

# Antennas

Test and measurement antennas from 9 kHz to 18 GHz

## Main Features

- Different antennas for all testing needs
- Complete frequency coverage
- CISPR compliant
- Individual calibration
- Tripod and mast adapters
- Several multi-antenna sets available to cover a range of needs
- Sets are all-inclusive: no accessories needed

Antennas were among the first products designed and built by PMM back in the '60s. Decades have also passed since PMM started the antenna calibration service on a specifically-designed OATS.

This unique dedication to a key part of the measurement process is now reflected in the current range of products and services: for frequencies ranging from 9 kHz to 18 GHz, there is a PMM antenna to meet your needs. Loop, rod, biconical, hybrid, log-periodic and horn antennas can be connected to any test receiver for all possible applications.

The range includes rod antennas in full compliance with the requirements of CISPR 16-1-4 and MIL-STD-461, as well as a Ø 2 m large loop antenna system for emission testing of luminaries according to CISPR 15.

A classic 30 - 200 MHz biconical antenna is a must, and several log-periodic antennas – all designed in house and with different characteristics and frequencies - will cover the frequencies up to 6 GHz.

A versatile biconical log periodic antenna covers the full range 30 MHz to 6 GHz, while above 6 GHz a double ridge horn antenna is the perfect companion for PMM receivers.

For superior performance and lower uncertainty, PMM receivers – connected by optical fiber, not coax cable - can be mounted directly on the antenna's N connector, avoiding all possible losses and uncertainties due to coaxial cables or mismatches on the connections.

The FR4003, a rod antenna with built-in, fully compliant CISPR 16-1-1 receiver for the most demanding users, also comes with a fiber optic link. This product has no competition anywhere for superb measurements at the lowest possible uncertainty, thanks to innovative embedded solutions such as an antenna capacity meter and the possibility to implement a real floating configuration using the fiber optic connection.

More details on the unique f.o. link aboard the PMM receivers and products can be found on the datasheets of 9030, 9060, 9180 and FR4003.

A range of antenna sets conveniently group together all the antennas and accessories needed for a given frequency range. The sturdy cases ensure years and years of use, and hold up to four antennas, cables, tripod and all accessories so you can have everything you need at your fingertips.

All antennas come with manuals and in-house calibration certificates according to CISPR, SAE and ANSI/IEEE standards.

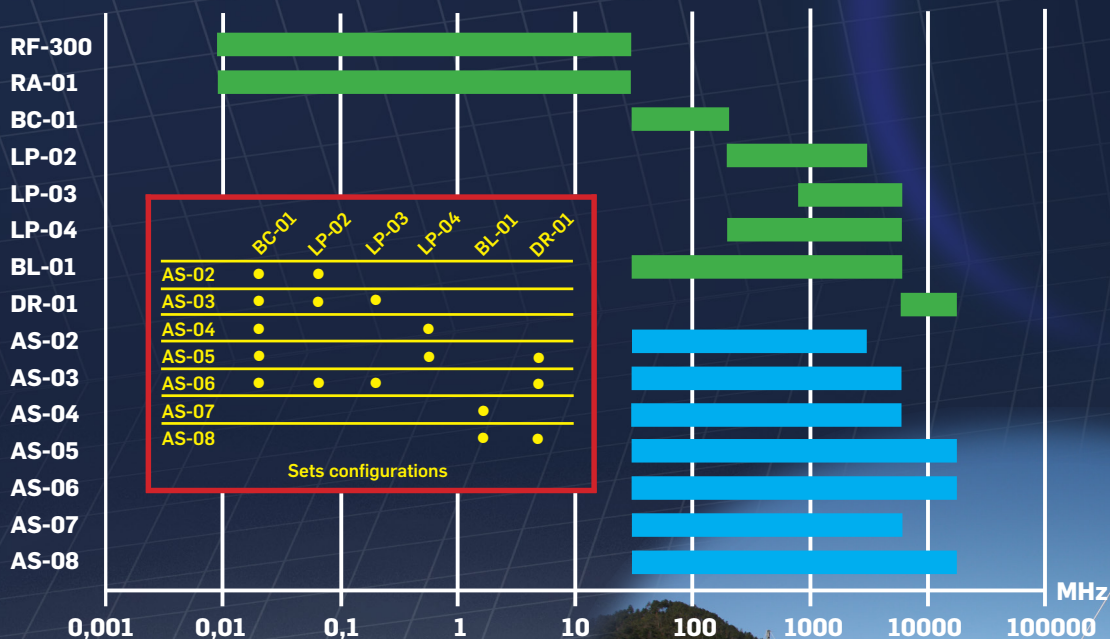
A periodic calibration service is available for every antenna.

