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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz SMIQ03B 300KHz to 3.3GHz Vector Signal Generator

Rohde & Schwarz SMIQ03B Vector Signal Generator 300 kHz to 3.3 GHz The R&S SMIQ03B is the 3.3 GHz member of the SMIQxxB vector signal generator family (order 1125.5555.03). Range is 300 kHz to 3.3 GHz with 0.1 Hz resolution. Level is minus 144 dBm to +10 dBm PEP (overrange to +16 dBm). Frequency settles in less than 3 ms (less than 500 μ s in list mode at or below 3.3 GHz). SSB phase noise is less than minus 126 dBc (1 Hz) at 1 GHz, 20 kHz offset (CW). Reverse-power protection is 50 W with 35 V DC on the RF port (02B/03B class). Broadband I/Q plus analog AM/FM/ ϕ M and a large digital-standard option set cover 2G/3G development and type approval. The R&S SMIQ03B is the 3.3 GHz member of the SMIQxxB vector signal generator family (order 1125.5555.03). Range is 300 kHz to 3.3 GHz with 0.1 Hz resolution. Level is minus 144 dBm to +10 dBm PEP (overrange to +16 dBm). Frequency settles in less than 3 ms (less than 500 μ s in list mode at or below 3.3 GHz). SSB phase noise is less than minus 126 dBc (1 Hz) at 1 GHz, 20 kHz offset (CW). Reverse-power protection is 50 W with 35 V DC on the RF port (02B/03B class). Broadband I/Q plus analog AM/FM/ ϕ M and a large digital-standard option set cover 2G/3G development and type approval.



MODEL

Rohde & Schwarz SMIQ03B

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

SMIQ03B

LISTING

<https://aumictechlabs.com/products/smiq03b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Rohde & Schwarz SMIQ03B is a vector signal generator engineered for precision generation of complex modulated signals across 300 kHz to 3.3 GHz. Built on digital signal processor (DSP) technology, it delivers high-fidelity analog and digital modulation with exceptional spectral purity and phase noise performance. The instrument addresses research, development, production, and type-approval testing with versatile signal generation and deterministic modulation control.

Technical Specifications

Frequency Performance
Frequency range: 300 kHz to 3.3 GHz
Frequency resolution: 0.1 Hz
Frequency setting time: <3 ms (without mechanical attenuator switching)
Fast restore mode (≤ 3.3 GHz): <500 μ s
Output Level
Output range: -140 dBm to +13 dBm (± 16 dBm with option)
Output resolution: 0.1 dB
Level setting time: 5 MHz offset): -136 dBc to -138 dBc typical across operating band
Broadband noise (vector modulation): -136 dBc to -140 dBc typical
Harmonics: -30 dBc; Non-harmonics: -60 dBc
Spurious components: <-74 dBc

Modulation Capabilities
Analog modulation: AM, FM, Pulse, Phase
Digital modulation: Multiple radio protocols via DSP technology
Simultaneous analog/digital modulation supported
Broadband I/Q modulator standard
Internal Modulation AF generator: 0.1 Hz to 1 MHz
Phase offset: 0.1° increments
Sweep functions: RF, AF, and level sweep (user-programmable); step sweep for frequency, power, and list modes
Stability
Time base aging: 1×10^{-6} /year (post 30-day operation); $< 1 \times 10^{-9}$ /day
Temperature stability (0°C to 50°C): 2×10^{-6}

Key Features
List mode trigger capability with <800 μ s response ($f \leq 3.3$ GHz)
IEEE-488 (GPIB) and RS-232 interfaces for remote control and external modulation data
Benchtop form factor
Maximum DC voltage rating: 35 V
Typical Applications
Radio protocol validation and simulation; development of DECT, GSM EDGE, PDC, PHS, NADC, and TETRA systems; laboratory characterization of receiver performance; manufacturing test of RF modules and subsystems.

Compatibility & Integration
Digital modulation options support DECT, GSM EDGE, PDC, PHS, NADC, and TETRA standards. GPIB/RS-232 connectivity enables integration into automated test environments.

