

# Monitoring Antenna

20 – 9000 MHz

Product Code: OMNI-A0258

VERSION: 1.6



## PRODUCT DESCRIPTION:

The OMNI-A0258 is a vertically polarised omni-directional antenna consisting of an antenna array, covering 20 to 9000 MHz. The antennas are combined under a single compact radome and output either in a single (OMNI-A0258/-01/04) or two (OMNI-A0258-02) connectors. In the active versions of the antenna the active part protects the system from excessive field strengths and boosts low level signals.

The active version of the antenna relies on DC power injection on the output port of the antenna. The antenna is best utilised with the MISC-A0080 power supply for this purpose.

The OMNI-A0258-01 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. Similarly, this also applies to the passive only OMNI-A0258-04.

The antenna features lightning protection measures against induced surges on the RF feeder cables as well as ESD protection. The rugged design of the antenna allows it to be deployed on vehicle platforms.

## PRODUCT FEATURES:

- Ultra wideband 20 to 9000 MHz
- Protected against excessive field strengths
- Very good sensitivity
- Low profile compared to passive alternatives
- Robust
- IP63

## SPECIFICATIONS:

Product code:	
OMNI-A0258	Active antenna with single N-type female connector
OMNI-A0258-01	Active antenna with single N-type female connector, with passive bypass
OMNI-A0258-02	Passive antenna with two N-type female output connectors
OMNI-A0258-04	Passive antenna with DC short and single N-type female output connector
Electrical:	
Frequency range*	20 – 1000 MHz 1000 – 9000 MHz
Band A:	20 – 1000 MHz
Band B:	1000 – 9000 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: ±3.0 dB
VSWR (typ.)	< 2.5:1
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)	32 dBm
OIP3 (typ.) (in active mode)	22 dBm
Sensitivity	See figure 3
Mechanical:	
Height	730 mm x 350 mm
Weight	< 8.5 kg
Environmental: designed to meet the following specifications	
Operating temperature	-40 °C to +65 °C
Storage temperature	-55 °C to +85 °C
UV stability	Yes
Operational rainproof	Yes
Operational humidity	95% at +25 °C and +55 °C
Wind velocity (no ice)	180 km/h
Sand and dust resistant	Yes
Vibration	10 Hz – 300 Hz: 0.01 g <sup>2</sup> /Hz 300 Hz – 500 Hz: 0.03 g <sup>2</sup> /Hz
Mechanical shock	40 g @ 15 ms all axis
Indirect lightning survival	Yes
Salt fog	Yes. 47 °C with 5% NaCl solution

\*Band A and B are internally combined

## APPLICATION AREAS:

- General spectrum monitoring
- Suitable for vehicle-mount and mast-mount applications
- Internal limiter allow operation in adverse EMC environments

## RELATED PRODUCTS:

- MISC-A0080 power supply
- OMNI-A0107 compact VP active monitoring antenna
- OMNI-A0156 HP active monitoring antenna

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Updated 2022-09-21

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Alaris Antennas has a policy of continuous improvement and hence specifications may change without notice

**GAIN THE  
ADVANTAGE**

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Gain:

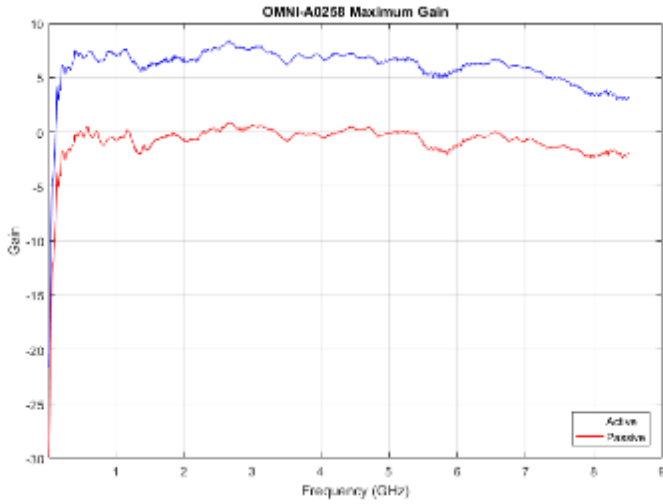


Figure 1: Gain (linear frequency scale)