# ANTENNAS

## Test and Measurement Antennas from 9 kHz to 18 GHz

### SPECIFICATIONS

	BC-01	LP-02	LP-03	LP-04	BL-01	DR-01	RA-01	RF-300
Frequency range	30 to 200 MHz	200 MHz to 3 GHz	800 MHz to 6 GHz	200 MHz to 6 GHz	30 MHz to 6 GHz	6 to 18 GHz	9 kHz to 30 MHz 150 kHz to 30 MHz	9 kHz to 30 MHz
Antenna factor	8 to 14 dB/m typical	13 to 36 dB/m typical	23 to 42 dB/m typical	12 to 40 dB/m typical	8 to 45 dB/m typical	36 to 41 dB/m typical	10 dB/m nominal	Conform to EN55015
Max input power	100 W	100 W up to 1 GHz 50 W up to 3 GHz	75 W	100 W	100 W @ 1 GHz 50 W @ 6 GHz	150 W	n.a.	n.a.
Connector	N female	N female	N male (LP-03) N female (LP-03/F)	N female	N female	N female	BNC female	BNC female
Dimensions (L x H x W)	65 x 65 x 137 cm	70 x 10 x 86 cm	32,5 x 8,1 x 18,7 cm	78 x 10 x 75 cm	145 x 61 x 157 cm	55 x 44 x 177 mm	60 x 115,6 x 60 cm	2.1 x 2.6 x 2.1 m
Weight	1,8 kg	1,1 kg	0,25 kg	1,1 kg	5,5 kg	0,25 kg	5,95 kg (w rod ext.)	25 kg



## Related products and services

### Receivers

- 7010/01: EMI Receiver 9 kHz to 1 GHz
- 7010/02: EMI Receiver 9 kHz to 30 MHz
- 7010/03: EMI Receiver 9 kHz to 3 GHz
- ER8000/00 EMI Receiver 9 kHz to 30 MHz
- ER8000/01 EMI Receiver 9 kHz to 3 GHz
- ER9000/00 EMI Receiver 10 Hz to 30 MHz
- ER9000/01 EMI Receiver 10 Hz to 3 GHz
- 9010F: EMI Receiver 10 Hz to 30 MHz
- 9010/03P: EMI Receiver 10 Hz to 300 MHz
- 9010/30P: EMI Receiver 10 Hz to 3 GHz
- 9010/60P: EMI Receiver 10 Hz to 6 GHz
- 9030: EMI Receiver 30 MHz to 3 GHz
- 9060: EMI Receiver 30 MHz to 6 GHz
- 9180: EMI Receiver 6 GHz to 18 GHz
- FR-4003: Field Receiver 9 KHz to 30 MHz

### Sets/Accessories

- TR01 60-180 cm wood tripod
- Antenna mounting adapter to change polarization
- Mounting support
- 5 meter/6 GHz/N(m)-N(m) RF cable
- Nf to Nf adapter
- Carrying case 170/30N
- Soft carrying case
- VDH-01: Van der Hoofden test head 20 kHz to 10 MHz
- Antenna Set AS-02 (BC01+LP02+TR01)
- Antenna Set AS-03 (BC01+LP02+LP03+TR01)
- Antenna Set AS-04 (BC01+LP04+TR01)
- Antenna Set AS-05 (BC01+LP04+DR01+TR01)
- Antenna Set AS-06 (BC01+LP-02+LP03+DR01+TR01)
- Antenna Set AS-07 (BL01+TR01)
- Antenna Set AS-08 (BL01+DR01+TR01)

### Calibration services

- Ansi 63.5 antenna factor
- SAE ARP 958-D
- CISPR 16-1-5
- CISPR 16-1-6
- Free-space antenna factor
- Calibration loop (FR-300C)
- Individual calibration report
- Typical calibration report

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