R&S®ELEKTRA
EMI Test Software
Easy-to-use software for measuring electromagnetic disturbances

ROHDE&SCHWARZ

Test & Measurement

Product Brochure | 01.00

R&S®ELEKTRA EMI Test Software

At a glance

The R&S®ELEKTRA EMI test software supports EMI measurements performed during development with EMI measuring receivers and spectrum analyzers from Rohde&Schwarz. Test templates – including relevant limit lines and transducer factors – simplify configuration. Tried-and-tested measuring procedures provide reliable measurements. The software helps users to archive and document measurement results.

The essential requirements for disturbance measurements have been combined in an easy-to-use application. Test templates, which include measurement settings, represent the test setup with accessories such as artificial mains networks and antennas. In addition, transducer factors for the accessories used, as well as the limit lines for product standards, are part of the test templates. The software first measures the frequency spectrum based on the template in a preview measurement and compares it to the limit lines. R&S®ELEKTRA performs the time-consuming final measurement with the standard-compliant weighting detector only when the limit value is exceeded, saving a lot of measurement time. A test report documents all the results with relevant settings. The integrated database saves and manages settings, measurement results and reports. A backup assistant ensures data backup at regular intervals.

Test templates for key commercial and military standards are provided and reduce the learning curve. By means of test receivers and spectrum analyzers from Rohde&Schwarz, users are able to perform fast and reliable EMI measurements.

R&S®ELEKTRA EMI Test Software

Key features

Library with all necessary settings and measurement results

The predefined test templates contain receiver settings, describe the test setup and can be easily modified. The software includes a collection of relevant limit lines from commercial and military standards as well as the transducer factors for many antennas, artificial mains networks and other test sensors.

Easy access to all functions

The dashboard enables fast access to all essential elements such as tests, templates, instruments and settings. Frequently used items are added as a favorite to the main page in order to access them directly.

A block diagram shows the test setup cabling and makes it easy to call up the setting parameters for the individual devices.

Recording of measured values

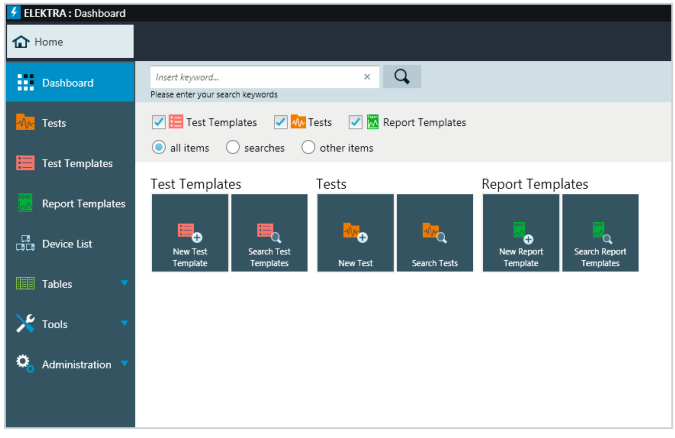
R&S®ELEKTRA performs automated disturbance measurements with the R&S®ESCI, R&S®ESPI, R&S®ESL, R&S®ESR, R&S®ESU, R&S®ESRP and R&S®ESW test receivers, as well as the R&S®FSL, R&S®FSV and R&S®FSW signal and spectrum analyzers.

R&S®ELEKTRA automatically switches over artificial main networks with several phases in line with relevant standards, e.g. when measuring conducted disturbances. The software saves all measured values for data reduction and further analysis.

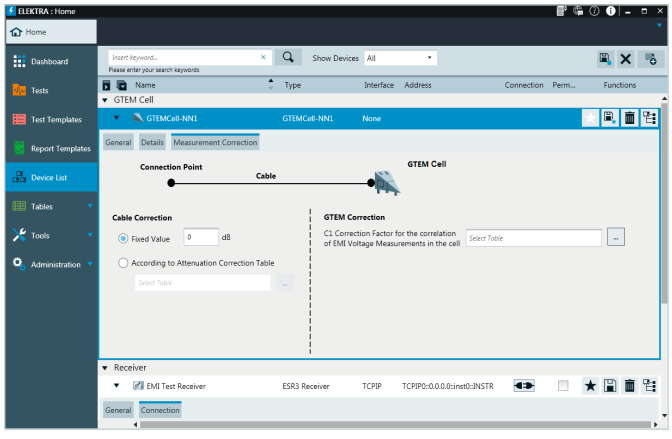
TEM Waveguides

CISPR14-1 allows TEM waveguides even for compliant measurements of e.g. battery-operated electric tools. R&S®ELEKTRA converts measurement results from x-, y- and z-axis from the EUT in the waveguide to results equivalent to those obtained from an open area test site.

Dashboard with a overview of templates and results.



Configuration of a disturbance measurement with TEM waveguide.



