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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz SMHU 100KHz to 4.32GHz Signal Generator

Rohde & Schwarz SMHU Signal Generator 100 kHz to 4.32 GHz The R&S SMHU is a high-purity analog (and optionally coded) signal generator covering 100 kHz to 4320 MHz, with under-range to 1 kHz without guaranteed specs. Frequency resolution is 0.1 Hz. Level is minus 140 dBm to +13 dBm (over-range toward +19 dBm). Frequency setting is less than 1 ms (fast mode). Broadband FM runs DC to 1 MHz with frequency-accurate FM DC for FSK. An OCXO reference and pulse modulator are part of the high-end SMHU/SMGU pair (SMGU stops at 2160 MHz). The R&S SMHU is a high-purity analog (and optionally coded) signal generator covering 100 kHz to 4320 MHz, with under-range to 1 kHz without guaranteed specs. Frequency resolution is 0.1 Hz. Level is minus 140 dBm to +13 dBm (over-range toward +19 dBm). Frequency setting is less than 1 ms (fast mode). Broadband FM runs DC to 1 MHz with frequency-accurate FM DC for FSK. An OCXO reference and pulse modulator are part of the high-end SMHU/SMGU pair (SMGU stops at 2160 MHz).



MODEL

Rohde & Schwarz SMHU

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

SMHU

LISTING

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

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Rohde & Schwarz SMHU is a synthesized signal generator delivering precise signal generation across 100 kHz to 4.32 GHz, with capability to supply frequencies down to 1 kHz. Built

for radio communications testing, research, development, and production environments, the SMHU combines exceptional spectral purity with versatile modulation and sweep capabilities. Its 0.1 Hz frequency resolution and sub-10 ms frequency setting time enable rapid, accurate signal development for adjacent-channel, in-channel, and out-of-channel measurements.

Technical Specifications

Frequency range: 100 kHz to 4.32 GHz (down to 1 kHz capability) Frequency resolution: 0.1 Hz Frequency setting time: <10 ms standard; <1 ms in fast mode (up to 200 user-defined frequencies with trigger or memory sweep) Output level: -140 dBm to +13 dBm Phase noise: Extremely low across full frequency range; maintains low phase noise right to carrier Time base: OCXO (Oven Controlled Crystal Oscillator) Phase offset: 10° step resolution via keyboard or spinwheel entry

Key Features

Modulation Support AM with modulation frequency range usable at carrier frequencies below 100 kHz; minimal phase shift at 30 Hz (AM DC); flat frequency response FM with DC to 1 MHz modulation frequency range; FM DC capability for FSK; high carrier-frequency accuracy and extremely small frequency offset in FM DC mode Phase modulation Pulse modulation: 20 ns typical rise/fall times (<10 ns above 200 MHz); 80 dB on/off ratio Digital modulation (SMHU58 variant): Broadband I/Q modulator, DC to 200 MHz modulation bandwidth; optional coders for DECT, NADC/PDC, PHS, CDMA, TETRA25; IQSIM-K software for user-programmable waveforms

Sweep Capabilities Digital and analog sweep modes RF, AF, level, and memory sweeps

Typical Applications Local oscillator (LO) generation Low-noise reference source for noise measurement systems CEPT spurious rejection testing of radiotelephone equipment to 4 GHz Complex modulation signal generation for communications standards

Compatibility & Integration The SMHU58 variant incorporates an extremely broadband I/Q modulator, extending digital modulation versatility across PSK, QAM, and ASK schemes.

Features & description

From manufacturer datasheet

Features

- Extremely high spectral purity; OCXO standard
- Pulse modulator; AM, FM, and phase modulation
- Optional GMSK, DECT, NADC/PDC, PHS, CDMA, TETRA25 coders
- Non-interrupting level setting 0 to minus 20 dB class
- Reverse-power protection 30 W class (SMHU)

Applications

- Radio-communications receiver testing to 4.32 GHz
- Telemetry, microwave links, radar, and satcom stimulus
- Noise-measurement system source
- VOR/ILS and coded digital radio (optional B2–B7 coders)
- RF, AF, level, and memory sweeps

SMHU Characteristics / Specifications

PARAMETER	VALUE
Model	SMHU
Manufacturer	Rohde & Schwarz
Instrument Type	Signal generator
Alias	SMHU 58; R&S SMHU
Frequency Range	100 kHz to 4320 MHz
Frequency Underrange	to 1 kHz without guaranteed specs
Frequency Resolution	0.1 Hz
Frequency Setting Time	less than 1 ms; less than 1 ms in fast mode
Level Range	minus 140 dBm to +13 dBm
Level Overrange	up to +19 dBm (SMHU)
Level Resolution	0.1 dB class
Output Impedance	50 ohm
VSWR at 0 dBm	less than 1.5; less than 1.8 above 3000 MHz class
Noninterrupting Level Range	0 to minus 20 dB
Reverse Power Protection	30 W class (SMHU)
Reference Aging	less than 1e-9 per day after 30 days
Reference Temperature Effect	less than 2e-9 per Cclass
Reference Input Output	5 or 10 MHz
FM Bandwidth AC	10 Hz to 100 kHz
FM Bandwidth DC	DC to 1 MHz
FM Distortion at 1 kHz	less than 0.2 percent (less than 1 percent with preemphasis)
Phase Modulation	INT, EXT AC, two-tone
Pulse Modulation	standard
Preemphasis	50 µs, 75 µs
FSK Rise Fall	10 µs logic

PARAMETER	VALUE
Sibling SMGU Range	100 kHz to 2160 MHz
Coder Option B	Qualcomm CDMA
Sweep Types	RF, AF, level, memory
Remote Interface	IEC IEEE bus Notes Specs from the R&S SMHU/SMGU data sheet. This file is the 4.32 GHz SMHU, not SMGU. Confirm installed coder options B2–B7. Overrange level and reverse-power figures are SMHU-specific.
Bandwidth	AC: 10 Hz to 100 kHz

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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Phase Modulation	INT, EXT AC, two-tone
Pulse Modulation	standard
Preemphasis	50 μs, 75 μs
FSK Rise Fall	10 μs logic
Sibling SMGU Range	100 kHz to 2160 MHz

PARAMETER	VALUE
Coder Option B2	GMSK
Coder Option B3	DECT
Coder Option B4	NADC/PDC
Coder Option B5	PHS
Coder Option B6	Qualcomm CDMA
Coder Option B7	TETRA25
Sweep Types	RF, AF, level, memory
Remote Interface	IEC IEEE bus

Notes

Specs from the R&S SMHU/SMGU data sheet. This file is the 4.32 GHz SMHU, not SMGU. Confirm installed coder options B2-B7. Overrange level and reverse-power figures are SMHU-specific.

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.