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Data Sheet

August 13, 2026

ROHDE & SCHWARZ

Rohde & Schwarz ESW44 EMI Test Receiver, 1Hz to 44GHz

Rohde & Schwarz ESW44 EMI Test Receiver 1 Hz to 44 GHz The R&S ESW44 is the 44 GHz member of the ESW EMI test receiver family. Input 1 covers 1 Hz to 44 GHz DC-coupled or 10 MHz to 44 GHz AC-coupled; input 2 covers 1 Hz to 1 GHz. Frequency resolution is 0.01 Hz. Twenty-one preselection filters and optional 30 dB LNA support CISPR 16-1-1 measurements with FFT time-domain scan. Analyzer RBW is 1 Hz to 10 MHz; EMI filters include 200 Hz, 9 kHz, 120 kHz, and 1 MHz. Parallel CISPR detectors and APD are standard. External mixers (B21) are available on ESW26/44, not ESW8. The R&S ESW44 is the 44 GHz member of the ESW EMI test receiver family. Input 1 covers 1 Hz to 44 GHz DC-coupled or 10 MHz to 44 GHz AC-coupled; input 2 covers 1 Hz to 1 GHz. Frequency resolution is 0.01 Hz. Twenty-one preselection filters and optional 30 dB LNA support CISPR 16-1-1 measurements with FFT time-domain scan. Analyzer RBW is 1 Hz to 10 MHz; EMI filters include 200 Hz, 9 kHz, 120 kHz, and 1 MHz. Parallel CISPR detectors and APD are standard. External mixers (B21) are available on ESW26/44, not ESW8.



MODEL

Rohde & Schwarz ESW44

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

ESW44

LISTING

<https://aumictechlabs.com/products/esw44-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Rohde & Schwarz ESW44 is an EMI test receiver spanning 1 Hz to 44 GHz, designed for electromagnetic compatibility compliance testing across CISPR, EN, MIL-STD, and FCC standards. It delivers exceptional sensitivity with a noise floor typically below -155 dBm (1 Hz IF bandwidth, preamplifier ON) and third-order intercept above +15 dBm, enabling precise detection and measurement of electromagnetic interference across demanding test environments.

Technical Specifications

Frequency Range 1 Hz to 44 GHz

Sensitivity & Dynamic Range Noise Floor: Typically below -155 dBm (1 Hz IF Bandwidth, preamplifier ON) IP3 / TOI: > +15 dBm

Measurement Detectors & Bandwidth Peak, Quasipeak, Average, RMS, CISPR-Average, CISPR-RMS Selectable

IF bandwidths: 200 Hz, 1 kHz, 10 kHz, 100 kHz, 1 MHz

Signal Processing Advanced DSP and FFT for spectrum analysis and interference detection

Step sweep, list sweep, FFT sweep capabilities

Auto-ranging and automatic/manual preselector control

Key Features RF input: Type N female connector LAN (Gigabit Ethernet), USB, GPIB (IEEE 488.2), and external trigger input

Reference clock I/O: BNC connectors

Rack-mountable 19-inch form factor

Operating temperature: 5 °C to 40 °C

Storage temperature: -20 °C to +70 °C

Humidity: Up to 95 % RH at +25 °C

Power: 100 V to 240 V AC, 50/60 Hz

Standards Compliance CISPR 16-1-1, EN 550xx series, MIL-STD 461, FCC Part 15

Compatibility & Integration Works with Rohde & Schwarz EMC test automation software including EMC32 and EMC32 Lite. Interfaces with Rohde & Schwarz and third-party EMC antennas, LISNs, and near-field probes. Supports attenuators, filters, and signal generator accessories.

Features & description

From manufacturer datasheet

Features

• FFT time-domain scan for CISPR bands; wideband extension up to 970 MHz class • Optional ESW-B4 OCXO (aging plus/minus 3e-8 per year) • Up to 200001 EMI sweep points; 100001 analyzer points • Touchscreen receiver with SCPI / LAN / GPIB • 1 dB compression about +15 dBm; level accuracy less than 0.4 dB class

Applications

• Full CISPR / EN / FCC / MIL EMI compliance to 44 GHz • Fast time-domain scan (ESW-B350 / B1000 options) • Spectrum analysis with high TOI (typ. 25 dBm class, preselection off) • Click-rate analysis (K59) and real-time (K55) • mm-wave EMI with mixers where fitted

