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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz SMIQ02B 300KHz to 2.2GHz Signal Generator

Rohde & Schwarz SMIQ02B Vector Signal Generator 300 kHz to 2.2 GHz The R&S SMIQ02B is the 2.2 GHz member of the SMIQxxB vector signal generator family (order 1125.5555.02). Range is 300 kHz to 2.2 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 SMIQ02B is the 2.2 GHz member of the SMIQxxB vector signal generator family (order 1125.5555.02). Range is 300 kHz to 2.2 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 SMIQ02B

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

SMIQ02B

LISTING

<https://aumictechlabs.com/products/smiq02b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Rohde & Schwarz SMIQ02B is a vector signal generator delivering analog and digital modulation across 300 kHz to 2.2 GHz, engineered for mobile radio development, type-approval testing, and production deployment. Its high-grade I/Q modulator achieves minimum error vector magnitude with superior intermodulation suppression. Built on modern DSP technology, it generates high-precision digital modulation signals up to 18 Msymbol/s supporting BPSK through 256QAM without modulation mode limitations. The instrument spans a power range of -144 dBm to +13 dBm with 0.1 dB resolution and frequency settling under 3 ms in normal operation. Phase noise performance reaches -126 dBc at 1 GHz (20 kHz offset), while broadband noise remains below -136 dBc above 20 MHz. Frequency hopping capability operates at 500 μ s with 0.1 Hz resolution across the full band. The SMIQ02B supports full analog modulation modes, simultaneous modulation, and optional digital modulation, fading simulation, and distortion analysis. Its 50 Ω source impedance and 35 V maximum DC capability suit demanding RF and microwave test environments.

Features & description

From manufacturer datasheet

Features

- Family siblings SMIQ03B/04B/06B to 3.3/4.4/6.4 GHz (SMIQU upgrades) • 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 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 2.2 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

SMIQ02B Characteristics / Specifications

PARAMETER	VALUE
Model	SMIQ02B
Manufacturer	Rohde & Schwarz
Instrument Type	Vector signal generator
Alias	SMIQ 02B; R&S SMIQ02B
Order Number	1125.5555.02
Frequency Range	300 kHz to 2.2 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 SMIQ03B Range	300 kHz to 3.3 GHz
Sibling SMIQ04B Range	300 kHz to 4.4 GHz
Sibling SMIQ06B Range	300 kHz to 6.4 GHz
Upgrade Path	SMIQU03 to 3.3 GHz

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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Residual FM at 1 GHz ITU T	less than 1 Hz (0.3 to 3 kHz)

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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 SMIQ03B Range	300 kHz to 3.3 GHz
Sibling SMIQ04B Range	300 kHz to 4.4 GHz
Sibling SMIQ06B Range	300 kHz to 6.4 GHz
Upgrade Path	SMIQU03 to 3.3 GHz

Notes

Specs from the R&S SMIQ Vector Signal Generator specifications (valid from 7/2002). Confirm installed SMIQBx digital-standard, fading, noise, ARB, and BERT options. This file is the 2.2 GHz SMIQ02B, not SMIQ02E or original SMIQ02.

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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<https://aumictechlabs.com>

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.