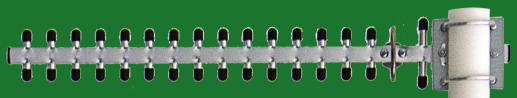
PM microwave

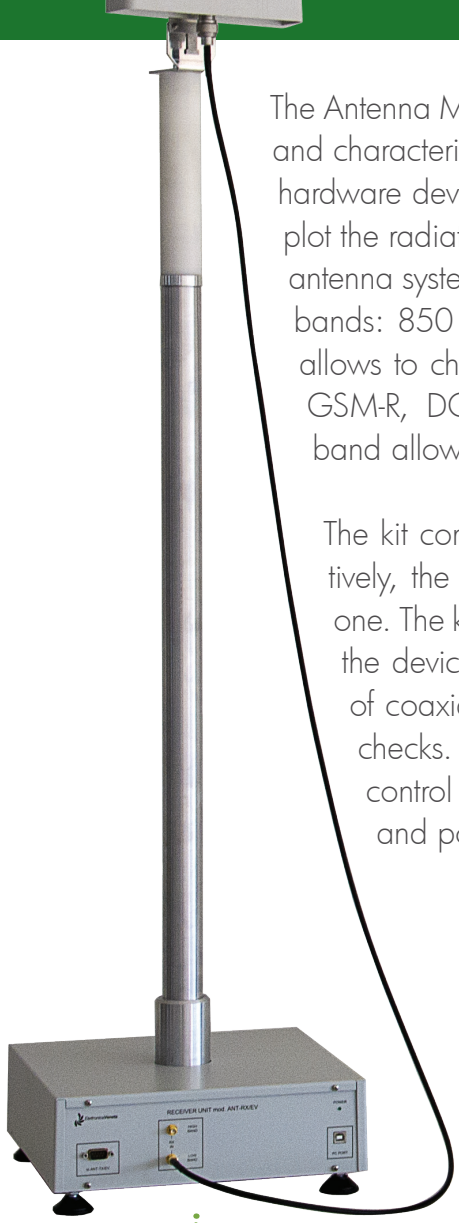
AMS

ANTENNA MEASURING SYSTEM



The Antenna Measuring System AMS allows the complete analysis and characterization of radiant systems. It is a tool consisting of a hardware device and a measurement software package, able to plot the radiation pattern in the horizontal plane of antennas and antenna systems. The device allows measurements in two default bands: 850 ÷ 2700 MHz and 10 ÷ 11 GHz: the first band allows to characterize antennas operating in the bands GSM, GSM-R, DCS, UMTS, Wi-Fi, Wi-Max and LTE; the second band allows testing of microwave antennas.

The kit consists of two towers capable of supporting, respectively, the antenna to characterize and the reference sample one. The kit also includes analysis and measurement software, the device for return loss measurements and a complete set of coaxial cables and adapters needed to carry out all the checks. The system works with a PC that allows the user to control all the parameters and to view graphical analysis and post-processed results.



RX rotating tower on which the antenna to characterize is mounted. The front end of the receiver system is specially optimized to achieve high levels of selectivity and immunity to environmental disturbances.

VSWR bridge for return loss measurements is available in the 850 ÷ 2700 MHz and 10 ÷ 11 GHz versions.

TX tower with adjustable height. The signal generator placed inside contains a synthesized PLL controlled oscillator, with a thermostabilized frequency reference. The level of the generated signal is a few milliwatts, suitable to work in complete safety in terms of exposure to RF fields.

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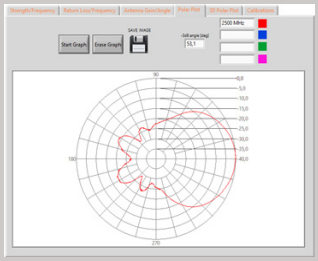
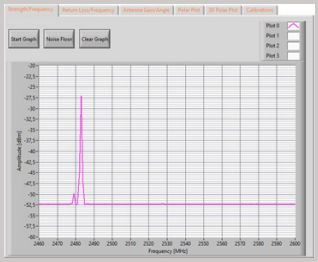
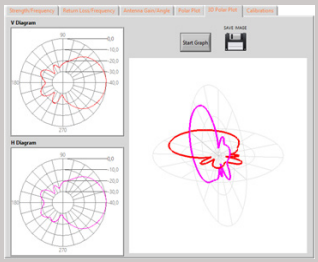


Characterization of the gain as a function of signal frequency and angle of radiation compared to an isotropic antenna.

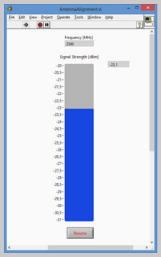
Measurement of intensity, frequency and angle of interfering signals, which are generated by GSM and UMTS stations, Wi-Fi networks or television broadcasters.

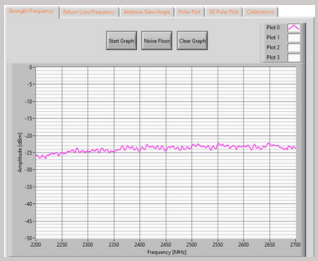




Radiation pattern of the antenna, whose representation may be in cartesian, polar or three-dimensional form.

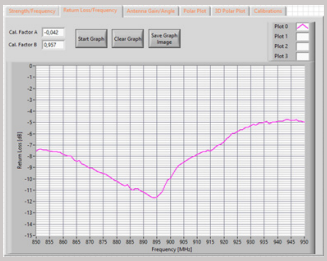
Alignment of antenna systems by identification of the maximum intensity of the received signal.





Measurement of the intensity of the signal received at the antenna connector RX as a function of radiation or frequency.

Measure of antenna return loss via supplied VSWR bridge.



TECHNICAL SPECIFICATIONS*

*specifications may be changed in accordance with the technical department

TRANSMITTER

Band 1	850 ÷ 2700 MHz
Band 1 RF level	7 dBm typ.
Band 2	10000 ÷ 11000 MHz
Band 2 RF level	0 dBm typ.
Frequency steps	1 MHz (both bands)
Frequency stability	± 2,5 ppm (0 ÷ 70 °C)

RECEIVER

Band 1	850 ÷ 2700 MHz
Band 2	10000 ÷ 11000 MHz
Frequency steps	1 MHz (both bands)
Bandwidth	300 kHz
Measurement resolution	> 10 bit
Frequency stability	± 2,5 ppm (0 ÷ 70 °C)
Angular resolution	> 0,2°
Measurement time on 360°	25 s typ.
Detector accuracy	± 1 dB typ. on 50 dB dynamic range
Band 1 input level	< -20 dBm
Band 2 input level	< -35 dBm
Dynamic range	65 dB

GENERAL

Communication interface	USB
Power supply	100 ÷ 240 Vac (50 ÷ 60 Hz)
Power consumption	typ. 30 W in measurement mode
TX tower height	108 ÷ 155 cm adjustable
RX tower height	110 cm fixed
Distance between towers	2 ÷ 5 m
Operating temperature	-10 ÷ +45 °C
Storage temperature	-20 ÷ +80 °C
Storage relative humidity	10% ÷ 80%
Dimensions	330 x 330 x 1100 mm (TX and RX units)
Protection degree	IP50 (TX and RX units)

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