



EMC Measurement Software EMC32

For use in development, for compliance and batch testing

Flexible

- ◆ Modules for measuring electromagnetic interference (EMI) and electromagnetic susceptibility (EMS)
- ◆ Support of measurements to civil standards such as CISPR, IEC, ISO, EN, ETSI, VDE, FCC and ANSI
- ◆ Manual and automatic EMI and EMS measurements
- ◆ Can be combined with EMC test systems and EMI test receivers/analyzers from Rohde&Schwarz

Efficient

- ◆ Graphical user interface for instrument and system configuration
- ◆ Menu-guided, intuitive user prompting for all test sequences (virtual instrument)
- ◆ Product-oriented test selection
- ◆ EUT-specific data management
- ◆ Modular calibration concept
 - Minimal recalibration effort required
 - Simplified test system certification
- ◆ Assisted installation and configuration
- ◆ Online help

Future-oriented

- ◆ Modular program structure
- ◆ Easily upgradeable
- ◆ Data storage in text format
- ◆ Reports generated as RTF¹⁾ or HTML file
- ◆ 32-bit software for Windows98SE, NT4.0 and 2000

¹⁾ as of 2002

Measurement Software EMC32

The EMC Measurement Software EMC32 from Rohde&Schwarz runs on 32-bit operating systems from Microsoft and offers a common user interface for electromagnetic interference (EMI) and electromagnetic susceptibility (EMS) measurements. The software is a modern and powerful tool for controlling and monitoring Rohde&Schwarz EMI test receivers and EMC test systems. It guarantees reliable collection, evaluation and documentation of measurement results.

Thanks to its comprehensive and extremely flexible configuration capabilities and its open software structure, EMC32 can be used for all EMI and EMS measurements in line with civil standards.

Flexible ...

... in its use

An essential feature of the EMC32 software is that it can be optimally adapted to the requirements of the various EMC applications:

◆ Tests during development

Switchover between manual and automatic measurements at any time (e.g. manual measurement for fast interference source identification within an automatic measurement sequence)

◆ Compliance testing

Standard measurements can be performed easily and rapidly with the aid of predefined test routines and an integrated EUT monitoring function (EMS)

◆ Batch tests

The capability to perform graphical batch measurements is ideal for batch testing

... regarding measurement requirements

The EMC32 software offers EMI and EMS measurements for all civil product groups:

- ◆ Industrial, scientific and medical RF instruments (ISM instruments)
- ◆ Broadcast receivers and connected units
- ◆ Domestic appliances and tools
- ◆ Fluorescent lamps and lighting systems
- ◆ Information technology equipment (ITE)
- ◆ Communications equipment
- ◆ Automotive products

The limit values for the applicable international standards are already included in the software. Furthermore, new test criteria can be generated by the user, stored as standard and considered as manufacturer- or product-specific limit values. This makes the software user-configurable for almost any EMC measurement task.

... for measurements

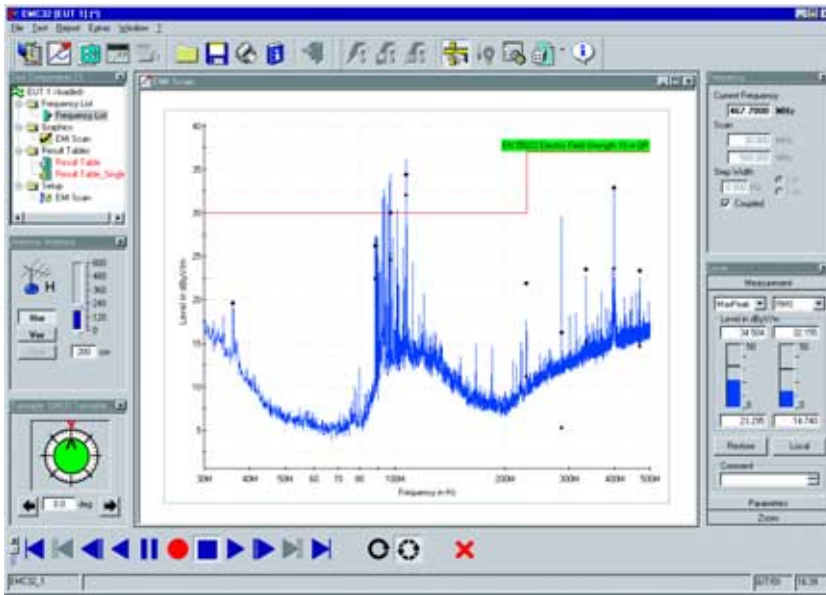
The EMC32 software supports the following EMC measurements:

