

R&S®ESL EMI Test Receiver



Compact, cost-effective measuring receiver

The R&S®ESL EMI test receiver combines two instruments in one, measuring EMC disturbances in accordance with the latest standards and also serving as a full-featured spectrum analyzer for diverse lab applications. The R&S®ESL is designed to meet the needs of cost-conscious users who want to perform diagnostic and precompliance EMI measurements up to 3 GHz or 6 GHz.

The combination of very good RF characteristics and all of the important functions needed for fast, precise measurement and evaluation of the EMC of a device under test in accordance with commercial standards is unmatched in this class of instrument. The diverse analysis capabilities, high measurement speed and time-saving automated test routines make the R&S®ESL the obvious choice for any development lab that needs to prepare for EMC certification tests.

- Frequency range from 9 kHz to 3 GHz or 9 kHz to 6 GHz covering almost all commercial EMC standards
- First-ever combination of an EMI test receiver and spectrum analyzer in the entry-level class
- All major functions of an advanced EMI test receiver, including fully automated test sequences
- Weighting detectors: max./min. peak, average, RMS, quasi-peak as well as average with meter time constant (CAV) and RMS-Average in accordance with the latest version of CISPR 16-1-1
- Compact, lightweight instrument, can be battery-powered for mobile applications

Specifications in brief

	R&S®ESL3	R&S®ESL3	R&S®ESL6	R&S®ESL6
Frequency range	9 kHz to 3 GHz	9 kHz to 3 GHz	9 kHz to 6 GHz	9 kHz to 6 GHz
Frequency accuracy (standard)			1 × 10 ⁻⁶	
With R&S®FSL-B4 (OCXO)			1 × 10 ⁻⁷	
Measurement time				
Receiver mode/scan (per frequency step)			selectable from 100 μs to 100 s	
Analyzer mode/sweep time			selectable from 2.5 ms to 16000 s, zero span 1 μs to 16000 s	
Resolution bandwidth (-3 dB)			10 Hz to 10 MHz in 1/3 sequence	
Resolution bandwidth (-6 dB)			200 Hz, 9 kHz, 120 kHz, 1 MHz (impulse)	
Video bandwidth			1 Hz to 10 MHz in 1/3 sequence	
Level				
Max. RF level (input attenuation ≥ 10 dB)			+30 dBm (= 1 W)	
Max. pulse energy			10 mWs	
Max. pulse voltage			150 V	
Third-order intercept			typ. +18 dBm	
1 dB compression			+ 5 dBm	
Displayed average noise level (with RBW = 1 Hz FFT filter RBW and R&S®FSL-B22 preamplifier option)				
9 kHz < f < 3 MHz			typ. -115 dBm	
f = 500 MHz			typ. -162 dBm	
f = 3 GHz			typ. -158 dBm	
Detectors			pos./neg. peak, auto peak, quasi-peak, RMS, average, sample, average with meter time constant (CISPR average), RMS-Average (CISPR RMS)	
Level measurement uncertainty			f < 3 GHz (< 0.5 dB) f < 6 GHz (< 0.8 dB)	
Tracking generator	no	yes	no	yes
Frequency range	-	1 MHz to 3 GHz	-	1 MHz to 6 GHz
Output level	-	-20 dBm to 0 dBm	-	-20 dBm to 0 dBm

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