

HF Active Monopole

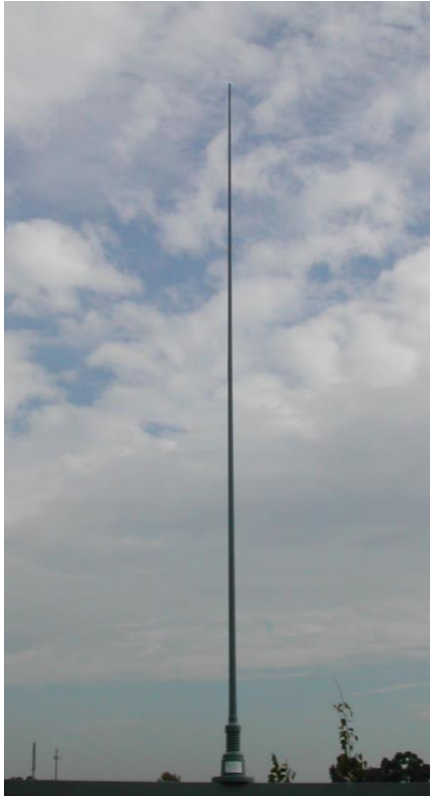
8 kHz – 88 MHz

Product Code: MONO-A0012

VERSION: 4.7

SPECIFICATIONS:

Electrical:	
Frequency range	8 kHz – 88 MHz
Nominal input impedance	50 Ω
Connector	BNC female
H-plane 3 dB beamwidth	360°
Polarisation	Vertical
Sensitivity in 1 Hz bandwidth	1 μ V/m
OP1	18 dBm
OIP2	43 dBm
OIP3	37 dBm
Mechanical:	
Length	2.9 m
Base diameter	150 mm
Weight	4 kg
Mounting method	6 mm x 6 mm holes, PCD – 115 mm
MTBF	> 50000 hours
Electrical grounding	M6 Grounding stud
Environmental: designed to meet the following specifications	
Wind survival	160 km/h
Operating temperature	-30 °C to +70 °C
Water ingress rating	IP 65 (NEMA 4X)



Antenna base

PRODUCT DESCRIPTION:

The HF active whip monopole antenna is designed for mounting on vehicles and other metallic structures. The antennas' radiation pattern is suitable for medium to long range HF monitoring. This antenna uses an operational amplifier as the active component of the antenna which operates from 8 kHz to 88 MHz.

The product features a passive bypass mode which comes into operation when the antenna is powered down. In this mode, the active matching and amplification circuitry is bypassed and the antenna operates as a completely passive receiving antenna. The antenna features an integrated filter to suppress transmissions in the FM broadcast band from 88 to 107 MHz.

PRODUCT FEATURES:

- 8 kHz to 88 MHz frequency range
- Antenna impedance is 50 Ω
- Rugged
- Quick deployment time
- Compact
- Glass fibre insulated radiator
- Lightning induced surge and static protection
- Passive bypass mode option

APPLICATIONS:

- HF monitoring
- Optional extra: MISC-A0022 inline DC bias supply

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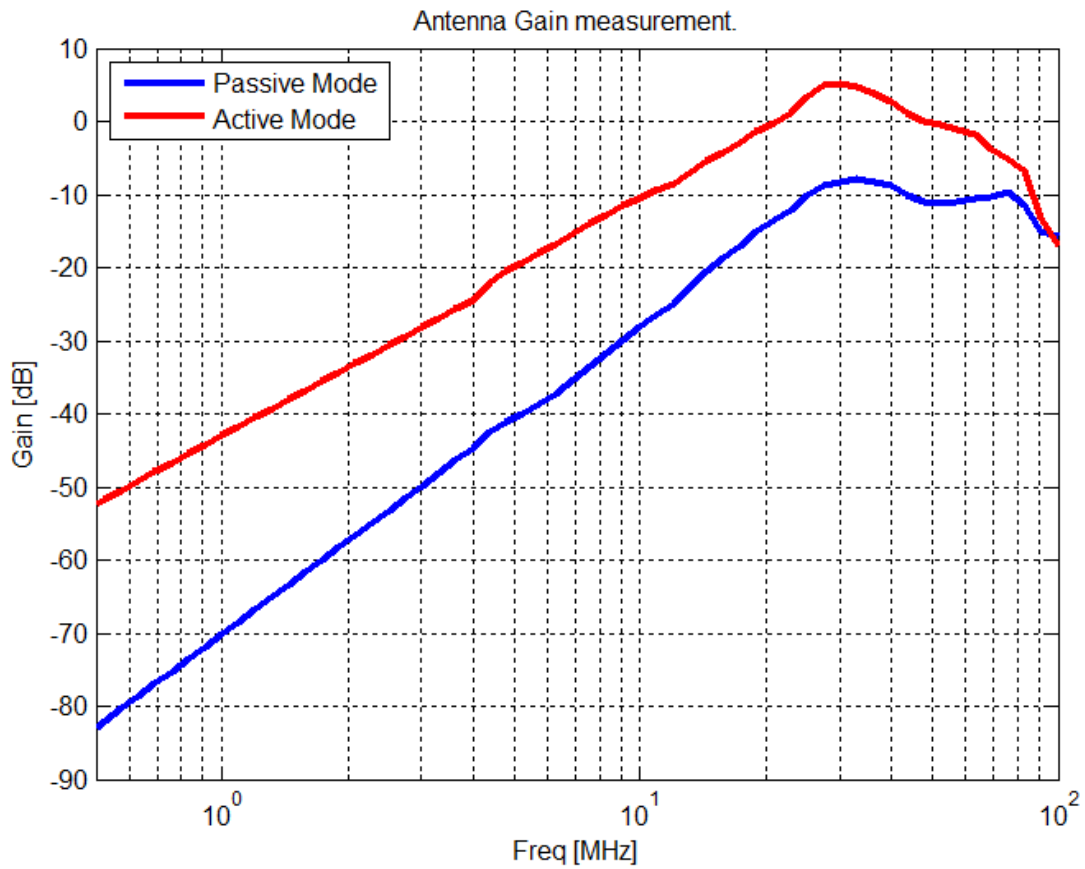


