

Antenna model: AT3000

Isotropic Antenna for EMF Measurement

INTRODUCTION

The AT3000 device contains three passive, independent, orthogonal antennas, designed and built in Calzavara - Clampco Sistemi NIRLab laboratory. If used with the ferrite bead coaxial cable supplied it allows reliable measurement of radio-frequency electric fields which have an environmental impact in the vast majority of practical cases. The three orthogonal antennas are framed in the black spherical polystyrene radome. The axis selection is accomplished by an internal RF electronic switch remotely controlled by a cable connected to the antenna pigtail. The special ferritized cable supplied with the antenna and it is composed by the RF cable and the axis selection cable.



SPECIFICATIONS

Frequency range: from 30 MHz to 3 GHz

Transducer type: isotropic transducer with three orthogonal dipole antennas, with RF absorbing antenna boom

Polarization: linear, triaxial polarization selection by means of internal electronic solid state RF switch

Axis selection: by PC via USB axis selection interface or manual remote axis selection box, battery power supplied

Antenna factors: individual calibration data. Manufacturer calibration report enclosed

Frequency (MHz)	Antenna factor * (dB μ V/m) typical	Frequency (MHz)	Antenna factor * (dB μ V/m) typical
80	60	1000	46
100	56	1250	46
150	52	1500	46
200	55	1750	47
300	51	1800	47
400	50	2000	46
600	48	2500	43
800	46	2750	48
900	46	3000	51

* at the RF output connector (averaged on the three axes)

Max applicable field strength: > 500 V/m (1 dB compression point)

Isotropic measurement uncertainty

± 3.0 dB	from 30 MHz to 85 MHz
± 2.0 dB	from 85 MHz to 110 MHz
± 1.5 dB	from 110 MHz to 2.1 GHz
± 1.0 dB	from 2.1 GHz to 3 GHz

Note: antenna in vertical position with at least 1.5 meter ferritized cable for any field incidence direction

Dimensions:

antenna radome: \varnothing 200mm
total length: 520 mm

Antenna weight: 0.5kg

RF connector: N-female, 50 Ohm

Axis selection connector: 7 pin screened connector, ferritized copper braided pigtail

AMBIENT CONDITIONS

Protection class: IP 42

Temperature range: -20°C to $+55^{\circ}\text{C}$

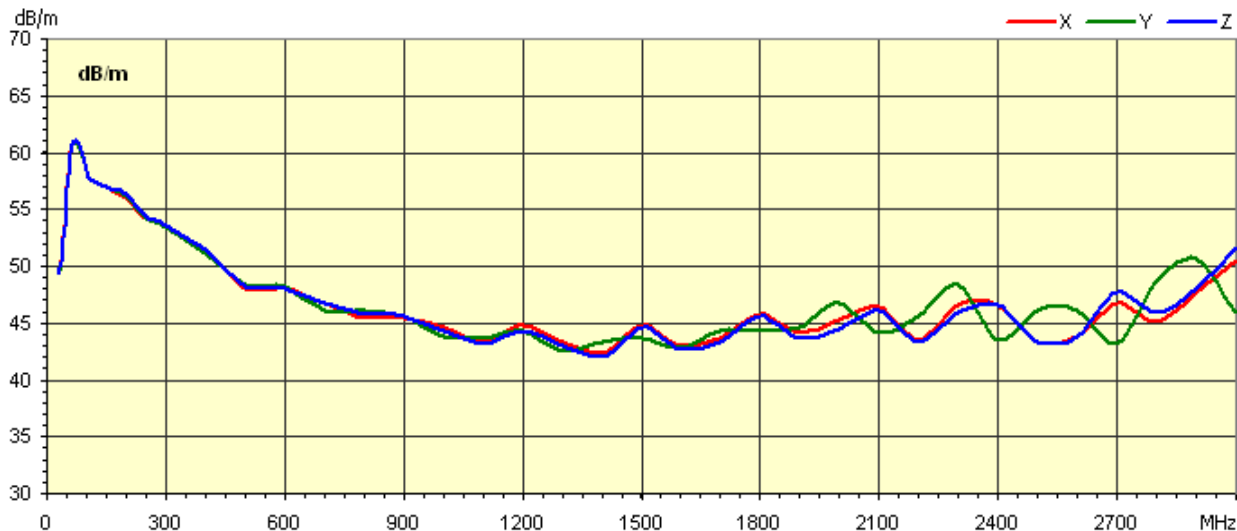
AT3000 KIT

- Vertical support for fixing to $\frac{1}{4}$ " thread
- 2 m composite ferritized coaxial cable, with manufacturer calibration report of attenuation and return loss (typ. atten. 1.3 dB @ 1GHz, 2.5dB @ 3 GHz)
- Manufacturer calibration report with antenna factor and return loss of the three antennas