Features & description

From manufacturer datasheet

Features

- Family siblings SMIQ02B/04B/06B to 2.2/4.4/6.4 GHz; SMIQU04 upgrade to 4.4 GHz
- Optional SM-B1 OCXO, aging less than 1e-9 per day
- Electronic attenuator mode: greater than 80 dB non-interrupting level
- Reverse-power protection 50 W; 35 V DC on the RF port
- Optional SMIQB60 ARB, fading, noise, BERT, digital standards

Applications

- Vector-modulated wireless receiver and component test to 3.3 GHz
- GSM, W-CDMA, CDMA2000, and other digital standards (options)
- Fading, AWGN, ARB, and BERT option benches
- Production ATE with list-mode hops
- Analog modulation and RF/AF/level sweep

SMIQ03B Characteristics / Specifications

PARAMETER	VALUE
Model	SMIQ03B
Manufacturer	Rohde & Schwarz
Instrument Type	Vector signal generator
Alias	SMIQ 03B; R&S SMIQ03B
Order Number	1125.5555.03
Frequency Range	300 kHz to 3.3 GHz
Frequency Resolution	0.1 Hz
Frequency Settling to 3.3 GHz	less than 3 ms
List Mode Settling to 3.3 GHz	less than 500 µs
Phase Offset Step	0.1 degree
Level Range	minus 144 dBm to +10 dBm PEP
Level Overrange	up to +16 dBm without guarantee
Level Resolution	0.1 dB or 0.01 dB
Level Error to 2.5 GHz	less than 0.5 dB (above minus 127 dBm, CW)
Output Impedance	50 ohm
VSWR to 2.2 GHz at minus 3 dBm	less than 1.8
Level Settling Electronic Att	less than 2.5 ms
Reverse RF Power	50 W (02B/03B class)
Reverse DC Voltage	35 V (02B/03B class)
Harmonics at 7 dBm	less than minus 30 dBc
SSB Phase Noise CW at 1 GHz	less than minus 126 dBc (1 Hz) at 20 kHz
Broadband Noise CW 0.45 to 3.04 GHz	less than minus 138 dBc, typ. minus 144 dBc (1 Hz)
Residual FM at 1 GHz ITU T	less than 1 Hz (0.3 to 3 kHz)
Residual AM	less than 0.02 percent
Reference Aging Standard	1e-6 per year

PARAMETER	VALUE
OCXO SM B1 Aging	less than 1e-9 per day
Reference Output	10 MHz, 8 dBm, 50 ohm
Internal AF Generator	0.1 Hz to 1 MHz
Noninterrupting Electronic Mode	greater than 80 dB
Noninterrupting FIXED Mode	greater than 20 dB
Sibling SMIQ02B Range	300 kHz to 2.2 GHz
Sibling SMIQ04B Range	300 kHz to 4.4 GHz
Sibling SMIQ06B Range	300 kHz to 6.4 GHz
Upgrade Path	SMIQU04 to 4.4 GHz Notes Specs from the R&S SMIQ Vector Signal Generator specifications (valid from 7/2002). Confirm installed SMIQBx options. This file is the 3.3 GHz SMIQ03B, not original SMIQ03/03A/03E.
Electronic attenuator mode	greater than 80 dB non-interrupting level

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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PARAMETER	VALUE
Model	SMIQ03B
Manufacturer	Rohde & Schwarz
Instrument Type	Vector signal generator
Alias	SMIQ 03B; R&S SMIQ03B
Order Number	1125.5555.03
Frequency Range	300 kHz to 3.3 GHz
Frequency Resolution	0.1 Hz
Frequency Settling to 3.3 GHz	less than 3 ms
List Mode Settling to 3.3 GHz	less than 500 µs
Phase Offset Step	0.1 degree
Level Range	minus 144 dBm to +10 dBm PEP
Level Overrange	up to +16 dBm without guarantee
Level Resolution	0.1 dB or 0.01 dB
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Residual FM at 1 GHz ITU T	less than 1 Hz (0.3 to 3 kHz)

PARAMETER	VALUE
Residual AM	less than 0.02 percent
Reference Aging Standard	1e-6 per year
OCXO SM B1 Aging	less than 1e-9 per day
Reference Output	10 MHz, 8 dBm, 50 ohm
Internal AF Generator	0.1 Hz to 1 MHz
Noninterrupting Electronic Mode	greater than 80 dB
Noninterrupting FIXED Mode	greater than 20 dB
Sibling SMIQ02B Range	300 kHz to 2.2 GHz
Sibling SMIQ04B Range	300 kHz to 4.4 GHz
Sibling SMIQ06B Range	300 kHz to 6.4 GHz
Upgrade Path	SMIQU04 to 4.4 GHz

Notes

Specs from the R&S SMIQ Vector Signal Generator specifications (valid from 7/2002). Confirm installed SMIQBx options. This file is the 3.3 GHz SMIQ03B, not original SMIQ03/03A/03E.

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.