



PRODUCT FEATURES:

- Ultra wideband 20 to 6000 MHz
- Protected against excessive field strengths
- Very good sensitivity
- Low profile compared to passive alternatives
- Robust
- IP63

APPLICATION AREAS:

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

RELATED PRODUCTS:

- MISC-A0022-01 power supply
- OMNI-A0107 compact VP active monitoring antenna
- OMNI-A0156 HP active monitoring antenna

SPECIFICATIONS:

Product code:	
OMNI-A0098-03	Active antenna with passive bypass and single N-type female connector
OMNI-A0098-04	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)	10.5 – 12.5 dBm
OIP2 (typ.) (in active mode)	31 dBm
OIP3 (typ.) (in active mode)	24.5 – 28.5 dBm
Noise Figure	3.2 – 3.4 dB
Sensitivity	See figure 3
OMNI-A0098-03 active/passive mode switching cycles.	Min 10 ⁶ (at 20 cpm)
Switching speed	< 5 ms
Mechanical:	
Height	730 mm x 350 mm
Weight	< 8.5 kg
Environmental – MIL-STD-810G with Change 1 (Qualified):	
Operating temperature	Method 501.6 & 502.6, procedure I. -40 °C to +71 °C
Storage temperature	Method 501.6 & 502.6, procedure II. -40 °C to +85 °C
UV stability	Method 505.6, procedure II.
Operational rainproof	Method 506.6, procedure II.
Operational humidity	Method 507.6, procedure II. 95% at +30 °C to +60 °C
Wind velocity (no ice)	180 km/h
Sand and dust resistant	Method 510.6, procedure II. Yes. 10.6 ± 7 g/m3 @ 71°C
Vibration	Method 514.7, procedure I b 2, category 4. 5 Hz – 500 Hz: 0.02 g2/Hz
Mechanical shock	Method 516.7. 15 g @ 15 ms all axis
Salt fog	Method 509.6. 35 °C with 5% NaCl solution

* OMNI-A0098-03 bands A and B are internally combined

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-A0098-03) or two connectors (OMNI-A0098-04). 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-A0022-01 power supply for this purpose. The OMNI-A0098-03 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.

The antenna, when paired with the OMNI-A0156 or OMNI-A0100 horizontally polarised omni-directional monitoring systems, provide full spectrum coverage for diverse SIGINT requirements.

Active Monitoring Antenna

20 – 6000 MHz

Product Code: OMNI-A0098

VERSION: 3.11

GAIN:

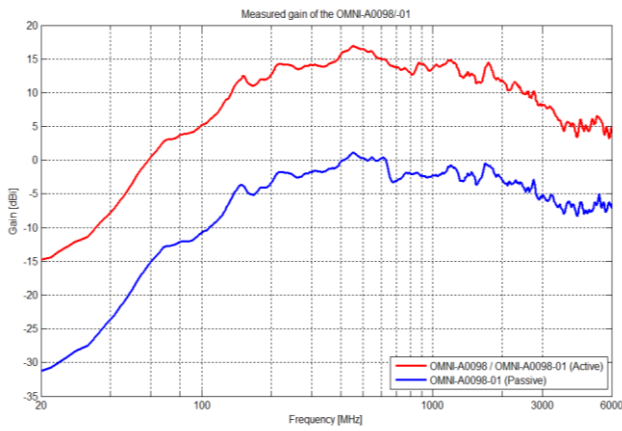


Figure 1: Measured gain (OMNI-A0098-03)

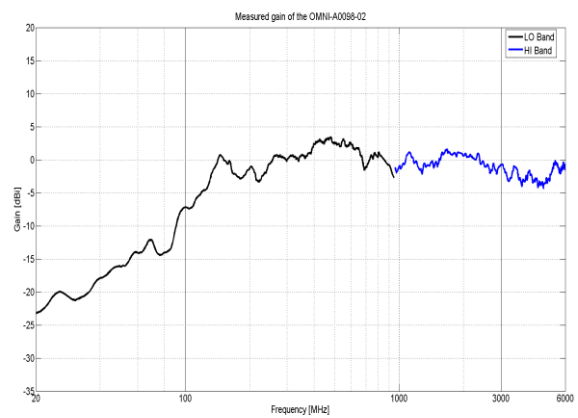


Figure 2: Measured gain (OMNI-A0098-04)

SENSITIVITY:

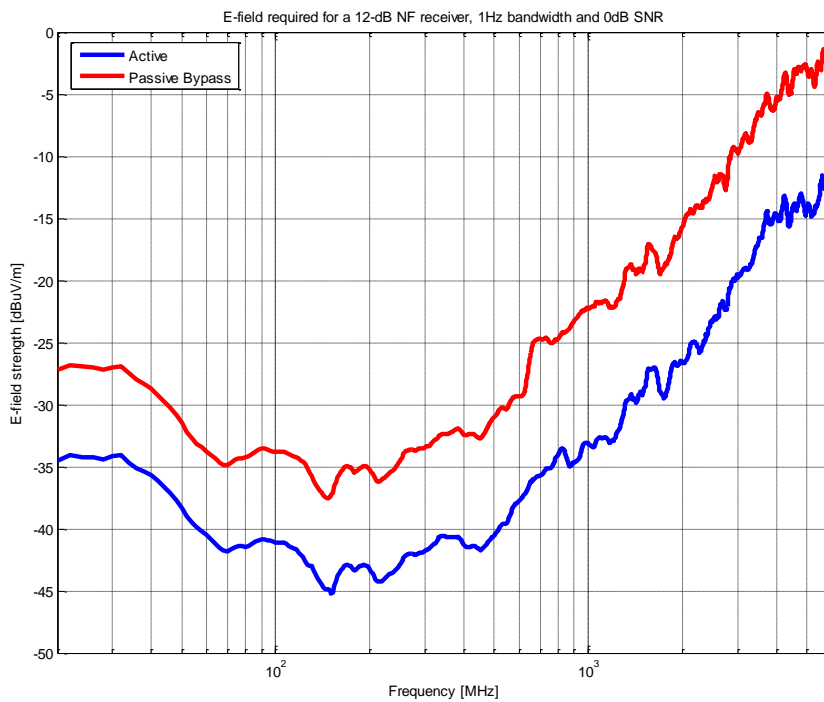


Figure 3: OMNI-A0098 E-field strength required for 12 dB NF receiver, 1 Hz bandwidth and 0 dB SNR (includes external noise in urban environment)