



Photo 41954

EMS measurements to IEC 801-3/IEC 1000-4-3/EN 61 000-4-3

Brief description

With the new European standards for electromagnetic compatibility and the relevant national EMC laws that came into effect, EMS tests on electrical and electronic equipment are required in all areas of the civilian sector.

The test procedure for determining susceptibility to electromagnetic fields is described in the international standard IEC 1000-4-3. In Germany, standard VDE0843, Part 3 was derived from this standard. Product-specific European standards (EN 61 000-3-4) based on valid national and international standards have been established. Test System TS9981 from Rohde & Schwarz is for automatic EMS testing to IEC 1000-4-3 and EN 61 000-3-4 with field strengths of ≥ 10 V/m in the frequency range 80 MHz to 1 GHz. It is an efficient

and reliable tool both for tests in development and acceptance tests.

Main features

Automatic measurement of susceptibility to electromagnetic fields to IEC-1000-4-3, EN 61 000-3-4 and other standards

- Measurements at all severity levels with test field strengths ≥ 10 V/m
- High accuracy and reproducibility of results
- Short preparation and test times with powerful software under MS-Windows95/NT4.0
- Automatic generation of detailed test reports
- Efficient test routines
- User-friendly operation

System configuration

System TS9981 includes an EMS control unit, an amplifier, a transmitting antenna and a field probe. The system is fully computer-controlled (PC). This makes for reproducible and largely automatic test sequences.

The EMS control unit comprises a signal generator, a field strength meter, a power meter, and a directional coupler unit. The broadband power amplifier used in the system covers the whole frequency range from 80 MHz to 1 GHz.

To generate electromagnetic fields, one log-periodic antenna is used for the whole frequency range from 80 MHz to 1 GHz. EMS tests can be performed without changing the antenna, thus avoiding time-consuming interruptions.

Operation

Test System TS9981 includes the Rohde & Schwarz System Software EMS-K1 for Windows. The software makes it possible to perform automatic EMS measurements in line with all relevant standards. EMS-K1 is a convenient, cost-effective and reliable tool, enabling fast and easy system operation and high throughput. The test and

configuration capabilities ensure high reproducibility of results.

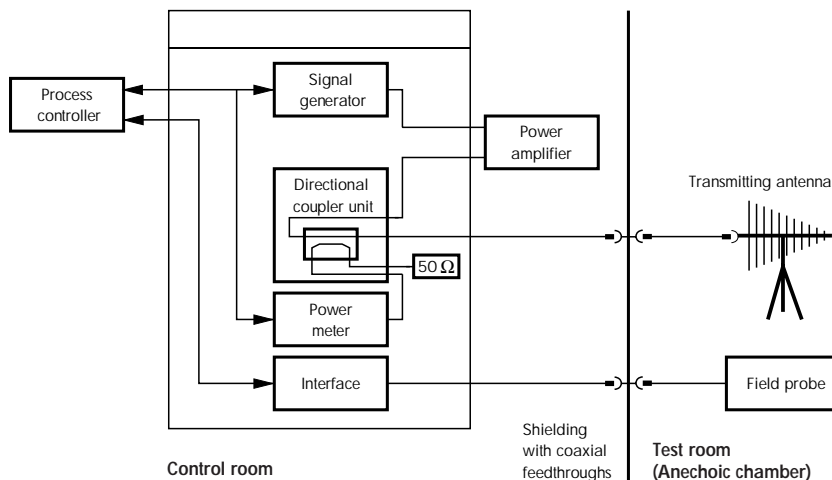
Expandability

Test System TS9981 is of modular design and can be extended by options. Various configuration levels allow for further automation of the test system, so giving an even higher throughput. Optional components include:

- EUT Monitoring System TS9981M (see page 322)
- Components and accessories for remote-controlled amplifier in separate room
- Shielded anechoic chambers
- TEM/G-TEM cells

Overview of models

Model	Main applications	Technical features	Power output
TS9981 A	Favourably priced test system for development labs, EMC labs and test houses; compliance tests with field strengths according to selected amplifier output power	Generator SMY01, Power Meter NRVS for measurement of forward power; EMS control unit designed as a 19" desktop; amplifier 25/100/200/500 W	25 W 100 W 200 W 500 W
TS9981 B	Expandable test system for EMC labs (quality management) and test houses	Same as TS9981A, but with EMS control unit designed as a 19" rack; measurement of forward and reflected power with NRVD	25 W 100 W 200 W 500 W



Block diagram TS9981