



R&S Precompliance Kits 3 GHz/7 GHz

With components for conducted and radiated EMI emission testing from 9 kHz to 3/7 GHz

- ◆ Near full-compliance performance at a precompliance price
 - ◆ Intended for all commercial standards such as CISPR, FCC, VDE and VCCI
 - ◆ Ideal for precertification, precompliance measurements in development and diagnostic EMI measurements
 - ◆ Ideal for troubleshooting, pre- and post-production
- In conjunction with the Test Receiver R&S ESPI and EMC Measurement Software R&S EMC32:
- ◆ Open report configuration for exporting data to common word processing programs
- ◆ Single keystroke measurements up to 3 GHz without manual intervention
 - ◆ Easy-to-use macro-driven software designed for maximum repeatability, flexibility and throughput

General

The R&S Precompliance Kit offers near compliance performance at a precompliance price.

The precompliance kit is especially recommended in conjunction with

- ◆ Test Receiver R&S ESPI3 (9 kHz to 3.0 GHz) or R&S ESPI7 (9 kHz to 7.0 GHz)
- ◆ EMC Measurement Software R&S EMC32

This kit allows EMI problems to be diagnosed during development and is available in three versions:

- ◆ Radiated Emissions Kit (version R)
- ◆ Conducted Emissions Kit (version C)
- ◆ Radiated and Conducted Emissions Kit (version RC)

The scope of delivery for each version is listed in the table on page 3.

Test Receiver R&S ESPI

The Test Receiver R&S ESPI simplifies EMI measurement functions with single key-stroke tests for peak, average, and quasi-peak (QP) emission testing. CISPR bandwidth filters of 200 Hz, 9 kHz, 120 kHz and 1 MHz are provided, as are more than 40 digital channel filters.

Since the Test Receiver R&S ESPI is based on the spectrum analyzer platform, full analyzer functionality is built in. Fast frequency sweeps (starting at 2.5 ms) and update rates allow quick measurement and documentation of critical or intermittent signals in the spectrum analyzer mode. The analyzer's outstanding RF performance (total measurement uncertainty <1.5 dB), wide dynamic range and a displayed average noise level (DANL) of $-155 \text{ dBm}^{1)}$ are available in either mode.

The R&S ESPI also includes a number of semi-automated measurement routines, transducer factors, limit lines and remote control LISN capabilities yielding faster test times.

An optional preselector/preamplifier (R&S ESPI-B2) increases the R&S ESPI's RF protection and performance by lowering system noise level and increasing measurement dynamic range. The R&S ESPI-B2 is especially useful when performing quasi-peak measurements or in environments where large ambient signals are found. The 20 dB built-in preamplifier is also available to provide gain for detecting weak signals.

¹⁾ (1 Hz RBW) at frequencies less than 1 GHz.

Recommended test

EMC Measurement Software R&S EMC32

R&S EMC32 is used to automate, control and to provide documentation for the precompliance kit. The software is driven by a graphical user interface (GUI) and compatible with Windows98, NT and 2000. Instrument control through an IEC/IEEE 488 control bus automates testing procedures for maximum accuracy.

R&S EMC32 comes with predefined test setups, limit lines and typical correction factors. The software is also highly configurable; as your lab grows, R&S EMC32 can accommodate the new equipment.

Once the measurements have been made, R&S EMC32 provides an integrated report generator that is compatible with the most popular word processing programs. The report utility creates test graphs, data tables and general test information for export or direct printing.

Simply select the test type, set up the equipment under test and press "Start". Let the software run the receiver, perform the measurements and then print the results. Keeping it simple, fast and affordable.

For additional technical information on R&S EMC32 see data sheet PD 0757.6779.

Benefits of R&S Precompliance Kit

- ◆ Complete solution, no compatibility issues
- ◆ System approach backed by Rohde & Schwarz, a name synonymous with high-performance EMC test equipment and systems

The optional tracking generator (R&S FSP-B9) gives the R&S ESPI the ability to perform network analyzer measurements. Cable loss calibration, amplifier gain and component frequency response measurements are now available without a separate network analyzer. These options extend the R&S ESPI's capability beyond the basics, creating the ideal EMI testing solution.

- ◆ R&S ESPI 3: 9 kHz to 3 GHz
- ◆ R&S ESPI 7: 9 kHz to 7 GHz

To help keep your time-to-market schedule, both models offer measurement times as low as 100 μs (receiver mode) and allow simultaneous detection of peak, average and quasi-peak signals. Other features such as standard limit lines and antenna correction factors keep your eyes on the test rather than in a book.

For additional technical information on R&S ESPI see data sheet PD 0757.6540.

Near-field probe set

A near-field probe set is included for E-field and H-field measurements and troubleshooting "hot" spots. Diagnosis of signals at the PCB, IC or cable level is accomplished with four H-field loop and two E-field probes. The included transit case helps organize and protect the probe set.

Line impedance stabilization network (LISN)

Conducted emission testing is accomplished with a 9 kHz to 30 MHz LISN. The LISN meets the CISPR curve (±20%) and can operate up to 250 V AC and 16 A continuous.

- ◆ Frequency range: 9 kHz to 30 MHz
- ◆ Two-line network
- ◆ Maximum voltage: 250 V AC, 50/60 Hz
- ◆ Maximum current: 16 A
- ◆ Remote control capability

Econolog antenna

The Econolog antenna's wide frequency range (26 MHz to 3 GHz) eliminates the need to change antennas for full spectrum radiated emission tests. Typical antenna correction factors are provided.

- ◆ Frequency range: 26 MHz to 3 MHz
- ◆ 2:1 VSWR above 80 MHz average
- ◆ Includes tripod and cable (10 m)

Scope of delivery for versions C, R and RC

Component/Type	C	R	RC
Set of Near-field probes	●	●	●
Preamplifier	●	●	●
Cable (10 m)		●	●
Line impedance stabilization network (LISN)	●		●
Econolog antenna		●	●
Tripod		●	●



Ordering information

Order designation	Type	Order No.
Recommended equipment		
Test Receiver 9 kHz to 3 GHz	R&S ESPI3	1142.8007.03
Test Receiver 9 kHz to 7 GHz	R&S ESPI7	1142.8007.07
Options		
Preselector/Preamplifier for R&S ESPI	R&S ESPI-B2	1129.7498.02
Ruggedized case, carrying handle	R&S FSP-B1	1129.7998.02
Internal Tracking Generator 9 kHz to 3 GHz	R&S FSP-B9	1129.6991.02
External Generator Control	R&S FSP-B10	1129.7246.02
Precompliance Kits		
Conducted Emissions Kit Radiated Emissions Kit Conducted and Radiated Emissions Kit For ordering the precompliance kits, please contact your local Rohde&Schwarz representative.	C R RC	
Recommended extras		
Pulse Limiter 9 kHz to 30 MHz (N type)	R&S ESH3-Z2	0357.8810.54
Control Cable from R&S ESPI to LISN For ordering accessory, please contact your local Rohde&Schwarz representative.	R&S EZ-14	1026.5341.02

Certified Environmental System
ISO 14001
REG. NO 1954

Certified Quality System
ISO 9001
DQS REG. NO 1954



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