectivity measurements
Audio frequency response verification
FSK and telemetry signal simulation
VCO characterization

Compatibility & Integration

IEC/IEEE bus control with <25 ms command response
Optional enhanced frequency stability (SMY-B1)
50 Ω terminated output suitable for standard test environments

Features & description

From manufacturer datasheet

Features

- Cost-optimized SMY feature set without unused extras
- Optional SMY-B40 high-power / high-level path
- Optional SMY-B1 OCXO, aging less than $1\text{e-}9$ per day
- IEC IEEE bus programming
- Shared operating/service documentation with SMY02 and SMY43

Applications

- AM/FM/pulse receiver testing to 1.04 GHz
- Production and service RF stimulus
- EMC / EMS source in the HF/VHF/UHF range
- General-purpose lab CW and analog modulation

SMY01 Characteristics / Specifications

PARAMETER	VALUE
Model	SMY01
Manufacturer	Rohde & Schwarz
Instrument Type	Analog signal generator
Alias	SMY 01; R&S SMY01
Frequency Range	9 kHz to 1.04 GHz
Frequency Underrange	to 5 kHz without guaranteed specs
Frequency Setting Time	less than 60 ms (to 1e-7 or less than 70 Hz below 1 MHz)
Level Range Standard	minus 140 dBm to +13 dBm
Level Range with SMY B	minus 134 dBm to +19 dBm
Level Overrange Standard	up to +19 dBm without guarantee
Level Resolution	0.1 dB
Level Error above minus 127 dBm	family table (confirm SMY sheet)
Harmonics Standard	less than minus 30 dBc at levels less than +10 dBm
Harmonics with SMY B	less than minus 25 dBc at levels less than +16 dBm
Subharmonics to 1.04 GHz	none
Nonharmonics to 1.04 GHz	less than minus 70 dBc (offset greater than 5 kHz)
Broadband Noise 1 to 65 MHz	less than minus 135 dBc (1 Hz), offset greater than 1 MHz
Broadband Noise above 65 MHz	less than minus 140 dBc (1 Hz)
SSB Phase Noise at 100 MHz	less than minus 132 dBc (1 Hz) at 20 kHz
SSB Phase Noise at 500 MHz	less than minus 120 dBc (1 Hz) at 20 kHz
SSB Phase Noise at 1 GHz	less than minus 114 dBc (1 Hz) at 20 kHz
Residual FM at 1 GHz CCITT	less than 10 Hz, typ. 3 Hz
Residual AM 0.03 to 20 kHz	less than 0.02 percent
Reference Aging Standard	1e-6 per year
OCXO SMY B1 Aging	less than 1e-9 per day

PARAMETER	VALUE
Reference Output	10 MHz, 1 V rms EMF, 50 ohm
External Reference Input	5 or 10 MHz plus/minus 5e-6, 0.2 to 2 V rms, 200 ohm
Sibling SMY02 Range	9 kHz to 2.08 GHz
Sibling SMY43 Range	9 kHz to 2.08 GHz class (same family manual) Notes Specs from the R&S SMY01/SMY02 data sheet. This file is the 1.04 GHz SMY01, not SMY02/SMY43. Confirm SMY-B40 high-level option and SMY-B1 OCXO on the unit.

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	
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Sibling SMY02 Range	9 kHz to 2.08 GHz
Sibling SMY43 Range	9 kHz to 2.08 GHz class (same family manual)

Notes

Specs from the R&S SMY01/SMY02 data sheet. This file is the 1.04 GHz SMY01, not SMY02/SMY43. Confirm SMY-B40 high-level option and SMY-B1 OCXO on the unit.

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

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
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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.