- ◆ Electromagnetic interference (EMI)
 - conducted
 - radiated
- ◆ Electromagnetic susceptibility (EMS)
 - conducted
 - radiated

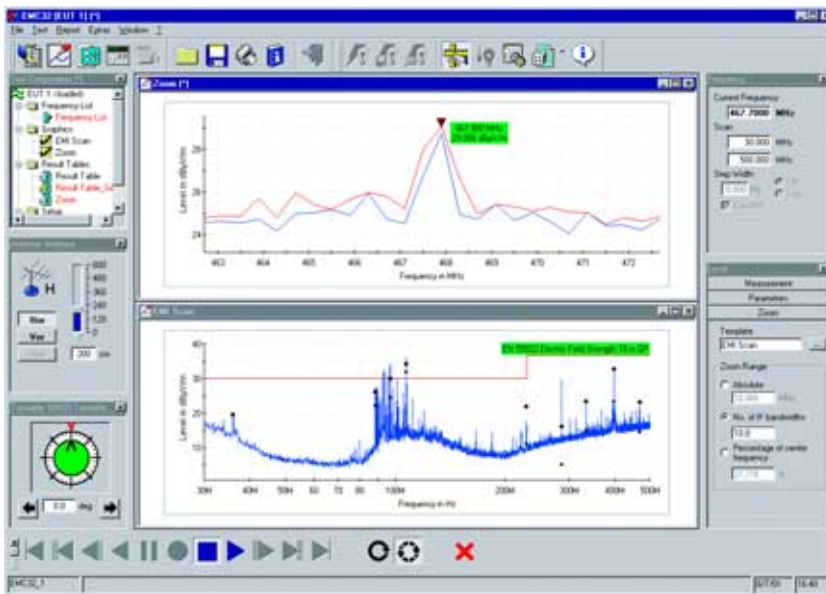
... in the test setup

- ◆ Support of a wide selection of measuring instruments and system components (e.g. GTEM, S-Line)
- ◆ Simple replacement of system components
- ◆ Fast switchover between different test setups (e.g. LISN or current clamp) and test modes

The characteristics of the individual components are stored in calibration routines. Calibration data can also be entered manually or imported as ASCII files. The various instrument configurations are stored and recalled as required. In the case of EMS measurements, automatic EUT monitoring via various interfaces ensures reliable EUT evaluation.



EMC32 display for single EMI measurements; parameters such as current measurement frequency, detectors, bandwidth, measurement time, demodulation or RF attenuation can be varied during the measurement



With the aid of an auxiliary zoom function, a small range around the RFI frequency can be scanned; the result of the individual measurement are entered in a separate result table and also represented as a separate trace in the graph

... in the test report

The integrated report generator of the EMC32 software offers comprehensive capabilities for determining the content as well as the layout of the test report. Report layouts can be stored as templates. Test reports can be printed out or saved as a file in RTF¹⁾ or HTML format.

Clear user prompting and an intuitive operating concept in conjunction with product-oriented measurements enable even untrained users to quickly become familiar with the operation of the EMC32 software.

¹⁾ as of 2002

Efficient ...

