

R&S®ESU EMI Test Receiver



Maximum-precision, standard-compliant EMI measurements at unparalleled measurement speed

The R&S®ESU is a family of CISPR16-1-1-compliant EMI test receivers that meet all civil and military standards for electromagnetic disturbance measurements. The R&S®ESU-K53 FFT-based time-domain scan option allows users to perform overview measurements up to 1000 times faster than on previous EMI test receivers. The R&S®ESU also features automatic and interactive measurement functions, parallel IF analysis and up to three detectors in parallel including the new RMS-Average detector.

- ▮ Receiver mode with parallel IF analysis
 - ▮ All commercial and military standards met
 - ▮ Internal preselection (can be switched off in analyzer mode)
 - ▮ Integrated 20 dB preamplifier up to 3.6 GHz as standard
 - ▮ Wide choice of detectors incl. CISPR-AVG and RMS-Average
 - ▮ CISPR- and MIL-STD-compliant measurement bandwidths
 - ▮ User-programmable scan tables (max. 10 subranges)
 - ▮ Frequency scan with max. three detectors in parallel (max. 2 million test points/trace)
 - ▮ Second RF input (max. 1 GHz, pulse-protected)
 - ▮ Time-domain analysis for evaluation of timing behaviour of disturbances (e.g. click-rate analysis)
 - ▮ Fully and partially automatic measurements (preview measurement, data reduction, final measurement)
 - ▮ Automatic consideration of coupling devices such as line impedance stabilization networks, probes, cables and antennas using transducer factors and sets
 - ▮ Simultaneous measurement of multiple traces for parallel evaluation
 - ▮ Continuous bargraph display and marker functions for precise measurements
 - ▮ Automatic disturbance voltage measurements using remote-controllable line impedance stabilization networks (LISN) from Rohde & Schwarz
 - ▮ Predefined transducer factors
 - ▮ Library of limit lines for commercial standards
 - ▮ Integrated report generator
 - ▮ Optional preamplifiers up to 8/26.5/40 GHz (R&S®ESU-B24)
- ▮ Combination of standard-compliant EMI test receiver and high-end spectrum analyzer
 - ▮ Excellent RF characteristics
 - ▮ Very low measurement uncertainty
 - ▮ Full compliance with CISPR 16-1-1 standard
 - ▮ High speed time domain scan (FFT) option

Specifications in brief

Frequency	R&S®ESU8	R&S®ESU26	R&S®ESU40
Frequency range, RF input 1	20 Hz to 8 GHz	20 Hz to 26.5 GHz	20 Hz to 40 GHz
Frequency range, RF input 2	20 Hz to 1 GHz	20 Hz to 1 GHz	20 Hz to 1 GHz
Reference frequency	aging 1×10^{-7} /year, optionally 2×10^{-8} /year (R&S®FSU-B4)		
Spectral purity	< -128 dBc (1 Hz), typ. -133 dBc (1 Hz) at 10 kHz		
Preselection	12 preselection filters in the range from 20 Hz to 3.6 GHz, can be switched off in analyzer mode		
Preamplifier	can be switched between preselection and 1st mixer, 20 dB gain, frequency range 1 kHz to 3.6 GHz		
IF filter			
3 dB bandwidths	10 Hz to 10 MHz in steps of 1/2/3/5		
6 dB bandwidths	10 Hz, 100 Hz, 200 Hz, 1 kHz, 9 kHz, 10 kHz, 100 kHz, 120 kHz, 1 MHz		
FFT filters (-3 dB, analyzer mode)	1 Hz to 30 kHz in 1/3 sequences		
Channel filters	44 bandwidths, 100 Hz to 5 MHz		
Detectors (receiver mode)	max. peak, min. peak, RMS, average, CISPR-AV, quasi-peak		
Display range	DANL up to +30 dBm		
Intermodulation			
Third-order intercept (TOI), without preselection	> +17 dBm	> +17 dBm	> +17 dBm
1 dB compression of input mixer (< 3.6 GHz)	+13 dBm nominal		

More information: www.rohde-schwarz.com, search term: esu