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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz SMBV100A 9kHz to 6GHz Vector Signal Generator

Rohde & Schwarz SMBV100A Vector Signal Generator 9 kHz to 6 GHz The R&S SMBV100A is a mid-range vector signal generator (base 1407.6004.02) with RF options SMBV-B103 (9 kHz to 3.2 GHz CW; 1 MHz to 3.2 GHz I/Q) or SMBV-B106 (9 kHz to 6 GHz CW; 1 MHz to 6 GHz I/Q). Specified level is minus 120 dBm to +18 dBm PEP from 1 MHz to 6 GHz. Internal baseband bandwidth reaches 160 MHz; the I/Q modulator exceeds 500 MHz RF bandwidth for external wideband drive. Optional realtime baseband and ARB generate LTE, WLAN 802.11ac, HSPA+, GNSS, and other standards. The R&S SMBV100A is a mid-range vector signal generator (base 1407.6004.02) with RF options SMBV-B103 (9 kHz to 3.2 GHz CW; 1 MHz to 3.2 GHz I/Q) or SMBV-B106 (9 kHz to 6 GHz CW; 1 MHz to 6 GHz I/Q). Specified level is minus 120 dBm to +18 dBm PEP from 1 MHz to 6 GHz. Internal baseband bandwidth reaches 160 MHz; the I/Q modulator exceeds 500 MHz RF bandwidth for external wideband drive. Optional realtime baseband and ARB generate LTE, WLAN 802.11ac, HSPA+, GNSS, and other standards.



MODEL

**Rohde & Schwarz
SMBV100A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

SMBV100A

LISTING

<https://aumictechlabs.com/products/smbv100a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Rohde & Schwarz SMBV100A is a vector signal generator spanning 9 kHz to 6 GHz, engineered for RF testing, digital modulation simulation, and wireless communications development. It combines high spectral purity, rapid settling times, and flexible signal generation across CW and I/Q modes to support standards from GSM and LTE through WLAN and GNSS. The instrument delivers up to +24 dBm output power with -120 dBm to +24 dBm level range, 120 MHz internal RF bandwidth, and phase noise below -141 dBc at 20 kHz offset. An integrated arbitrary waveform generator with up to 256 Msamples memory, optional baseband generator, and pulse modulation capability enable complex signal creation for aerospace, defense, and general RF development.

Technical Specifications

Frequency Coverage CW mode: 9 kHz to 3.2 GHz or 9 kHz to 6 GHz (option-dependent) I/Q mode: 1 MHz to 3.2 GHz or 1 MHz to 6 GHz (option-dependent)

Frequency resolution: 0.001 Hz **Output Power Maximum:** Typically +24 dBm above 1 MHz; >+18 dBm (PEP) for 1 MHz < f ≤ 6 GHz **Level range:** -120 dBm to +24 dBm **Electronic attenuator** with integrated overvoltage protection **RF Bandwidth** Internal signal generation: Up to 120 MHz I/Q modulator: Exceeds 500 MHz; up to 160 MHz available with internal baseband generator **Spectral Performance** Harmonics: 1 MHz, CW, level ≤ 8 dBm) SSB phase noise: <-141 dBc (typ. -147 dBc) at 20 kHz offset, 1 Hz BW, 100 MHz CW **Wideband noise:** 5 dBm, >10 MHz offset, 1 Hz BW

Settling Performance CW mode (ALC ON): <3 ms I/Q mode (ALC ON): <5 ms **ALC table switching:** <2 ms **Post-trigger pulse response:** <1 ms

Key Features I/Q and pulse modulation supporting 3GPP LTE, HSPA+, GSM/EDGE, TD-SCDMA, WiMAX, WLAN 802.11ac, and GNSS Integrated 256 Msamples arbitrary waveform generator for extended test sequences Optional real-time baseband generator for custom digital modulations Multi-band waveform mode enabling fast test sequence switching External I/Q input for RF bandwidth exceeding 500 MHz

Typical Applications Wireless communications testing, aerospace and defense signal simulation, transceiver validation, GNSS receiver development, and general RF subsystem characterization.

Compatibility & Integration The SMBV100A accepts both internal baseband generation and external I/Q inputs, supporting integration into automated test systems and production environments.

Features & description

From manufacturer datasheet

Features

- Frequency setting 0.001 Hz; synthesis resolution 0.44 μ Hz nom. at 1 GHz
- Level setting 0.01 dB; ALC on CW settling less than 1.5 ms
- Optional SMBV-B1 / B1H OCXO
- ARB memory to 1 Gsample class
- SCPI / IEC IEEE / LAN / USB control

Applications

- Cellular, WLAN, Bluetooth, LoRa, and NFC receiver test
- Production ATE with sub-millisecond list-mode hops
- GNSS simulation (optional)
- Phase-coherent multi-box I/Q (SMBV-B90)
- Analog AM/FM/pulse plus vector/digital modulation

SMBV100A Characteristics / Specifications

PARAMETER	VALUE
Model	SMBV100A
Manufacturer	Rohde & Schwarz
Instrument Type	Vector signal generator
Alias	SMBV 100A; R&S SMBV100A
Order Number Base	1407.6004.02
Frequency Range B103 CW	9 kHz to 3.2 GHz
Frequency Range B106 CW	9 kHz to 6 GHz
Frequency Range I/Q	1 MHz to 3.2 GHz or 6 GHz
Frequency Setting Resolution	0.001 Hz
Frequency Settling CW ALC On	less than 1.5 ms
Frequency Settling I/Q ALC On	less than 3 ms
List Mode Settling	less than 1.0 ms
Specified Level 1 MHz to 6 GHz	minus 120 dBm to +18 dBm PEP
Setting Level 1 MHz to 6 GHz	minus 145 dBm to +30 dBm
Level Error 200 kHz to 3 GHz	less than 0.5 dB (+18 C to +33 C)
Level Error above 3 GHz	less than 0.9 dB
Level Setting Resolution	0.01 dB
Output VSWR above 200 kHz	less than 1.8
Harmonics above 1 MHz at 8 dBm	less than minus 30 dBc
Nonharmonics to 1.5 GHz	less than minus 70 dBc, typ. minus 84 dBc
SSB Phase Noise CW at 1 GHz	less than minus 122 dBc, typ. minus 128 dBc (1 Hz) at 20 kHz
SSB Phase Noise CW at 6 GHz	less than minus 106 dBc, typ. minus 112 dBc (1 Hz) at 20 kHz
Wideband Noise	less than minus 142 dBc (1 Hz), offset greater than 10 MHz
Internal RF Bandwidth	up to 160 MHz
External I/Q RF Bandwidth	greater than 500 MHz

PARAMETER	VALUE
Phase Offset Resolution	0.1 degree
RF Option 3.2 GHz	SMBV-B103 1407.9603.02
RF Option 6 GHz	SMBV-B106 1407.9703.02
OCXO Option	SMBV-B1 1407.8407.02
Phase Coherence Option	SMBV-B90 1407.9303.02
Bandwidth	up to 160 MHz

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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Notes
Specs from the R&S SMBV100A Vector Signal Generator data sheet. Confirm B103 versus B106 and baseband/GNSS licenses. This is SMBV100A, not the later SMBV100B.

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
NAICS 423690 · 811210 · 541380
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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.