... due to a graphical user interface

The graphical user interface uses simple elements that provide a fast and easy introduction and allow clear and efficient operation:

◆ User interface

The clear layout using self-explanatory icons, menus and entry masks allows intuitive operation

◆ Virtual instrument

Operation is analogous to that of a single measuring instrument even when a test system with a number of different components is concerned

◆ Graphics display

In addition to displaying measurement results in the form of traces, test and calibration setups as well as instrument settings can be displayed as block diagrams, pictograms and icons; this provides a good overview and serves to clarify the information

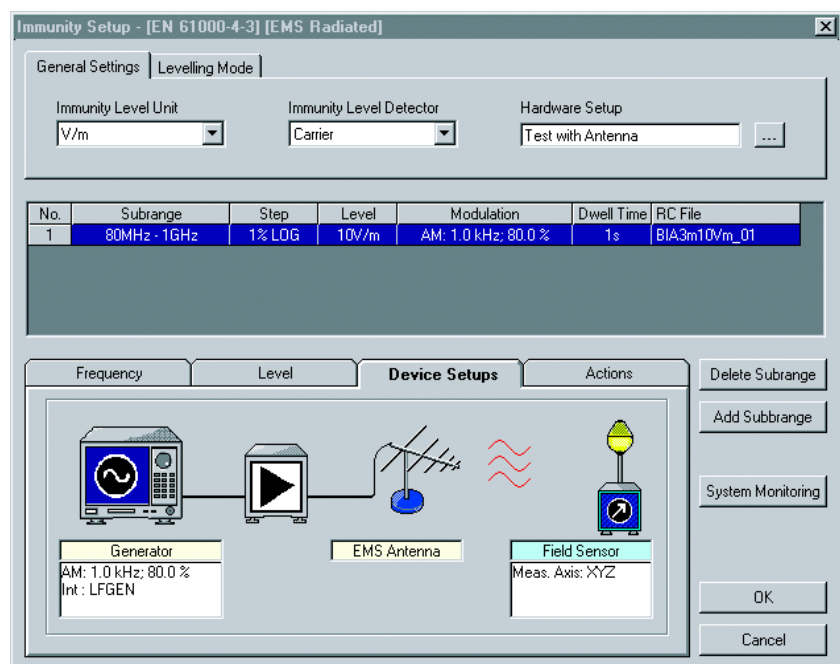
Partial view of EMC32 Explorer (e.g. files containing limit lines for radiated and conducted EMI); the tree structure of the explorer gives an overview of the whole EMC32 file system for quick operation



EMS scan editor of EMC32 where parameters can be set for measuring the susceptibility to radiated interference; settings of the instruments used are modified in a separate editor

... through assistance

Special tasks which have to be performed prior to the first measurement with EMC32, e.g. the configuration of the test system, are carried out with assistance of the software which guides the user through all the essential steps. Context-sensitive help functions and the "Getting started" description provide a brief introduction to operation and give a comprehensive overview if the user has questions or problems.



... through a modular calibration concept

Due to the modular calibration concept, both the individual components (e.g. cables) and the entire test setup (reference calibration) or the test site (field uniformity) can be calibrated. This guarantees rapid verification, fast error location and restoration of measurement functions when an instrument or component has been replaced. The calibration tables can also be used for checking the required instrument and measurement characteristics.

External calibration data provided by manufacturers or calibration laboratories can be easily integrated or imported in the EMC32 software via an editor.

... through product-oriented test selection

EMC32 allows test setups to be stored together with all associated calibration data, limit values and instrument parameters. The use of such user-defined EUT- or standard-specific test templates simplifies the preparation of measurements and helps to prevent errors.

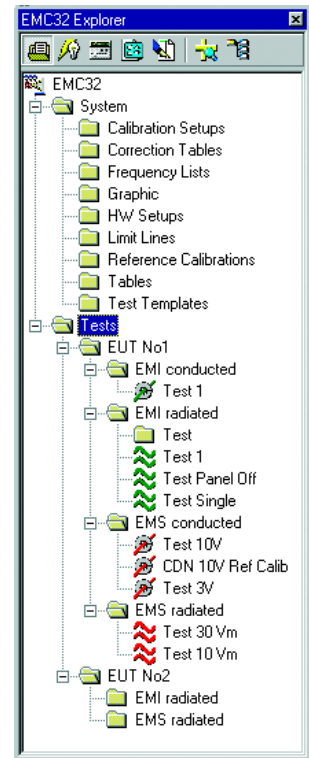
When self-explanatory file names are assigned to the test templates, a library can be created from which new tests can be quickly generated. Limit values for applicable civil standards are predefined in the software.

