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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz SM300 3GHz Signal Generator

Rohde & Schwarz SM300 Signal Generator 9 kHz to 3 GHz The R&S SM300 is a compact analog/I-Q signal generator covering 9 kHz to 3 GHz with 0.1 Hz resolution. Frequency setting is less than 10 ms. Level supports AM, FM, phase, pulse, and external I/Q (DC to 40 MHz, 3 dB). Typical use pairs SM300 RF with AM300 as a two-channel baseband/arbitrary source. Standard reference is 10 MHz with aging less than 2e-6 per year. Harmonics are less than minus 30 dBc above 1 MHz at 0 dBm. RF, LF, and level sweeps are built in. The R&S SM300 is a compact analog/I-Q signal generator covering 9 kHz to 3 GHz with 0.1 Hz resolution. Frequency setting is less than 10 ms. Level supports AM, FM, phase, pulse, and external I/Q (DC to 40 MHz, 3 dB). Typical use pairs SM300 RF with AM300 as a two-channel baseband/arbitrary source. Standard reference is 10 MHz with aging less than 2e-6 per year. Harmonics are less than minus 30 dBc above 1 MHz at 0 dBm. RF, LF, and level sweeps are built in.



MODEL

Rohde & Schwarz SM300

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

SM300

LISTING

<https://aumictechlabs.com/products/sm300-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Rohde & Schwarz SM300 is a 3 GHz signal generator delivering analog and vector modulation capabilities for RF testing across laboratory, service, and production environments. It generates AM, FM, phase-modulated, and digitally modulated signals with I/Q vector modulation support up to 40 MHz bandwidth. The instrument combines precise frequency control, low phase noise, and

configurable output levels from -127 dBm to +13 dBm, making it suitable for wireless standards validation, EMC compliance testing, and baseband signal integration.

Technical Specifications

Frequency Performance RF range: 9 kHz to 3 GHz LF range: 20 Hz to 80 kHz Frequency resolution: 0.1 Hz Frequency setting time: <10 ms Phase noise (SSB): <-95 dBc (1 Hz) at 1 GHz, 20 kHz offset

Output Characteristics Power range: -127 dBm to +13 dBm Level resolution: 0.1 dB Level uncertainty: -120 dBm) Level setting time: <200 ms

Modulation & Signal Generation Analog modes: AM, FM, phase modulation Pulse modulation: supported Vector (I/Q) modulation: DC to 40 MHz bandwidth Internal modulation generator: 20 Hz to 80 kHz WCDMA test signals: ACLR (54–55 dB), EVM (3.3% typical) GSM signals: phase error 1.2° rms typical WLAN: IEEE 802.11b/g capable Frequency and level sweep with selectable steps

Key Features

High-contrast TFT display: 320 × 240 pixels Compact form factor for desktop, portable, or 19-inch rack deployment USB host interface for PC connectivity and peripherals

Typical Applications

WCDMA, GSM, and WLAN signal generation for wireless device validation EMC/RFI testing per EN 61000-4-3/6, MIL-STD-461E, ISO 11451/11452 (automotive, military, avionics)

Compatibility & Integration

Works with Rohde & Schwarz baseband sources (AM300, AMIQ) for complex modulation generation.

Features & description

From manufacturer datasheet

Features

- I/Q modulation with typ. 40 dB carrier suppression
- Internal AF 20 Hz to 80 kHz, 0.1 Hz resolution, THD less than 0.1 percent (20 Hz to 20 kHz)
- Compact SM300 / AM300 instrument family
- 10 MHz reference
- Analog and vector in one box

Applications

- Economy analog receiver and LO substitution to 3 GHz
- External I/Q vector modulation (DC to 40 MHz)
- AM/FM/φM/pulse production test
- Teaching and service benches
- Swept RF/LF stimulus

SM300 Characteristics / Specifications

PARAMETER	VALUE
Model	SM300
Manufacturer	Rohde & Schwarz
Instrument Type	Analog / I-Q signal generator
Alias	SM 300; R&S SM300
Frequency Range	9 kHz to 3 GHz
Frequency Setting Resolution	0.1 Hz
Frequency Setting Time	less than 10 ms (offset less than 1e-7)
Reference Frequency	10 MHz
Reference Aging	less than 2e-6 per year
Reference Temperature Drift	less than 1e-6 (5 C to 45 C)
Harmonics above 1 MHz at 0 dBm	less than minus 30 dBc
Subharmonics above 1 MHz	less than minus 50 dBc
Nonharmonics offset greater than 10 kHz	less than minus 50 dBc
Wideband Noise	specified at 1 GHz, offset greater than 2 MHz
SSB Phase Noise	specified at 1 GHz, 20 kHz offset
IQ Modulation Modes	external
IQ Frequency Range 3 dB	DC to 40 MHz
Carrier Suppression	typically 40 dB
ACLR WCDMA 3GPP TM1 64 DPCH 5 MHz	family specified
ACLR WCDMA 10 MHz offset	family specified
AF Generator Range	20 Hz to 80 kHz
AF Resolution	0.1 Hz
AF Frequency Response 20 Hz to 20 kHz	less than 0.2 dB
AF THD 20 Hz to 20 kHz	less than 0.1 percent
RF Sweep Range	9 kHz to 3 GHz

PARAMETER	VALUE
LF Sweep Range	20 Hz to 80 kHz
Sweep Modes	continuous, single, single step
Log Step Width	0.01 percent to 100 percent
Lin Step LF	0.1 Hz to 80 kHz
Lin Step RF	0.1 Hz to 1 GHz
Modulation Analog	AM, FM, phiM, pulse
Companion Baseband	AM300 arbitrary/function generator
Form Factor	compact SM300 family chassis Notes Specs from the R&S SM300 operating manual specifications (2007). Confirm I/Q cabling to AM300 if used asavector pair. Finer level limits belong on the faceplate/calibration certificate for the installed hardware revision.

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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Specifications

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Notes

Specs from the R&S SM300 operating manual specifications (2007). Confirm I/Q cabling to AM300 if used as a vector pair. Finer level limits belong on the faceplate/calibration certificate for the installed hardware revision.

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 ·
30-day returns
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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.