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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz SMIQ06B 300KHz to 6.4GHz Signal Generator

Rohde & Schwarz SMIQ06B Vector Signal Generator 300 kHz to 6.4 GHz The R&S SMIQ06B is the 6.4 GHz member of the SMIQxxB vector signal generator family. Range is 300 kHz to 6.4 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 500–700 μ s in list mode). SSB phase noise is less than minus 126 dBc (1 Hz) at 1 GHz, 20 kHz offset (CW). 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 SMIQ06B is the 6.4 GHz member of the SMIQxxB vector signal generator family. Range is 300 kHz to 6.4 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 500–700 μ s in list mode). SSB phase noise is less than minus 126 dBc (1 Hz) at 1 GHz, 20 kHz offset (CW). 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 SMIQ06B

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

SMIQ06B

LISTING

<https://aumictechlabs.com/products/smiq06b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Rohde & Schwarz SMIQ06B is a precision signal generator spanning 300 kHz to 6.4 GHz, engineered for RF and microwave component characterization, signal simulation, and automated test systems. It delivers calibrated output from -144 dBm to +13 dBm with 0.1 Hz frequency resolution and sub-3 ms settling time, meeting stringent requirements in development and production environments.

Technical Specifications

Frequency Performance
Frequency range: 300 kHz to 6.4 GHz
Resolution: 0.1 Hz
Frequency error: $<(1 \times 10^{-4} \text{ of setting} + 0.012 \text{ Hz})$
Modulation frequency ranges: AM (DC to 50 kHz), FM (DC to 2 MHz), phase modulation (DC to 100 kHz)

RF Output
Output level: -144 dBm to +13 dBm
Output impedance: 50 Ω
VSWR: <2
Carrier leakage: $<-45 \text{ dBc}$ (typical)
RF settling time: 5 MHz offset): -136 dBc to -144 dBc typical across 20 MHz to 6.4 GHz
Adjacent channel power: -35 dBc (adjacent), -75 dBc (1st alternate), -78 dBc (2nd alternate)

Modulation
Standard modes: AM, Pulse, IQ, Analog, Digital, Vector Modulation, Wideband AM
Optional modes: FM, Phase modulation, FSK, PSK, QAM, DECT, GSM EDGE, PDC, PHS, NADC, TETRA, ASK, BPSK, GMSK, C4FM, QPSK, CDMA, WCDMA
Modulation response: $<3 \text{ dB}$
Static error vector magnitude: $<1\%$
I/Q impairments: gain imbalance 0.5%, quad error $\pm 12\%$, timing error $\pm 10^\circ$

Audio Generator
AF frequency range: 0.1 Hz to 1 MHz
Distortion (to 100 kHz): $<0.2\%$
Output voltage: 1 mV to 4 V peak

Key Features
User-programmable RF, AF, and level sweeps with step sweep capability
Three user-selectable markers with TTL output (selectable polarity)
Sub-3 ms frequency switching enables rapid sequenced testing
Exceptional phase noise and broadband noise floors support sensitive receiver validation

Typical Applications
Component and receiver testing across cellular, microwave, and satellite bands
Signal simulation for wireless standards (GSM, WCDMA, TETRA, DECT)
Automated production and validation test systems
RF subsystem characterization and troubleshooting

Features & description

From manufacturer datasheet

Features

- Family siblings SMIQ02B/03B/04B to 2.2/3.3/4.4 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 1 W (SMIQ04B/06B); 0 V DC on the RF port
- ATE sibling SMIQ06ATE has no front-panel display

Applications

- Vector-modulated wireless receiver and component test to 6.4 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

SMIQ06B Characteristics / Specifications

PARAMETER	VALUE
Model	SMIQ06B
Manufacturer	Rohde & Schwarz
Instrument Type	Vector signal generator
Alias	SMIQ 06B; R&S SMIQ06B
Frequency Range	300 kHz to 6.4 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
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
Reverse DC Voltage	0 V
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
SSB Phase Noise CW at 6 GHz	less than minus 110 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 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. Do not confuse with SMIQ06ATE or SMIQ06L.
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	SMIQ06B
Manufacturer	Rohde & Schwarz
Instrument Type	Vector signal generator
Alias	SMIQ 06B; R&S SMIQ06B
Frequency Range	300 kHz to 6.4 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
Reverse DC Voltage	0 V
Harmonics at 7 dBm	less than minus 30 dBc

PARAMETER	VALUE
SSB Phase Noise CW at 1 GHz	less than minus 126 dBc (1 Hz) at 20 kHz
SSB Phase Noise CW at 6 GHz	less than minus 110 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)
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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. Do not confuse with SMIQ06ATE or SMIQ06L.

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

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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.