... in file management

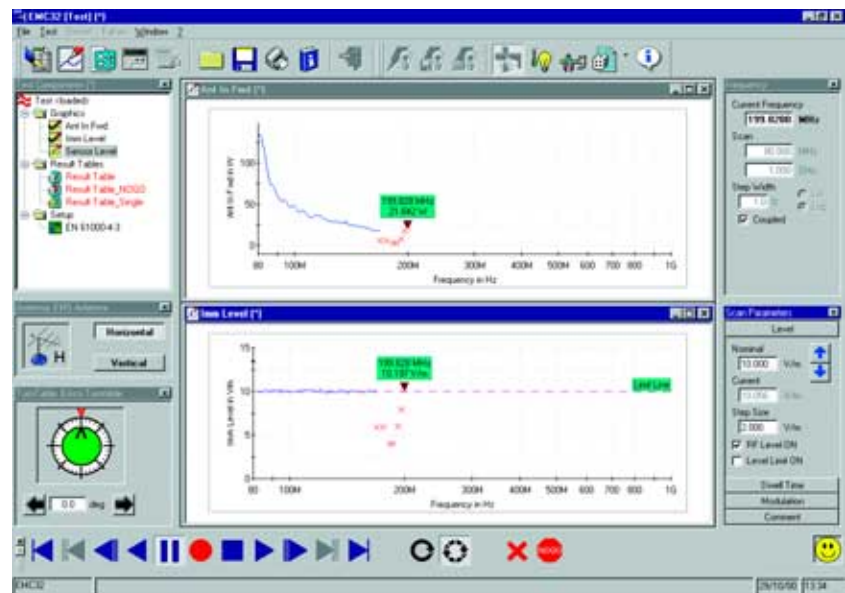
Test results are stored in EUT-specific folders using the Windows directory structure, i.e. the presentation of the files in EMC32 is similar to the Windows Explorer. Standard tools can be used for file management and data backup.

Besides its flexibility to adapt to new or future measurement tasks through the use of new limit values, different frequency ranges or modified test equipment, EMC32 offers other performance features that make it fit for the future.

EUT-specific test directory of EMC32 Explorer; the test directory contains all test results and the test templates used for obtaining them; results can thus be traced back to the settings used and a reliable reproducibility of measurements can be achieved



EMC32 display for single EMS measurements; the single measurement is carried out in the same test in which the automatic overview measurement was performed; it is based on the EMS scan template for automatic measurements, the difference being that setting parameters such as current measurement frequency, frequency steps, immunity level, modulation and dwell time can be varied during the measurement; results of the single measurement are entered in a separate result table and represented in the graph as a separate trace



Future-oriented ...

... through modular program structure

Thanks to EMC32's modular design, individual software modules can be adapted, enhanced and modified by means of software updates performed at Rohde&Schwarz, for example

... in data storage and processing

All measurement, configuration and report data is stored in standard file formats on the hard disk:

- ◆ Alphanumeric data (calibration data, measurement results, settings) in text format
- ◆ Graphs (measured traces) in WMF format
- ◆ Test reports as RTF¹⁾ or HTML files

This permits easy processing or archiving of data by standard applications. The general availability of the data formats and their independence from specific manufacturers ensure compatibility with future applications.

