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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz SMIQ04B 300KHz-4.4GHz Synthesised Vector Signal Generator

Rohde & Schwarz SMIQ04B Vector Signal Generator 300 kHz to 4.4 GHz The R&S SMIQ04B is the 4.4 GHz member of the SMIQxxB vector signal generator family (order 1125.5555.04). Range is 300 kHz to 4.4 GHz with 0.1 Hz resolution. Level is minus 144 dBm to +10 dBm PEP (overrange to +16 dBm). Frequency settles in less than 3.3 ms above 3.3 GHz (less than 700 μ s in list mode). SSB phase noise is less than minus 126 dBc (1 Hz) at 1 GHz, 20 kHz offset (CW). Reverse-power protection is 1 W with 0 V DC on the RF port (04B/06B class). Broadband I/Q plus analog AM/FM/ ϕ M and a large digital-standard option set cover 2G/3G and WLL IF/RF. The R&S SMIQ04B is the 4.4 GHz member of the SMIQxxB vector signal generator family (order 1125.5555.04). Range is 300 kHz to 4.4 GHz with 0.1 Hz resolution. Level is minus 144 dBm to +10 dBm PEP (overrange to +16 dBm). Frequency settles in less than 3.3 ms above 3.3 GHz (less than 700 μ s in list mode). SSB phase noise is less than minus 126 dBc (1 Hz) at 1 GHz, 20 kHz offset (CW). Reverse-power protection is 1 W with 0 V DC on the RF port (04B/06B class). Broadband I/Q plus analog AM/FM/ ϕ M and a large digital-standard option set cover 2G/3G and WLL IF/RF.



MODEL

Rohde & Schwarz SMIQ04B

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

SMIQ04B

LISTING

<https://aumictechlabs.com/products/smiq04b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Rohde & Schwarz SMIQ04B is a synthesized vector signal generator spanning 300 kHz to 4.4 GHz, engineered to produce complex modulated signals for communication system development, type-approval testing, and production environments. Built on digital signal processor technology, it delivers high-precision digital modulation at high bit rates across multiple standards without mode restrictions, while simultaneously supporting analog modulation including AM, FM, phase, and pulse modes. The instrument combines flexible I/Q modulation with exceptional spectral purity and fast frequency switching, making it suitable for RF component characterization and multistandard signal synthesis.

Technical Specifications

Frequency Performance

Frequency range: 300 kHz to 4.4 GHz
Frequency resolution: 0.1 Hz or 100.0 mHz
Frequency switching time: 15 ms typical (< 3 ms without attenuator switching)
Frequency hopping: 500 μ s
Time base stability: 0.000001 /yr
External reference: 16 MHz input (1 MHz to 16 MHz in 1 MHz steps)

Output Characteristics

Power range: -140 dBm to +13 dBm PEP
Power resolution: 0.1 dB (0.01 dB in CW/FM/phase/auto attenuator modes)
Output impedance: 50 Ohm
VSWR: < 2
Spectral Purity (CW)
Single-sideband noise: -116 to -126 dBc/Hz
Broadband noise (20 MHz-450 MHz): < -136 dBc (-142 dBc typ.)
Broadband noise (450 MHz-3040 MHz): < -138 dBc (-144 dBc typ.)
Harmonic content: -30 dBc; non-harmonics: -60 dBc

Key Features

High-grade I/Q modulator standard; minimizes error vector magnitude and intermodulation
Digital modulation: PSK, QAM, FSK, ASK, MSK without bit-rate limitations
Analog modulation: AM, FM, phase, pulse
Vector and wideband AM modes
Fine frequency resolution (0.1 Hz) for precision tuning

Typical Applications

Multistandard transceiver development and validation
Component characterization (amplifiers, filters, mixers)
Type-approval testing for wireless standards
Production signal synthesis across IF and RF bands

Features & description

From manufacturer datasheet

Features

- Family siblings SMIQ02B/03B/06B to 2.2/3.3/6.4 GHz; SMIQU06 upgrade to 6.4 GHz
- Optional SM-B1 OCXO, aging less than $1\text{e-}9$ per day
- Electronic attenuator mode: greater than 80 dB non-interrupting level
- Reverse-power protection 1 W; 0 V DC on the RF port
- Optional SMIQB60 ARB, fading, noise, BERT, digital standards

Applications

- Vector-modulated wireless receiver and component test to 4.4 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

SMIQ04B Characteristics / Specifications

PARAMETER	VALUE
Model	SMIQ04B
Manufacturer	Rohde & Schwarz
Instrument Type	Vector signal generator
Alias	SMIQ 04B; R&S SMIQ04B
Order Number	1125.5555.04
Frequency Range	300 kHz to 4.4 GHz
Frequency Resolution	0.1 Hz
Frequency Settling to 3.3 GHz	less than 3 ms
Frequency Settling above 3.3 GHz	less than 3.3 ms
List Mode Settling above 3.3 GHz	less than 700 μ s
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)
Level Error 2.5 to 4 GHz	less than 0.9 dB
Level Error 4 to 6.4 GHz	less than 1.2 dB
Output Impedance	50 ohm
VSWR to 2.2 GHz at minus 3 dBm	less than 1.8
VSWR 2.2 to 6.4 GHz	less than 2.0
Level Settling Electronic Att	less than 2.5 ms
Reverse RF Power	1 W (04B/06B class)
Reverse DC Voltage	0 V (04B/06B 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

PARAMETER	VALUE
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
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
Sibling SMIQ02B Range	300 kHz to 2.2 GHz
Sibling SMIQ03B Range	300 kHz to 3.3 GHz
Sibling SMIQ06B Range	300 kHz to 6.4 GHz
Upgrade Path	SMIQU06 to 6.4 GHz Notes Specs from the R&S SMIQ Vector Signal Generator specifications (valid from 7/2002). Confirm installed SMIQBx options. This file is the 4.4 GHz SMIQ04B.
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	
Specifications	
PARAMETER	VALUE
Model	SMIQ04B
Manufacturer	Rohde & Schwarz
Instrument Type	Vector signal generator
Alias	SMIQ 04B; R&S SMIQ04B
Order Number	1125.5555.04
Frequency Range	300 kHz to 4.4 GHz
Frequency Resolution	0.1 Hz
Frequency Settling to 3.3 GHz	less than 3 ms
Frequency Settling above 3.3 GHz	less than 3.3 ms
List Mode Settling above 3.3 GHz	less than 700 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)
Level Error 2.5 to 4 GHz	less than 0.9 dB
Level Error 4 to 6.4 GHz	less than 1.2 dB
Output Impedance	50 ohm
VSWR to 2.2 GHz at minus 3 dBm: less than 1.8	
Specifications	
PARAMETER	VALUE
VSWR 2.2 to 6.4 GHz	less than 2.0
Level Settling Electronic Att	less than 2.5 ms
Reverse RF Power	1 W (04B/06B class)
Reverse DC Voltage	0 V (04B/06B class)

PARAMETER	VALUE
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
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
Sibling SMIQ02B Range	300 kHz to 2.2 GHz
Sibling SMIQ03B Range	300 kHz to 3.3 GHz
Sibling SMIQ06B Range	300 kHz to 6.4 GHz
Upgrade Path	SMIQU06 to 6.4 GHz

Notes

Specs from the R&S SMIQ Vector Signal Generator specifications (valid from 7/2002). Confirm installed SMIQBx options. This file is the 4.4 GHz SMIQ04B.

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.