ESW44 Characteristics / Specifications

PARAMETER	VALUE
Model	ESW44
Manufacturer	Rohde & Schwarz
Instrument Type	EMI test receiver
Alias	ESW 44; R&S ESW44
Frequency Range Input 1 DC	1 Hz to 44 GHz
Frequency Range Input 1 AC	10 MHz to 44 GHz
Frequency Range Input 2 DC	1 Hz to 1 GHz
Frequency Range Input 2 AC	10 MHz to 1 GHz
Frequency Resolution	0.01 Hz
Reference Aging Standard	plus/minus 1e-7 per year
OCXO ESW B4 Aging	plus/minus 3e-8 per year
Preselection Filters	21
Analyzer RBW	1 Hz to 10 MHz, 1/2/3/5
EMI Filters	1 Hz, 10 Hz, 100 Hz, 200 Hz, 1 kHz, 9 kHz, 10 kHz, 100 kHz, 120 kHz, 1 MHz, 10 MHz
Video Bandwidths	1 Hz to 10 MHz
SSB Phase Noise at 10 kHz	less than minus 134 dBc (1 Hz), typ. minus 138 dBc
SSB Phase Noise at 1 MHz	less than minus 145 dBc (1 Hz), typ. minus 149 dBc
TOI 10 MHz to 3 GHz	greater than 20 dBm, typ. 25 dBm (preselection off)
DANL 1 MHz to 1 GHz Preamp On	minus 165 dBm, typ. minus 168 dBm (1 Hz)
Analyzer Display Range	noise floor to +30 dBm
Receiver Detectors	max 4 of PK, RMS, AV, QP, CISPR AV, RMS AV
EMI Sweep Points	101 to 200001
Analyzer Sweep Points	101 to 100001
APD Min Probability	1e-7
APD Max Acquisition	120 s

PARAMETER	VALUE
APD Bandwidths	200 Hz, 9 kHz, 120 kHz, 1 MHz
Frequency Counter Resolution	0.001 Hz
Receiver Noise 30 MHz to 1 GHz BW 120 kHz	less than 9 dB μ V
Receiver Noise 1 to 3 GHz BW 1 MHz	less than 16 dB μ V
Receiver Noise 40 to 44 GHz BW 1 MHz	less than 29 dB μ V class
Compression Point 1 dB	about +15 dBm
Level Accuracy Class	less than 0.4 dB
Sibling ESW8 Range	1 Hz to 8 GHz
Sibling ESW26 Range	1 Hz to 26.5 GHz
Mixer Option B	available on ESW26/44 (not ESW8) Notes Specs from the R&S ESW EMI Test Receiver specifications. Confirm B4 OCXO, B24 LNA, time-domain-scan hardware, B21 mixers, and K55/K59 licenses. This file is the 44 GHz ESW44.

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	ESW44
Manufacturer	Rohde & Schwarz
Instrument Type	EMI test receiver
Alias	ESW 44; R&S ESW44
Frequency Range Input 1 DC	1 Hz to 44 GHz
Frequency Range Input 1 AC	10 MHz to 44 GHz
Frequency Range Input 2 DC	1 Hz to 1 GHz
Frequency Range Input 2 AC	10 MHz to 1 GHz
Frequency Resolution	0.01 Hz
Reference Aging Standard	plus/minus 1e-7 per year
OCXO ESW B4 Aging	plus/minus 3e-8 per year
Preselection Filters	21
Analyzer RBW	1 Hz to 10 MHz, 1/2/3/5
EMI Filters	1 Hz, 10 Hz, 100 Hz, 200 Hz, 1 kHz, 9 kHz, 10 kHz, 100 kHz, 120 kHz, 1 MHz, 10 MHz
Video Bandwidths	1 Hz to 10 MHz
SSB Phase Noise at 10 kHz	less than minus 134 dBc (1 Hz), typ. minus 138 dBc
SSB Phase Noise at 1 MHz	less than minus 145 dBc (1 Hz), typ. minus 149 dBc
TOI 10 MHz to 3 GHz	greater than 20 dBm, typ. 25 dBm (preselection off)
DANL 1 MHz to 1 GHz Preamp On: minus 165 dBm, typ. minus 168 dBm (1 Hz)	
Specifications	
PARAMETER	VALUE
Analyzer Display Range	noise floor to +30 dBm
Receiver Detectors	max 4 of PK, RMS, AV, QP, CISPR AV, RMS AV
EMI Sweep Points	101 to 200001
Analyzer Sweep Points	101 to 100001

PARAMETER	VALUE
APD Min Probability	1e-7
APD Max Acquisition	120 s
APD Bandwidths	200 Hz, 9 kHz, 120 kHz, 1 MHz
Frequency Counter Resolution	0.001 Hz

Receiver Noise 30 MHz to 1 GHz BW 120 kHz: less than 9 dBµV
Receiver Noise 1 to 3 GHz BW 1 MHz: less than 16 dBµV
Receiver Noise 40 to 44 GHz BW 1 MHz: less than 29 dBµV class

Specifications

PARAMETER	VALUE
Compression Point 1 dB	about +15 dBm
Level Accuracy Class	less than 0.4 dB
Sibling ESW8 Range	1 Hz to 8 GHz
Sibling ESW26 Range	1 Hz to 26.5 GHz
Mixer Option B21	available on ESW26/44 (not ESW8)

Notes
Specs from the R&S ESW EMI Test Receiver specifications. Confirm B4 OCXO, B24 LNA, time-domain-scan hardware, B21 mixers, and K55/K59 licenses. This file is the 44 GHz ESW44.

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.