

Detection of low-level emissions in TEMPEST* measurements

Active Antenna System AM524

- High sensitivity
- Frequency range 100 Hz to 1000 MHz
- High measurement accuracy due to individual calibration
- Wide level range
- Compact design for use in small cabins
- Integration into automatic test systems

Low-level emissions from EDP peripherals like monitors, printers and data lines can be targeted for eavesdropping and so compromise security. Measures to counteract eavesdropping are essential, but measuring techniques capable of handling spurious emissions just above the noise floor are required to implement them. Low-noise Active Antenna System AM 524 has been designed for tackling applications of this kind.

AM 524 meets the requirements made on an antenna in a high-sensitivity system measuring compromising emissions. AM 524 provides highly advanced technology to all bodies engaged in the detection of extremely low-level signals, helping them to fulfill their task of ensuring security of the equipment tested.

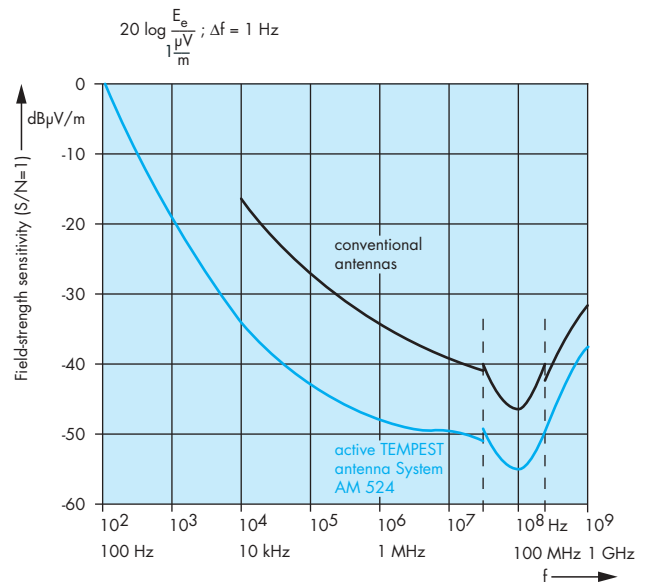
*) TEMPEST: generic term for anything related to the emanation of sensitive information



ROHDE & SCHWARZ

Specifications

Frequency range	100 Hz to 1000 MHz with three antennas
Nominal impedance	50 Ω
Sensitivity ($\Delta f = 1$ Hz)	0 dBμV/m (100 Hz) -43 dBμV/m (100 kHz) -51 dBμV/m (30 MHz) -54 dBμV/m (100 MHz) -37 dBμV/m (1000 MHz)
Conversion factor (without attenuator/extra amplifier)	approx. 0 dB (100 Hz to 30 MHz) -12 dB (100 MHz) 20 dB (1000 MHz)
Power supply	24-V battery or 110/220-Vac line
RF connectors	N female
Remote control	via fibre-optic cable
Operating and nominal temperature ranges	
Antennas	-10 to +55 °C
Junction units	0 to +50 °C
Storage temperature range	-25 to +70 °C
Dimensions, weight	
Active Rod Antenna HE 525	1500 mm x 600 mm, 5 kg
Active Dipole Antenna HE 526	1000 mm x 319 mm, 1.7 kg
Active Dipole Antenna HE 527	500 mm x 250 mm, 1.6 kg
Cabinet for junction units (W x H x D)	235 mm x 150 mm x 400 mm
Transit case	660 mm x 545 mm x 245 mm

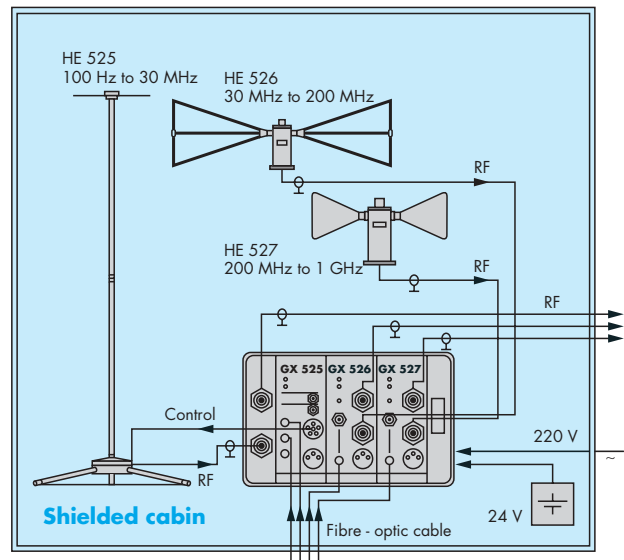


Field-strength sensitivity of Active Antenna System AM 524 compared to values attained with conventional antennas

Ordering information

Order designation

consisting of	Active Antenna System AM 524	4015.7001.02
Active Rod Antenna	HE 525	4015.7101.02
Active Dipole Antenna	HE 526	4015.7501.02
Active Dipole Antenna	HE 527	4015.8008.02
Junction Unit for HE 525	GX 525	4015.9256.02
Junction Unit for HE 526	GX 526	4015.9504.02
Junction Unit for HE 527	GX 527	4015.9756.02
Cabinet for junction units	KK 524	4015.9004.02
Transit case	ZR 524K	4015.8508.02



Components of Active Antenna System AM 524 for measuring emissions in shielded cabins



ROHDE & SCHWARZ