Search for critical frequencies

Automated analysis of the measured spectrum detects limit violations that are sorted according to frequency subranges. The software optionally generates a list of critical frequencies with the highest disturbance levels relative to the limit line. If necessary, the user adds frequencies that are taken into account during the final measurement or removes ambient disturbance signals from the list. Versatile marker functions help to identify critical frequencies.

Final measurement

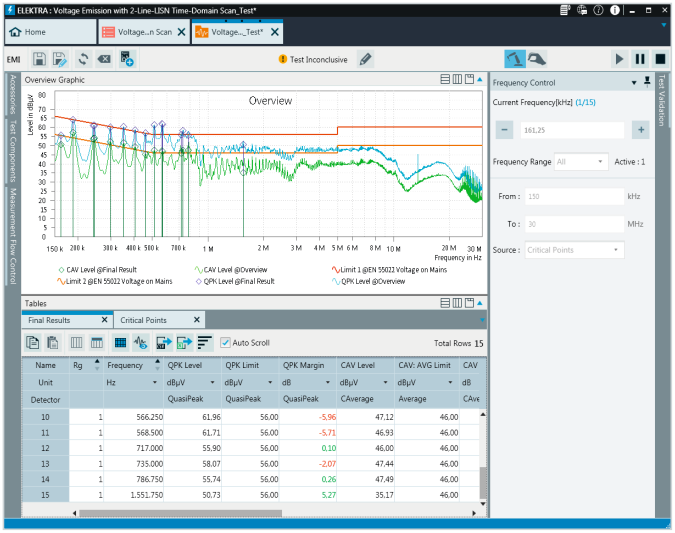
The final part of the measurement is performed using the standard-compliant detector. The interactive measurement enables users to determine the frequencies with the highest disturbance levels more precisely in order to reliably detect drifting signals, for example. Alternatively, the final measurement runs automatically, which is ideal for stable disturbance signals.

If the preview measurement results have been achieved with the standard-compliant detector and the time-saving time domain scan, for example, a final measurement is not needed.

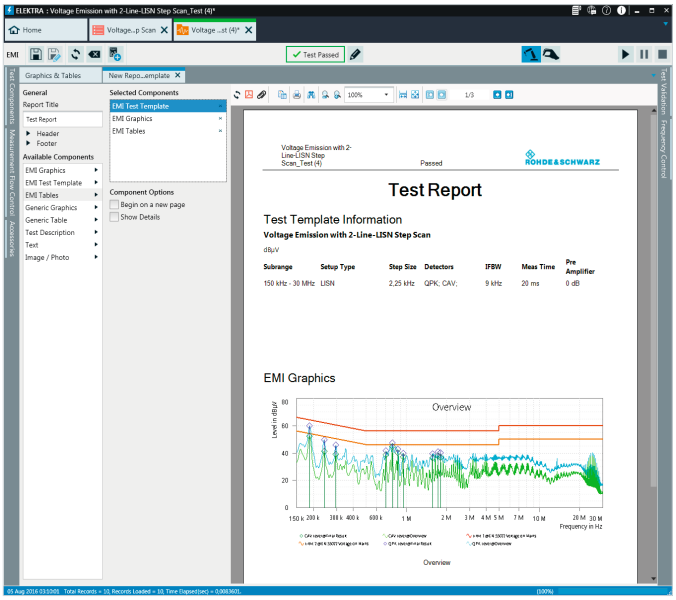
Documentation of results

In addition to measurement results, instrument settings and test setup configuration must also be included in the complete documentation of a measurement. Users can add additional components such as text or photos (e.g. of the test setup) and check the report in the preview. It is also possible to print or save test reports in PDF format.

Fully automatic final measurement with standard-compliant detector.



Test report for a disturbance voltage measurement.



Specifications in brief

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Instrument link		
VISA I/O library		included in software package
Link types		VXI-11 (not available for the R&S®ESPI with Windows NT), GPIB (requires additional hardware)
Measurement result display		
Diagram		trace of preview measurement with limit lines and final measurement results
Result lists		overview measurement, critical frequencies, final measurement results
Documentation of measurement results		
Test report		PDF
Measurement results table		ASCII (CSV), Excel (XLSX)
Minimum requirements for the controller		
Computer		PC with Intel® Core™ i5 processor or laptop/tablet with Intel® Core™ i7 processor
RAM		8 Gbyte
Mass storage		250 Gbyte hard disk, solid-state disk (SSD) recommended
USB		USB 2.0
LAN		100 Mbit LAN interface, Gbit LAN recommended
Resolution		1280 × 720 pixel
Operating system		Windows 7/8/10, 64 bit

Ordering information

Designation	Type	Order No.
EMI Test Software	R&S®ELEMI-E	5601.0030.02
License Dongle	R&S®EMC PC	5601.0018.02