Figure 1: Measured antenna gain (receive only realised gain) for active and passive modes.

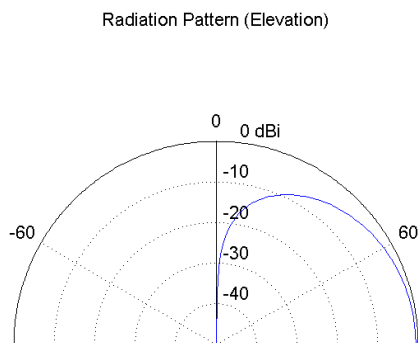


Figure 2: Elevation pattern (single sided) at 20 MHz assuming perfect groundplane.

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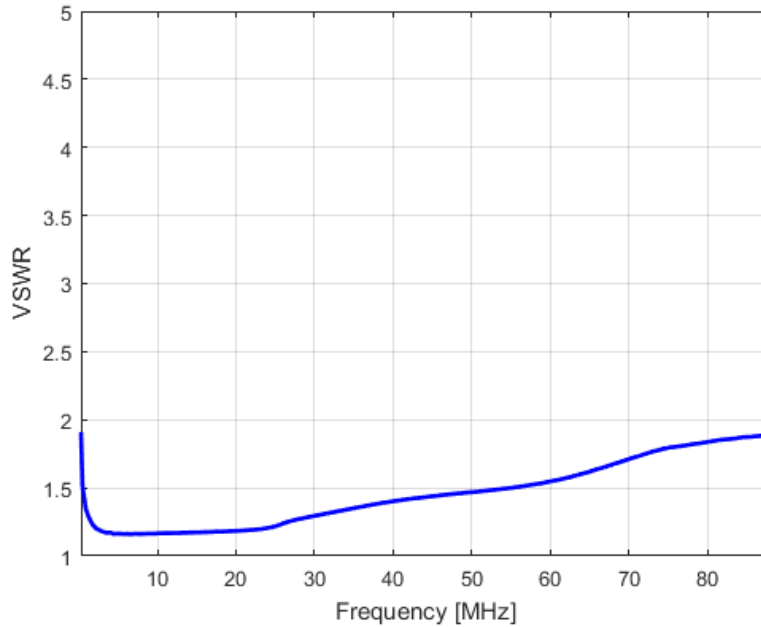


Figure 3: Antenna VSWR – Active mode.