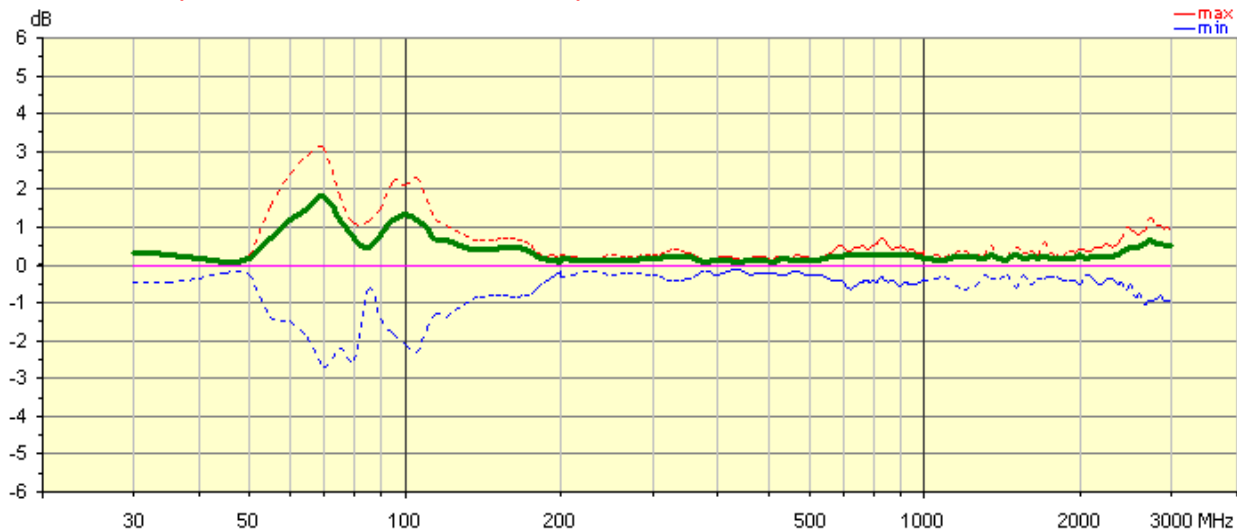
Antenna model: AT3000

Isotropic Antenna for EMF Measurement

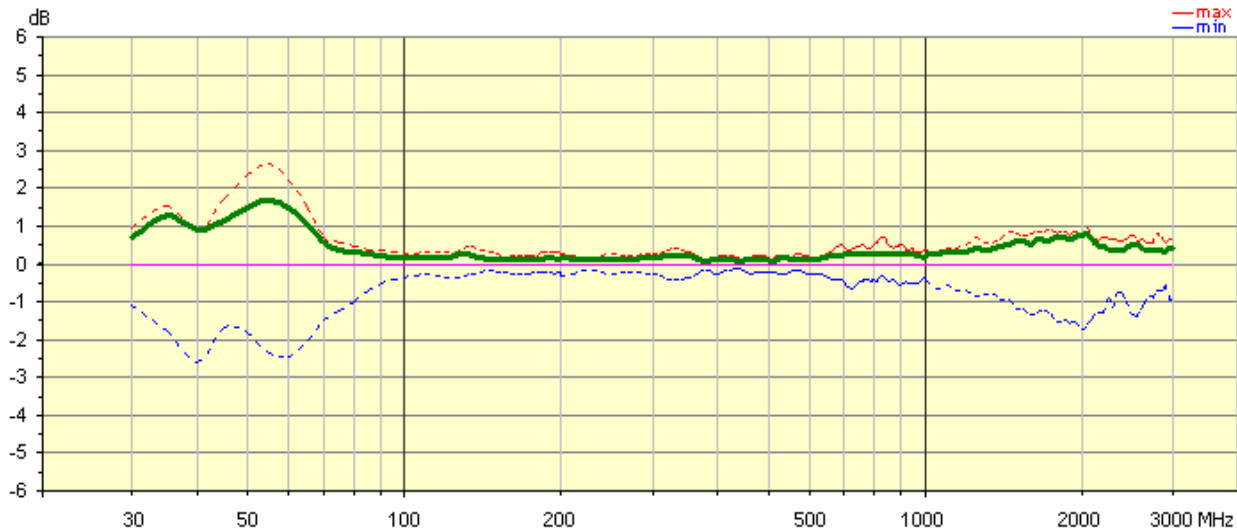
TYPICAL ANTENNA FACTOR



ISOTROPIC ERROR (VERTICAL POLARIZATION INCIDENT)



ISOTROPIC ERROR (HORIZONTAL POLARIZATION INCIDENT)



Antenna model: AT3000**Isotropic Antenna for EMF Measurement****ACCESSORIES**

- ATSA03, USB remote axis selector (64x84x34 mm)
- ASTM01, manual remote axis selector, battery power supplied (80x75x55 mm)
- Carry case
- Wooden tripod
- Ferritized coaxial cable with different length (3 m, 5 m, 10 m)
- EA accredited calibration certificate (above 200MHz)