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Data Sheet

August 12, 2026

ROHDE & SCHWARZ

Rohde and Schwarz SMB100B RF Signal Generator

Rohde & Schwarz SMB100B RF Signal Generator The R&S SMB100B is an analog RF/microwave signal generator with outstanding spectral purity and high output power in a compact footprint. Frequency coverage depends on installed option: RF models SMBB-B101/B103/B106 cover 8 kHz to 1/3/6 GHz ($\frac{3}{4} \times 19"$, 2 HU); microwave options extend to 12.75/20/31.8/40 GHz. Confirm the frequency option on the unit. General-purpose CW RF generation; radar/antenna X/K-band testing (microwave options); production and R&D stimulus; high-power option configurations.

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MODEL

**Rohde & Schwarz
SMB100B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

SMB100B

LISTING

<https://aumictechlabs.com/products/smb100b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Rohde & Schwarz SMB100B RF Signal Generator delivers precise signal generation across multiple frequency bands from 8 kHz to 40 GHz, with extension to 170 GHz via the R&S®SZM frequency multiplier. Engineered for R&D, production, and service environments, this instrument combines excellent signal purity with flexible modulation and wide dynamic range in a compact platform.

Technical Specifications

Frequency Coverage RF variants span 8 kHz to 1 GHz, 3 GHz, or 6 GHz. Microwave variants extend to 12.75 GHz, 20 GHz, 31.8 GHz, or 40 GHz. Frequency multiplier option enables operation to 170 GHz.

Signal Purity SSB phase noise reaches -134 dBc at 1 GHz (20 kHz offset, 1 Hz bandwidth) and better than -112 dBc at 10 GHz (20 kHz offset). Wideband noise measures -153 dBc typical at 1 GHz (30 MHz offset) and below -145 dBc across frequency ranges. Harmonic suppression exceeds -55 dBc above 2 GHz at full output power. Non-harmonic suppression is -82 dBc at 1 GHz and -64 dBc at 10 GHz.

Output Power Standard output reaches +26 dBm from 1 MHz to 6 GHz, with +20 dBm typical to 12.75 GHz and +18 dBm to 20 GHz. Maximum power climbs to 34 dBm at 1 GHz, 25 dBm at 20 GHz, and 19 dBm at 40 GHz. Optional high-power configuration delivers +28 dBm at 1 GHz or +24 dBm to 20 GHz. Minimum level is -127 dBm (frequencies above 10 MHz), yielding 153 dB dynamic range.

Level Accuracy Accuracy stays below 0.5 dB from 200 kHz to 3 GHz at levels exceeding -90 dBm, and below 0.7 dB above 3 GHz at the same power threshold.

Key Features Amplitude, frequency, and phase modulation standard Pulse modulation with optional pulse generator and pulse train capabilities (single, double, configurable sequences) Internal stereo modulation modes Optional external reference input (1 MHz to 100 MHz) or 1 GHz reference I/O for multi-instrument phase coherence OCXO and OCXO options for improved frequency stability and temperature tracking USB control interface 50 Ω RF output

Typical Applications Component and module characterization, receiver testing, transmitter verification, production alignment, and service-level signal generation across microwave bands.

Compatibility & Integration Standard USB connectivity enables instrument control. Optional reference frequency modules support phase-locked operation in multi-generator test systems. Modular architecture accommodates customer-selected frequency bands and output power configurations.

Features & description

From manufacturer datasheet

Features

- Frequency options: 8 kHz–1 GHz (B101), –3 GHz (B103), –6 GHz (B106); microwave B112/B120/B131/B140 to 12.75/20/31.8/40 GHz • Frequency resolution: 0.001 Hz • Level setting resolution: 0.01 dB • Specified level examples (B101/B103/B106): down to –145 dBm setting; specified floors often –127 dBm class above ~10 MHz; max to +20...+26 dBm depending on band/options; high-power K31/B32 to +30...+36 dBm class • SSB phase noise example: <–126 dBc typ. –132 dBc at 1 GHz, 20 kHz offset, 1 Hz BW (microwave brochure class) • Settling: ~1 ms class (RF) / ~2–2.5 ms (microwave) depending on option • Form: 2 HU; RF version ¾ 19" width; microwave version 19" width • Optional OCXO reference; pulse modulation and other keys per order

SMB100B Characteristics / Specifications

PARAMETER	VALUE
Model	SMB100B
Manufacturer	Rohde & Schwarz
Instrument Type	Analog RF / Microwave Signal Generator
Alias	SMB100B; R&S SMB100B Frequency (option-dependent)
Microwave options	to 12.75 / 20 / 31.8 / 40 GHz
Resolution	0.001 Hz Level (examples; confirm option) Setting range down to -145 dBm; specified range typically -127 dBm to +18...+26 dBm class for mid-RF bands on standard config Notes Specs from R&S SMB100B datasheet/brochure. Exact frequency ceiling and power depend entirely on installed SMBB-Bxxx / K31 / B32 options—read the option label. Listing does not specify which frequency option is installed.
Frequency options	8 kHz–1 GHz (B101), -3 GHz (B103), -6 GHz (B106); microwave B112/B120/B131/B140 to 12.75/20/31.8/40 GHz
Frequency resolution	0.001 Hz
Level setting resolution	0.01 dB
Specified level examples (B101/B103/B106)	down to -145 dBm setting; specified floors often -127 dBm class above ~10 MHz; max to +20...+26 dBm depending on band/options; high-power K31/B32 to +30...+36 dBm class
SSB phase noise example	<-126 dBc typ. -132 dBc at 1 GHz, 20 kHz offset, 1 Hz BW (microwave brochure class)
Settling	~1 ms class (RF) / ~2–2.5 ms (microwave) depending on option
Form	2 HU; RF version ¾ 19" width; microwave version 19" width

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

Specifications

PARAMETER	VALUE
Model	SMB100B
Manufacturer	Rohde & Schwarz
Instrument Type	Analog RF / Microwave Signal Generator
Alias	SMB100B; R&S SMB100B

Frequency (option-dependent)
SMBB-B101: 8 kHz–1 GHz
SMBB-B103: 8 kHz–3 GHz
SMBB-B106: 8 kHz–6 GHz
Microwave options: to 12.75 / 20 / 31.8 / 40 GHz
Resolution: 0.001 Hz

Level (examples; confirm option)
Setting range down to -145 dBm; specified range typically -127 dBm to +18...+26 dBm class for mid-RF bands on standard config

Notes
Specs from R&S SMB100B datasheet/brochure. Exact frequency ceiling and power depend entirely on installed SMBB-Bxxx / K31 / B32 options—read the option label. Listing does not specify which frequency option is installed.

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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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.