

Marine Active Monitoring Antenna

20 - 6000 MHz

Product Code: OMNI-A0205

VERSION: 1.2



SPECIFICATIONS:

Product code:	
OMNI-A0205-01	Active antenna with passive bypass and single N-type female connector
OMNI-A0205-02	Passive antenna with two N-type female connectors
Electrical:	
Frequency range*:	Band A: 20 – 1000 MHz Band B: 1000 – 6000 MHz
Gain	See figures 1 & 2
Nominal H-plane 3 dB beamwidth	360°
Nominal E-plane 3 dB beamwidth	60°
Azimuth ripple (RMS)	Band A: ±1.5 dB Band B: ±2.5 dB
VSWR (typ.)	< 2:1
Polarisation	Linear, vertical
RF power rating	Receive only
Connector type	N-type female
Input voltage (via coaxial cable.)	13 – 24 VDC
Input current	< 150 mA
OP1dB (typ.) (in active mode)	11 dBm
OIP2 (typ.) (in active mode)	31 dBm
OIP3 (typ.) (in active mode)	21 dBm
Sensitivity	See figure 3
OMNI-A0205-01 active/passive mode switching cycles.	Min 10 ⁶ (at 20 cpm)
Switching speed	< 5 ms
Mechanical:	
Height	730 mm x 350 mm
Weight	< 12 kg
Environmental: designed to meet the following specifications	
Temperature range	-35 °C to +71 °C
Vibration	MIL-STD-167-1 type I
Transport vibration	MIL-STD-810 F ground trans
EMC	MIL-STD-461 F
Humidity	60 °C & RH = 95%
Rain and water	Waterproof; drain holes
Salt fog	MIL-STD-810 F
Maximum wind speed	144 km/h normal operation 200 km/h survival (tested)

* OMNI-A0205-01 bands A and B are internally combined

PRODUCT FEATURES:

- Ultra wideband 20 to 6000 MHz
- Protected against excessive field strengths
- Very good sensitivity
- Low profile compared to passive alternatives
- Robust

APPLICATION AREAS:

- General spectrum monitoring
- Maritime monitoring applications
- Internal limiter allow operation in adverse EMC environments

RELATED PRODUCTS:

- MISC-A0022 power supply

PRODUCT DESCRIPTION:

This vertically polarised omni-directional antenna consists of an active antenna array, covering 20 to 6000 MHz. The antennas are combined under 1 compact radome and output in either a single (OMNI-A0205-01) or two connectors (OMNI-A0205-02). The active part of the antenna protects the system from excessive field strengths and boosts low level signals.

The active version of this antenna relies on DC power injection on the output port of the antenna. The antenna is best utilised with the MISC-A0022 power supply for this purpose. The OMNI-A0205-01 features a passive-bypass mode which is engaged when the antenna is not powered. In this mode, the antenna is completely passive, allowing for low distortion measurements in the presence of high incident fields.

Based on the OMNI-A0098, the antenna is mechanically hardened to withstand the harsh environments experienced in maritime applications.

Active Monitoring Antenna

20 - 6000 MHz

Product Code: OMNI-A0205

VERSION: 1.2

GAIN:

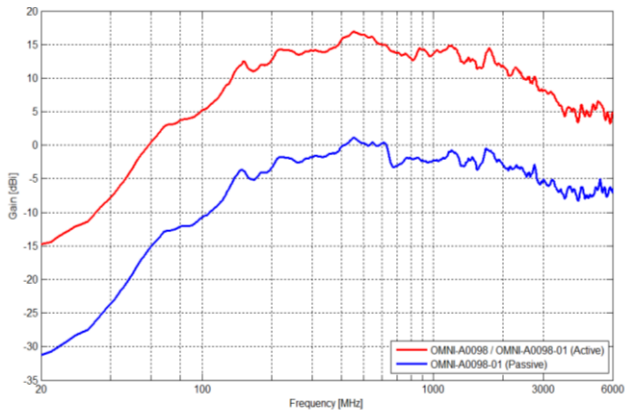


Figure 1: Measured gain (OMNI-A0205-01)

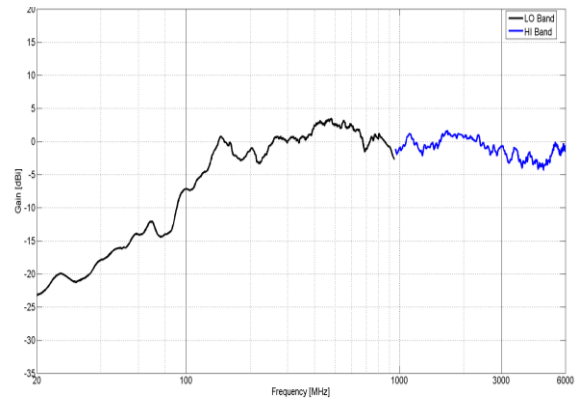


Figure 2: Measured gain (OMNI-A0205-02)

SENSITIVITY:

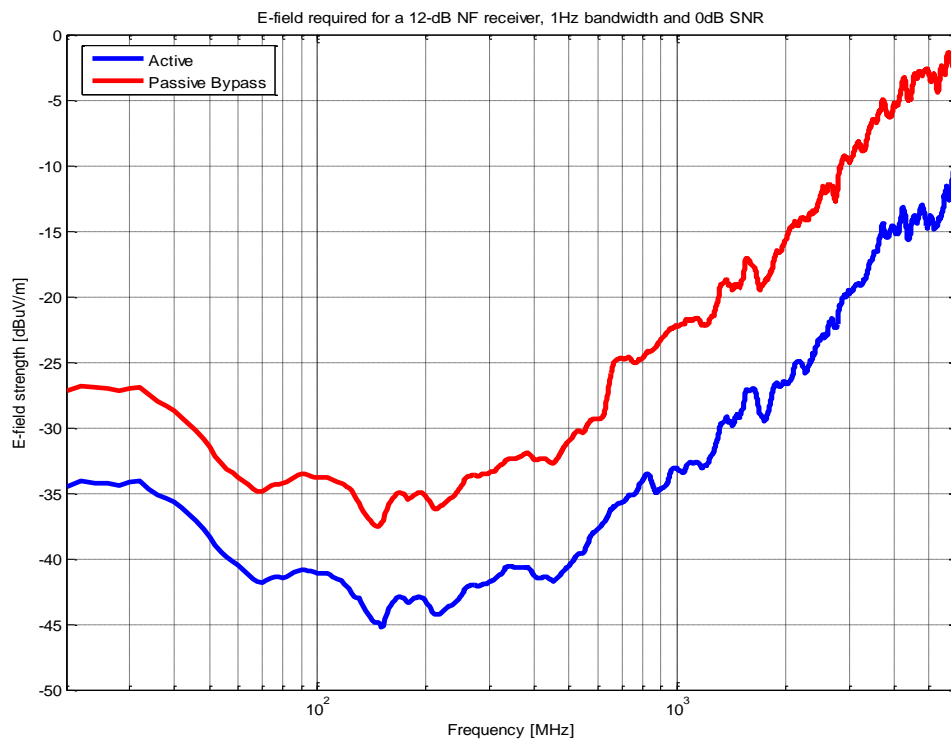


Figure 3: OMNI-A0205 E-field strength required for 12 dB NF receiver, 1 Hz bandwidth and 0 dB SNR (includes external noise in urban environment)