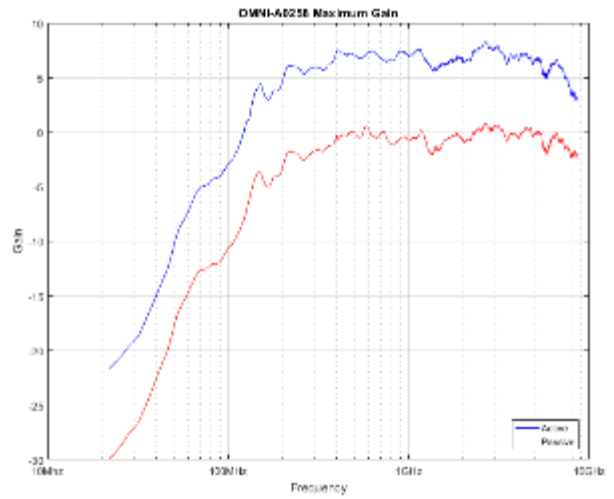


Figure 2: Gain (log frequency scale)

SENSITIVITY:

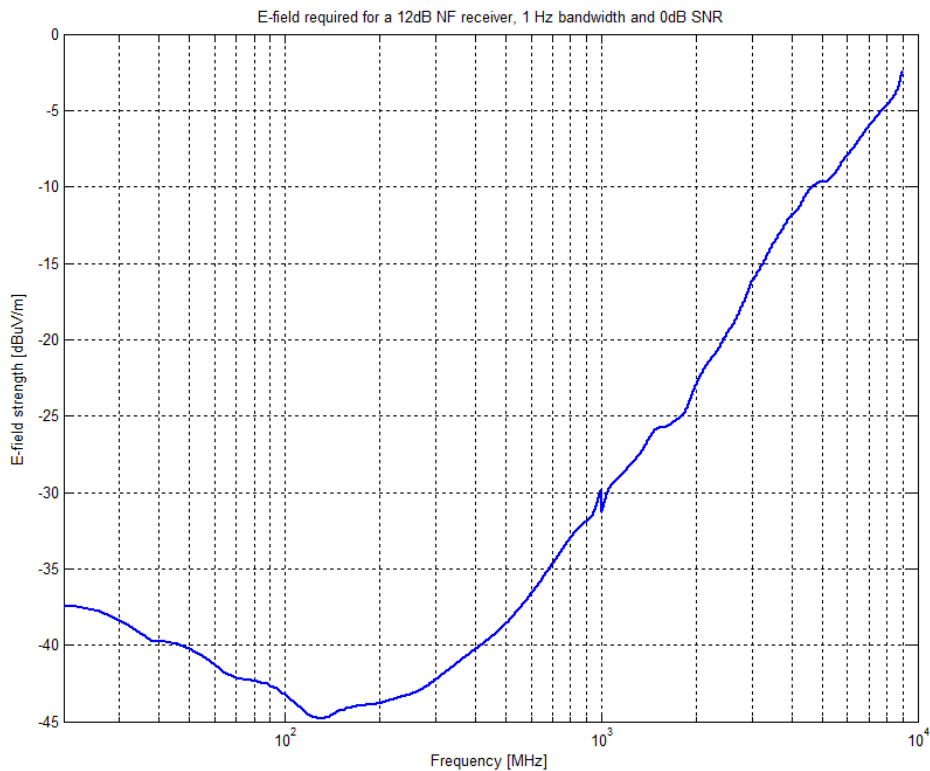


Figure 3: OMNI-A0258 E-field strength required for 12 dB NF receiver, 1 Hz bandwidth and 0 dB SNR (excludes external noise in urban environment)

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## PRODUCT DIMENSIONS:

