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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz SMIQ02 300KHz to 2.2GHz Vector Signal Generator

Rohde & Schwarz SMIQ02 Vector Signal Generator 300 kHz to 2.2 GHz The R&S SMIQ02 is the 2.2 GHz development/type-approval vector signal generator in the original SMIQ family (order 1084.8004.02). Range is 300 kHz to 2.2 GHz with 0.1 Hz resolution. SMIQ02/03 offer maximum versatility for development; economyEmodels target production. Analog and digital modulation, optional fading, noise, BERT, data generator, and digital-standard options (IS-95, W-CDMA, and later) cover 2G/3G. Harmonics are less than minus 30 dBc at or below 10 dBm. Optional SM-B1 OCXO ages less than 1e-9 per day. The R&S SMIQ02 is the 2.2 GHz development/type-approval vector signal generator in the original SMIQ family (order 1084.8004.02). Range is 300 kHz to 2.2 GHz with 0.1 Hz resolution. SMIQ02/03 offer maximum versatility for development; economyEmodels target production. Analog and digital modulation, optional fading, noise, BERT, data generator, and digital-standard options (IS-95, W-CDMA, and later) cover 2G/3G. Harmonics are less than minus 30 dBc at or below 10 dBm. Optional SM-B1 OCXO ages less than 1e-9 per day.



MODEL

Rohde & Schwarz SMIQ02

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

SMIQ02

LISTING

<https://aumictechlabs.com/products/smiq02-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Rohde & Schwarz SMIQ02 is a vector signal generator operating from 300 kHz to 2.2 GHz, engineered to produce complex modulated signals for communication and test applications across research, development, and production environments. It delivers exceptional phase noise performance, flexible modulation architecture, and rapid frequency/level settling to support current and emerging digital mobile radio standards.

Technical Specifications

Frequency Performance
Frequency range: 300 kHz to 2.2 GHz
Frequency resolution: 0.1 Hz
Frequency setting time: <3 ms
Fast restore mode: <500 μ s
List mode trigger response: <800 μ s

Output Level
Power range: -140 dBm to +13 dBm
Level resolution: 0.1 dB
Level setting time: <2.5 ms
Maximum DC voltage: 35 V

Phase Noise & Spectral Purity
SSB phase noise: -126 dBc/Hz typical at 1 GHz, 20 kHz offset
Spectral purity: -130 dBc typical at 1 GHz, 20 kHz carrier offset
Broadband noise (CW): -136 to -138 dBc typical across operating range
Broadband noise (vector modulation): -136 to -137 dBc typical across operating range

Modulation Capabilities
Standard: AM, Pulse, IQ
Optional: FM/Phase, Digital

Digital
Digital symbol rate: Up to 7 Msymbol/s
Supported schemes: FSK, GFSK, GMSK, BPSK, QPSK, 8PSK, π /4DQPSK, 16QAM, 32QAM, 64QAM, 256QAM

Mobile radio standards (with optional coder): CDMA, GSM, NADC, PCS 1900, PHS, PDC

Reference Oscillator
Internal reference: 10 MHz, 8 dBm output, 50 Ω impedance
External reference input: 1 MHz to 16 MHz (1 MHz steps), 0.1 V to 2 V rms, 200 Ω impedance
OCXO option aging: <1 $\times$ 10⁻⁹/day (after 30 days)
OCXO temperature stability: <5 $\times$ 10⁻⁸ (0°C to 50°C)

Key Features
High-resolution frequency tuning with 0.1 Hz steps
Sub-millisecond frequency switching for dynamic test sequences
Wide dynamic range spanning 153 dB
Low phase noise across full frequency range
Extensive digital modulation format library

Typical Applications
Mobile communication transceiver validation
Receiver sensitivity and selectivity testing
Adjacent-channel power measurement
Digital modulation standard compliance verification
Signal integrity assessment in development labs

Compatibility & Integration
The instrument accepts external reference signals from 1 MHz to 16 MHz with frequency drift tolerance of 3 $\times$ 10⁻⁶, enabling synchronization with external standards. An optional OCXO provides superior frequency stability for demanding metrology applications.

Features & description

From manufacturer datasheet

Features

- Development sibling of SMIQ02E (same RF ceiling)
- Optional SM-B5 FM/φM (standard on E models)
- Optional SMIQB11 data generator and memory extension
- Optional fading simulators B14/B15, noise B17, BERT B21
- Later B family extends to 4.4/6.4 GHz

Applications

- Development and type-approval of vector-modulated radios to 2.2 GHz
- GSM, IS-95, W-CDMA, and other digital standards (options)
- Fading and AWGN option benches
- Analog AM/FM/φM (SM-B5 optional on non-E models)
- Production ATE when fully optioned

SMIQ02 Characteristics / Specifications

PARAMETER	VALUE
Model	SMIQ02
Manufacturer	Rohde & Schwarz
Instrument Type	Vector signal generator
Alias	SMIQ 02; R&S SMIQ02
Order Number	1084.8004.02
Frequency Range	300 kHz to 2.2 GHz
Frequency Resolution	0.1 Hz
Reference Aging Standard	1e-6 per year (after 30 days)
OCXO SM B1 Aging	less than 1e-9 per day
Reference Temperature Effect Standard	2e-6 (0 C to 50 C)
Harmonics at 10 dBm	less than minus 30 dBc
FM PhiM Modulator	SM-B5 optional (1036.8489.02)
Intended Role	development and type-approval vector generator
Sibling SMIQ02E Range	300 kHz to 2.2 GHz (economy)
Sibling SMIQ03 Range	300 kHz to 3.3 GHz
Sibling SMIQ02B Range	300 kHz to 2.2 GHz (laterBfamily)
Output Impedance	50 ohm
Modulation Analog	AM, FM, phiM, pulse (as fitted)
Modulation Digital	GMSK, PSK, QAM class per options
Baseband Filters	root-cos, cos, Gauss, Bessel class
Data Generator Option	SMIQB11
Fading Option	SMIQB14 (6 paths); B15 second simulator
Noise Option	SMIQB17
BERT Option	SMIQB21
Digital Standard IS	SMIQB42 class

PARAMETER	VALUE
Low ACP Option	SMIQB47
Remote Interface	IEC IEEE bus
Form Factor	SMIQ family benchtop
Calibration Cycle Class	three-year SMIQ family
RF Start	300 kHz
RF Stop	2.2 GHz
Level Class	SMIQ family high output with electronic attenuator Notes Specs from the R&S SMIQ02/03/02E/03E vector signal generator data sheet. Confirm SM-B1/B5 and digital-standard options. Do not confuse with SMIQ02B (1125.5555.02) or SMIQ02E.

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	SMIQ02
Manufacturer	Rohde & Schwarz
Instrument Type	Vector signal generator
Alias	SMIQ 02; R&S SMIQ02
Order Number	1084.8004.02
Frequency Range	300 kHz to 2.2 GHz
Frequency Resolution	0.1 Hz
Reference Aging Standard	1e-6 per year (after 30 days)
OCXO SM B1 Aging	less than 1e-9 per day
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Intended Role	development and type-approval vector generator
Sibling SMIQ02E Range	300 kHz to 2.2 GHz (economy)
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Sibling SMIQ02B Range	300 kHz to 2.2 GHz (laterBfamily)
Output Impedance	50 ohm
Modulation Analog	AM, FM, phiM, pulse (as fitted)
Modulation Digital	GMSK, PSK, QAM class per options
Baseband Filters	root-cos, cos, Gauss, Bessel class
Option SM B1: OCXO 1036.7599.02	
Specifications	
PARAMETER	VALUE
Data Generator Option	SMIQB11
Fading Option	SMIQB14 (6 paths); B15 second simulator

PARAMETER	VALUE
Noise Option	SMIQB17
BERT Option	SMIQB21
Digital Standard IS95	SMIQB42 class
Low ACP Option	SMIQB47
Remote Interface	IEC IEEE bus
Form Factor	SMIQ family benchtop
Calibration Cycle Class	three-year SMIQ family
RF Start	300 kHz
RF Stop	2.2 GHz
Level Class	SMIQ family high output with electronic attenuator

Notes

Specs from the R&S SMIQ02/03/02E/03E vector signal generator data sheet. Confirm SM-B1/B5 and digital-standard options. Do not confuse with SMIQ02B (1125.5555.02) or SMIQ02E.

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.