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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz SMR40 10MHz to 40GHz Signal Generator

Rohde & Schwarz SMR40 Microwave Signal Generator 10 MHz to 40 GHz The R&S SMR40 is the 40 GHz member of the SMR CW / pulse microwave generator family. Base coverage is 1 GHz to 40 GHz (order 1104.0002.40); option SMR-B11 extends the lower limit to 10 MHz. Specified maximum level without IF-input options is greater than +9 dBm from 30 GHz to 40 GHz (greater than +7 dBm with attenuator SMR-B17). Frequency resolution is 1 kHz standard, 0.1 Hz with SMR-B3. Pulse modulation is included; AM/FM and analog ramp sweep are options. The R&S SMR40 is the 40 GHz member of the SMR CW / pulse microwave generator family. Base coverage is 1 GHz to 40 GHz (order 1104.0002.40); option SMR-B11 extends the lower limit to 10 MHz. Specified maximum level without IF-input options is greater than +9 dBm from 30 GHz to 40 GHz (greater than +7 dBm with attenuator SMR-B17). Frequency resolution is 1 kHz standard, 0.1 Hz with SMR-B3. Pulse modulation is included; AM/FM and analog ramp sweep are options.



MODEL

Rohde & Schwarz SMR40

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

SMR40

LISTING

<https://aumictechlabs.com/products/smr40-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Rohde & Schwarz SMR40 is a microwave signal generator spanning 10 MHz to 40 GHz, engineered for receiver measurements, scalar network analysis, and demanding RF test scenarios

across aerospace, defense, and communications. It delivers exceptional spectral purity through advanced fractional-N frequency synthesis, with output power exceeding +9 dBm at 40 GHz and adjustable levels down to -130 dBm via optional RF attenuation. The instrument combines low SSB phase noise (< -83 dBc at 10 GHz, 10 kHz offset) with excellent spurious suppression and harmonic rejection - below -55 dBc from 30 MHz to 20 GHz, and below -40 dBc above 20 GHz.

Technical Specifications

Frequency Range: 10 MHz to 40 GHz
Frequency Resolution: 0.1 Hz
Output Power: Greater than +9 dBm at 40 GHz; adjustable with compensation above -20 dBm
Output Range (with optional attenuator): -130 dBm to +9 dBm
SSB Phase Noise: < -83 dBc (10 GHz, 10 kHz offset, CW, FM off, 1 Hz bandwidth)
Harmonics Suppression: < -55 dBc (30 MHz $< f \leq 20$ GHz); 20 GHz)
Non-Harmonics: < -60 dBc ($f \leq 20$ GHz); 20 GHz)

Key Features

Pulse Modulation (Standard): Internal pulse generator with on/off ratio better than 80 dB; rise/fall times shorter than 12 ns; widths to 25 ns
Optional Modulation (B5): AM/FM/LF generator (0.1 Hz to 10 MHz), FM bandwidth DC to 5 MHz, FSK data rates 0 to 2 MHz, ASK, scan, and phase modulation; all modes combinable
Sweep Capability (Standard): Digital RF, level, and frequency sweep; 10 user-selectable frequency markers
Optional Analog Sweep (B4): Synthesized ramp sweep to 600 MHz/ms ($f > 2$ GHz)
Operating Modes: Automatic, singleshot, manual, externally triggered
Calibration Cycle: 3 years

Typical Applications Receiver characterization, network scalar analysis, component testing, and system validation in microwave and millimeter-wave development and production environments.

Compatibility & Integration Highly configurable with optional modules including OCXO reference oscillator (Option B1) for enhanced frequency stability and aging performance.

Features & description

From manufacturer datasheet

Features

- Highest-frequency model in the SMR20/27/30/40 quartet (SMR50/60 are later pair)
- Standard pulse modulator, greater than 80 dB on/off
- Optional SMR-B5 AM (0 to 100 percent), FM DC to 5 MHz, FSK to 2 MHz
- Optional SMR-B4 ramp sweep min. 600 MHz/ms above 2 GHz
- 2.9 mm adapter supplied; 50 stored setups; 3-year calibration cycle

Applications

- 40 GHz CW and pulse stimulus for radar, satcom, and microwave components
- Receiver and power-sensor calibration
- Scalar network analysis with digital or optional analog ramp sweep
- IF upconversion of digitally modulated signals (SMR-B24)
- Compact 2 HU bench or rack source

