R&S®ESL EMI Receiver

Compact, cost-effective measuring receiver

The perfect choice for



EMI measurements & debugging of commercial products	
Standard RF spectrum measurementsDevelopment & mobile users	

Compact, cost-effective measuring receiver

The R&S[®]ESL EMI test receiver combines two instruments in one, measuring EMC disturbances in line with commercial 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.

Key specifications		Your benefit	Features
Frequency range Measurement range Amplitude accuracy 1 dB compression RF input pulse-resistant Displayed average noise level with preamplifier	 up to 50 GHz -70 dBm to +23 dBm 0.5 dB +5 dBm up to 10 mWs <-152 dBm (1 Hz) 	EMI measurements	 Very good RF characteristics Frequency range covering the most important EMI measurements in commercial product standards All CISPR weighting detectors included All major functions of an advanced EMI test receiver, including fully automated EMI test sequences
Resolution bandwidths	10 Hz to 10 MHz (–3 dB), 200 Hz, 9 kHz, 120 kHz (–6 dB), 1 MHz (impulse)	Compact and mobile	 Rugged case as standard Compact size Lightweight Optional battery operation for installation, maintenance and on-site applications
		Standard RF spectrum measurements	Complete functionality of an R&S°FSL3/R&S°FSL6 spectrum analyzer included
			Test & Measurement Fact Sheet 01.00

⊳ For more information, visit www.rohde-schwarz.com/product/ESL



Test receiver and spectrum analyzer function

FREQU	PK+ OPK	60.4	118.0000000 k 4 dBµV 7 dBµV	Hz Min Peak
raf	CAV CRMS	18.4	B dBµV 3 <mark>dBµV</mark>	Average
d8 -15 0	10 20 30	40 50 60	70 80 90	RMS
IPk Lin	nit Check 1MHz e EN55011 AV e EN55011 QP	FAIL PASS FAIL	10 MHz	Quasipea
ENSSOII C ENSSOII / HD Ensy		T	mont	CISPR Average
GL REAL ABOUT	50.0 kHz		Stop 30.0 N	CISPR RMS

Menu for selecting weighting detectors. Values produced by a maximum of four different detectors are simultaneously displayed, both numerically and as an analog bargraph.

Individual receiver parameters set for subranges

Scan Start	150.0000 kHz	I			Scan
Scan Stop	1.0000 GHz				Control
Step Mode	AUTO				Edit Scan
	RANGE 1	RANGE 2	RANGE 3	RANGE 4	Table
Start	150.0000 kHz	30.0000 MHz			
Stop	30.0000 MHz	1.0000 GHz			Adjust
Step Size	4.000 kHz	40.000 kHz			Axis
Res BW	9 kHz	120 kHz			1
Meas Time	1.00 ms	100 µs			Insert
Auto Ranging	OFF	OFF			Range
RF Attn	10 dB	10 dB			
Preamp	OFF	OFF			Delete
Auto Preamp	OFF	OFF			Range
4		•		3	
30 dBuV-					10 dB Min
00.10.11					On Off
20 dBµV-					
10 dBµV-					Freq Axis
					LIN LOG
Start 15	50.0 kHz			Stop 1.0 GHz	

In receiver mode, the R&S[®]ESL is tuned in fixed frequency steps in accordance with the settings in the SCAN table. The SCAN table can be programmed for a maximum of ten frequency subranges with independently selectable parameters.

Ordering information

Popular options/accessories

Choose your model					
Test receiver	Frequency range	Options			
R&S®ESL3 (1300.5001.03)	9 kHz to 3 GHz	Base unit			
R&S®ESL3 (1300.5001.13)	9 kHz to 3 GHz	Tracking generator			
R&S®ESL6 (1300.5001.06)	9 kHz to 6 GHz	Base unit			
R&S®ESL6 (1300.5001.16)	9 kHz to 6 GHz	Tracking generator			

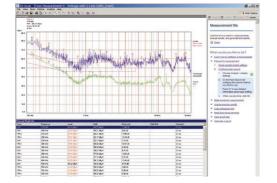
Included: All models include power cable, quick start guide and CD-ROM (with operating manual and service manual) and threeyear warranty

Description	Туре	
OCXO reference frequency	R&S [®] FSL-B4	
Additional interfaces (video out, IF out, noise source control, AUX port, R&S®NRP-Zxx power sensor)	R&S®FSL-B5	
Gated sweep	R&S®FSL-B8	
AM/FM/φM measurement demodulator	R&S [®] FSL-K7	
Power sensor support (requires R&S®FSL-B5 or R&S®NRP-Z3/-Z4)	R&S®FSL-K9	

Edit Peak List (P

Trace1: EN55011E

Diagnostic measurements made easy with ES-SCAN



Preview measurement (Pk and Avg) with determination of the local maxima (here, 25 subranges) for subsequent final measurement (QP and C-Avg).

Trace2: LimitLine not assigned

Test

Evaluation of critical disturbance frequencies list

Trace/Detector	Frequency /	Level dBµV/m	DeltaLimit	-		
1 Pos. Peak	126.8000 MHz	43.94	13.9 dB		Peak	
1 Pos. Peak	127.8800 MHz	44.41	14.4 dB		Search	
1 Pos. Peak	131.6800 MHz	50.63	20.6 dB			
1 Pos. Peak	132.0000 MHz	45.57	15.6 dB	Edit		
1 Pos. Peak	132.8000 MHz	48.68	18.7 dB		Peak List	
1 Pos. Peak	133.2800 MHz	50.15	20.2 dB			
1 Pos. Peak	133.6000 MHz	47.09	17.1 dB	Run Fina		
1 Pos. Peak	134.0800 MHz	45.51	15.5 dB		Meas	
1 Pos. Peak	134.1600 MHz	45.24	15.2 dB	_	Para and an and a second second	
1 Pos. Peak	135.4800 MHz	44.09	14.1 dB		Peak List	
1 Pos. Peak	138.0000 MHz	44.10	14.1 dB		Export	
1 Pos. Peak	138.1200 MHz	46.51	16.5 dB			
1 Pos. Peak	138.4000 MHz	46.16	16.2 dB		Decim Sep	
1 Pos. Peak	138.4800 MHz	45.15	15.2 dB	1		
1 Pos. Peak	140.0000 MHz	49.29	19.3 dB	-	1	

This saves valuable test time and is a great help for anyone who does not make such measurements on a regular basis.

Rohde & Schwarz Representative

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