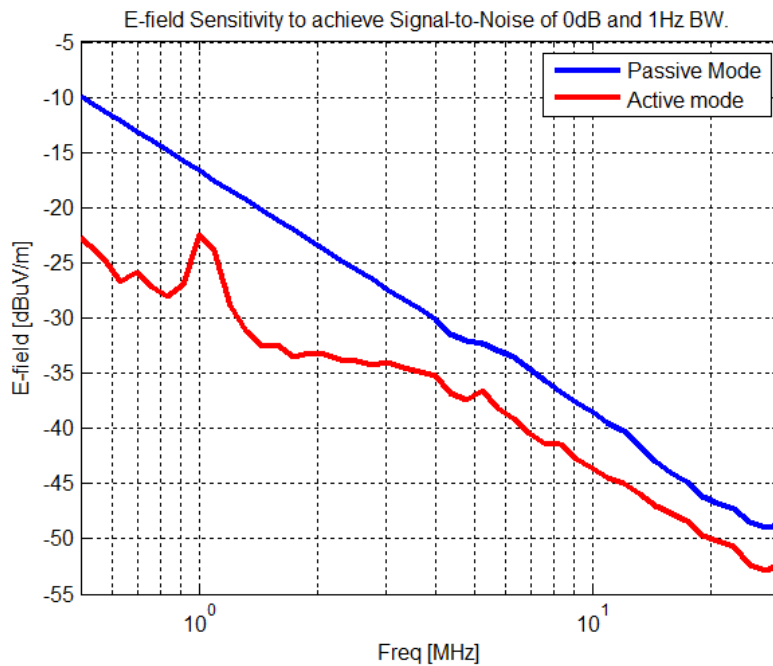


Figure 4: E-Field sensitivity with a 0 dB SNR in 1 Hz bandwidth.

This is based on a receiver having a 10 dB noise figure and assumes no external noise.



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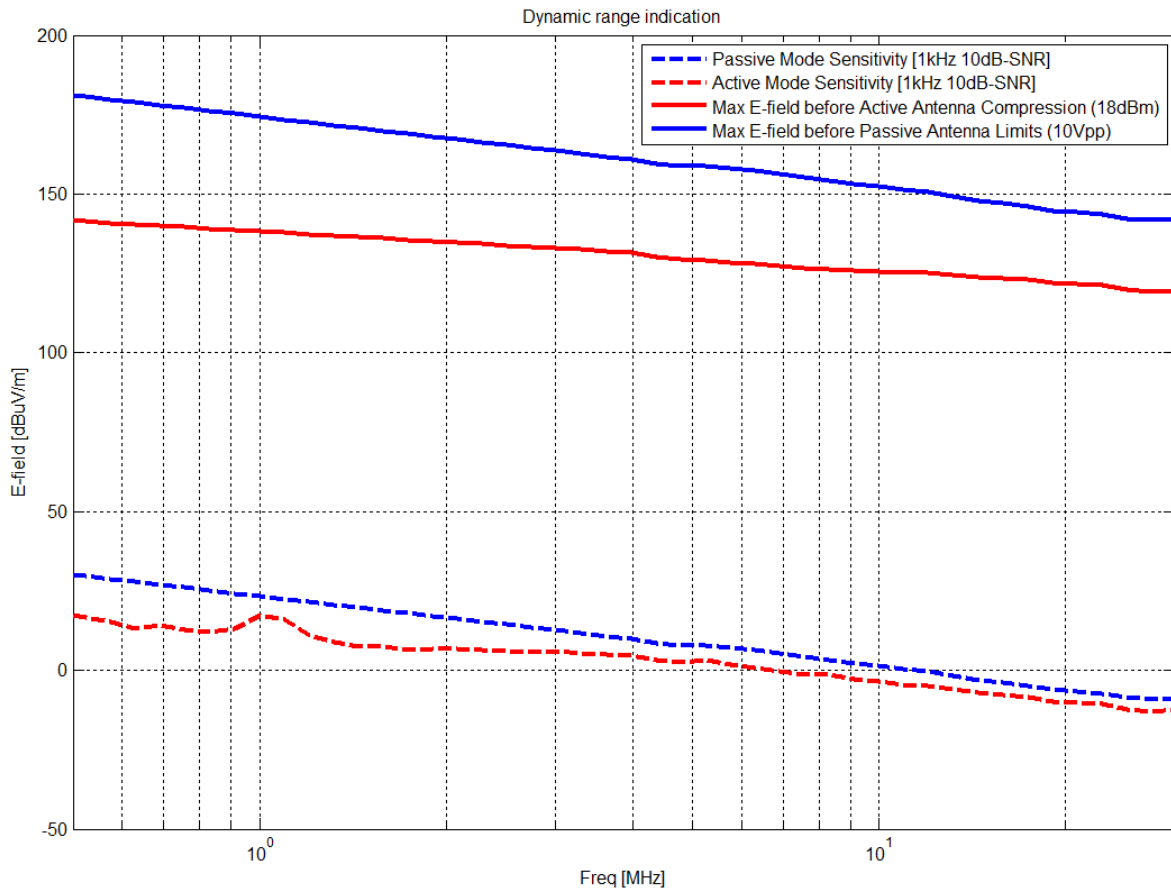


Figure 5: Typical dynamic range indication (assuming a 10 dB NF receiver at 1 kHz requiring a 10 dB SNR for lower bound of E-field, and to remain in linear operation at high bound of E-field).