SMR40 Characteristics / Specifications

PARAMETER	VALUE
Model	SMR40
Manufacturer	Rohde & Schwarz
Instrument Type	Microwave signal generator
Alias	SMR 40; R&S SMR40
Order Number	1104.0002.40
Frequency Range Standard	1 GHz to 40 GHz
Frequency Range with SMR B	10 MHz to 40 GHz
Frequency Resolution Standard	1 kHz
Frequency Resolution with SMR B	0.1 Hz
Frequency Setting Time	less than 10 ms + 2 ms/GHz
Maximum Level 1 GHz to 18 GHz	greater than +8 dBm (no attenuator)
Maximum Level 30 GHz to 40 GHz	greater than +9 dBm (no IF option, no attenuator)
Maximum Level with SMR B17 30 to 40 GHz	greater than +7 dBm
Minimum Level Standard	minus 20 dBm
Minimum Level with Attenuator	minus 130 dBm
Level Resolution	0.1 dB or 0.01 dB selectable
Level Error at 0 dBm above 20 GHz	less than 1.4 dB
Frequency Response at 0 dBm above 20 GHz	less than 0.7 dB, typ. less than 0.4 dB
Output Impedance	50 ohm
Output SWR	less than 2
SSB Phase Noise at 10 GHz	less than minus 83 dBc (1 Hz) at 10 kHz offset, CW
Harmonics to 20 GHz	less than minus 40 dBc
Subharmonics above 20 GHz	less than minus 30 dBc
Nonharmonics above 20 GHz	less than minus 54 dBc

PARAMETER	VALUE
Pulse On Off Ratio	greater than 80 dB
Pulse Rise Fall above 450 MHz	less than 12 ns
FM Maximum Deviation above 20 GHz	40 MHz (with SMR-B5)
Reference Aging Standard	1e-6 per year
Reference Aging OCXO SMR B	less than 1e-7 per year
Dimensions	427 × 88 × 450 mm
Weight Fully Equipped	less than 12 kg
Mains	100 to 120 V or 200 to 240 V autoranging, max 200 VA
RF Adapter Supplied	2.9 mm female
Operating Temperature	0 C to +55 C
Stored Setups	50 Notes Specs from the R&S SMR data sheet. This file is the 40 GHz SMR40. Confirm B11, B3, B17, and B5. SMR50/60 useadifferent order family (1134.9008.xx) and 1.85 mm class connectors.

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to +55 C
Operating Temperature	0 C to +55 C
Stored Setups	50 Notes Specs from the R&S SMR data sheet. This file is the 40 GHz SMR40. Confirm B11, B3, B17, and B5. SMR50/60 useadifferent order family (1134.9008.xx) and 1.85 mm class connectors.

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	SMR40
Manufacturer	Rohde & Schwarz
Instrument Type	Microwave signal generator
Alias	SMR 40; R&S SMR40
Order Number	1104.0002.40
Frequency Range Standard	1 GHz to 40 GHz
Frequency Range with SMR B11	10 MHz to 40 GHz
Frequency Resolution Standard	1 kHz
Frequency Resolution with SMR B3	0.1 Hz
Frequency Setting Time	less than 10 ms + 2 ms/GHz
Maximum Level 1 GHz to 18 GHz	greater than +8 dBm (no attenuator)
Maximum Level 30 GHz to 40 GHz	greater than +9 dBm (no IF option, no attenuator)
Maximum Level with SMR B17 30 to 40 GHz: greater than +7 dBm	
Specifications	
PARAMETER	VALUE
Minimum Level Standard	minus 20 dBm
Minimum Level with Attenuator	minus 130 dBm
Level Resolution	0.1 dB or 0.01 dB selectable
Level Error at 0 dBm above 20 GHz: less than 1.4 dB	
Frequency Response at 0 dBm above 20 GHz: less than 0.7 dB, typ. less than 0.4 dB	
Specifications	
PARAMETER	VALUE
Output Impedance	50 ohm
Output SWR	less than 2
SSB Phase Noise at 10 GHz	less than minus 83 dBc (1 Hz) at 10 kHz offset, CW

PARAMETER	VALUE
Harmonics to 20 GHz	less than minus 40 dBc
Subharmonics above 20 GHz	less than minus 30 dBc
Nonharmonics above 20 GHz	less than minus 54 dBc
Pulse On Off Ratio	greater than 80 dB
Pulse Rise Fall above 450 MHz	less than 12 ns
FM Maximum Deviation above 20 GHz	40 MHz (with SMR-B5)
Reference Aging Standard	1e-6 per year
Reference Aging OCXO SMR B1	less than 1e-7 per year
Dimensions	427 x 88 x 450 mm
Weight Fully Equipped	less than 12 kg
Mains	100 to 120 V or 200 to 240 V autoranging, max 200 VA
RF Adapter Supplied	2.9 mm female
Operating Temperature	0 C to +55 C
Stored Setups	50

Notes

Specs from the R&S SMR data sheet. This file is the 40 GHz SMR40. Confirm B11, B3, B17, and B5. SMR50/60 useadifferent order family (1134.9008.xx) and 1.85 mm class connectors.

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.