¹⁾ as of 2002

... 32-bit platform

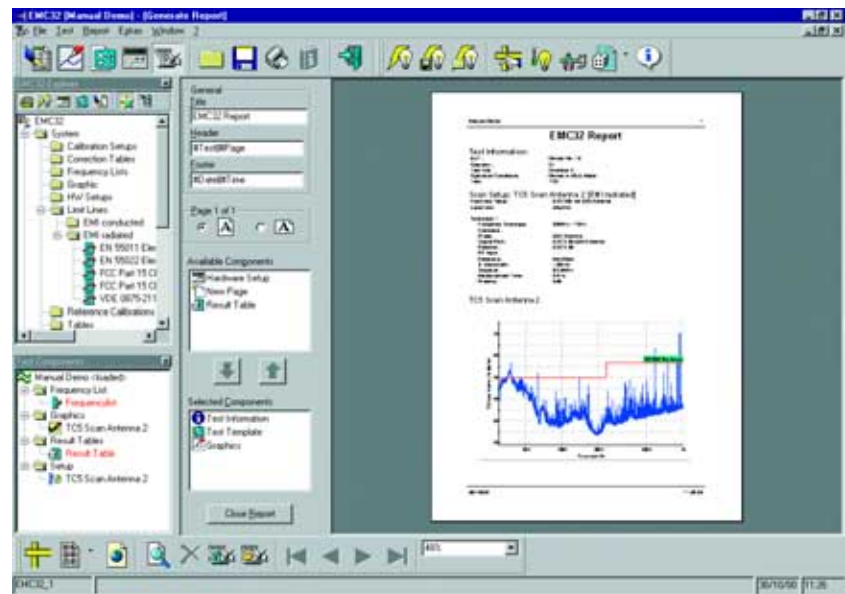
EMC32 is a 32-bit application for the operating systems Windows98SE, 2000 and NT4.0.

... through enhanceability and support

The software modules EMC32-E (EMI) and EMC32-S (EMS) can be rapidly and easily expanded to the complete version EMC32-C (EMI+EMS).

Continual software updates and support by Rohde & Schwarz ensure that EMC32 can be upgraded to accomplish future measurement tasks.

EMC32 with report configuration dialog open; a report consists of several parts, e.g. header, graphs, tables, test template settings, which can be configured and arranged in this dialog



Specifications/system requirements:

Operating system:
Windows 2000 (recommended) or
Windows NT 4.0 with service pack 5.0 or higher (recommended) or
Windows 98SE

Administration rights

Microsoft Internet Explorer 5.0 or higher
PC with Pentium processor (at least 200 MHz)
64 Mbyte RAM (Windows NT 4.0, 98SE) or 128 Mbyte RAM (Windows 2000)
50 Mbyte free hard disk space

Super VGA monitor, screen resolution at least 1024 x 768 pixels, 65536 colours
USB interface¹⁾ integrated in the motherboard (for i-Key software protection²⁾)
IEC/IEEE-bus interface card from National Instruments

Available software modules:

EMC32 is available as a complete package for EMI and EMS measurements or as single packages for EMI or EMS measurements.

EMC32-C: for electromagnetic interference and susceptibility test systems (EMI + EMS)

EMC32-E: for electromagnetic interference test systems (EMI)

EMC32-S: for electromagnetic susceptibility test systems (EMS)

The EMC32-E (EMI) software version supports the following

Rohde & Schwarz EMI test receivers:

EMI Test Receivers ESI7, ESI26, ESI40

EMI Test Receiver ESCS30

EMI Precompliance Test Receiver ESPI3, ESPI7

An overview of further currently available device drivers (RF generators, mast and turntable controllers, etc) of EMC32 is provided on the Rohde & Schwarz website at www.emc32.rohde-schwarz.com.

Ordering information

EMC Measurement Software EMC32 for EMI and EMS test systems	EMC32-C	1119.4644.02
EMC Measurement Software EMC32 for EMI test systems	EMC32-E	1119.4621.02
EMC Measurement Software EMC32 for EMS test systems	EMC32-S	1119.4638.02

¹⁾ Software support for the USB port of NT 4.0 is included in EMC32.

²⁾ Software protection: EMC32 is protected by a hardware dongle (i-Key). When used for demonstrations or without control of (hardware) system components, EMC32 can be installed on a computer without further registration and can be operated without an i-Key.





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