

## All-Mode HF Monitoring Antenna

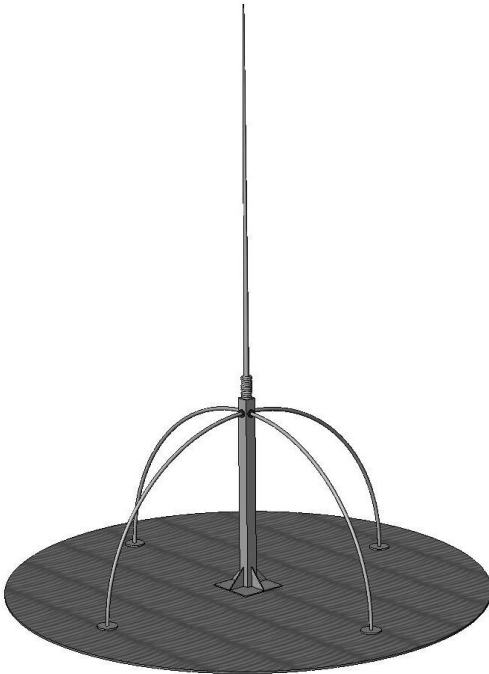
1 – 30 MHz

Product Code: OMNI-A0111

VERSION: 2.2

### SPECIFICATIONS:

<b>Electrical:</b>	
Frequency range	1 – 30 MHz
Nominal input impedance	50 $\Omega$
Connectors	N-type female
Polarisation	Vertical and circular
Azimuth ripple (monopole)	1 dB peak-to-peak
Azimuth ripple (crossed loops)	< 3 dB peak to peak at take-off angles > 45° (see graph)
<b>Mechanical:</b>	
Dimensions	5 m x 5 m x 6 m
Whip length	4 m
Installed height	6 m
Total shipping mass	<180 kg
Ground plane requirement	Supplied
<b>Environmental:</b>	
Wind survival	90 mph (144 km/h) with ½" (12.5 mm) radial icing.
Temperature (operational)	-31 °C to +71 °C
Water ingress rating	IP65



### APPLICATIONS:

- HF monitoring
- Direction finding

### PRODUCT DESCRIPTION:

The OMNI-A0111 is a complete HF monitoring solution which includes a monopole antenna and a crossed-loop antenna on a supplied ground plane. The monopole antenna provides excellent reception of ground-wave signals from local transmitters and low take-off-angle sky-wave signals which are typical of long-distance paths.

The crossed-loop antenna provides excellent performance for high-angle and near vertical incidence skywave (NVIS) signals that are typical of short and intermediate-range propagation paths. The crossed loop antennas are circularly polarised for high-angle signals, reducing the susceptibility to ionospheric fading and making the antenna performance independent of the orientation of the transmitting antenna.

By combining these antennas in a single installation the OMNI-A0111 provides a complete omni-directional monitoring solution for all propagation modes and angles of incidence. Multiple OMNI-A0111 antennas can be deployed with suitable direction finding equipment to provide both azimuth direction and angle of arrival DF capabilities.



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

# DEFENCE AND SPECIALISED

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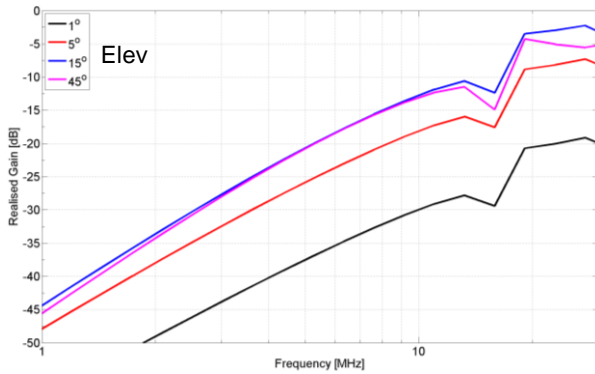
1 – 30 MHz

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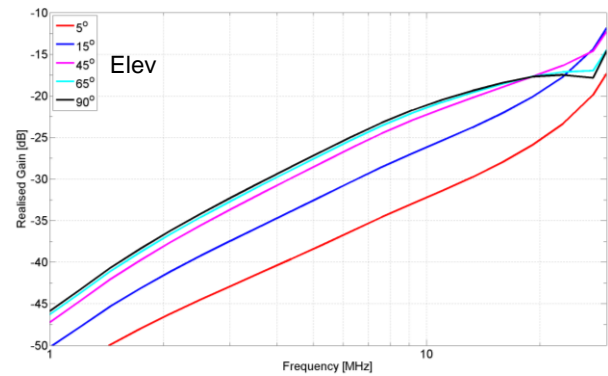
## VERTICAL WHIP:

REALISED GAIN over earth  $\epsilon_r = 15, \sigma = 5 \text{ e} - 3 \text{ S/m}$

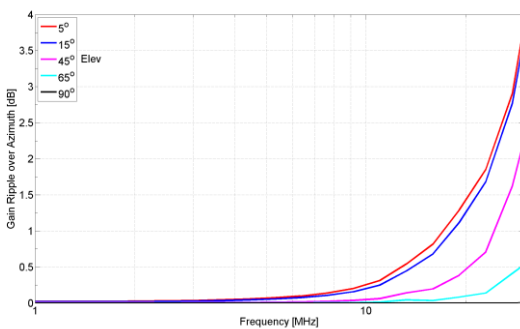


## CROSSED LOOP ANTENNA WITH Quadrature Combiner:

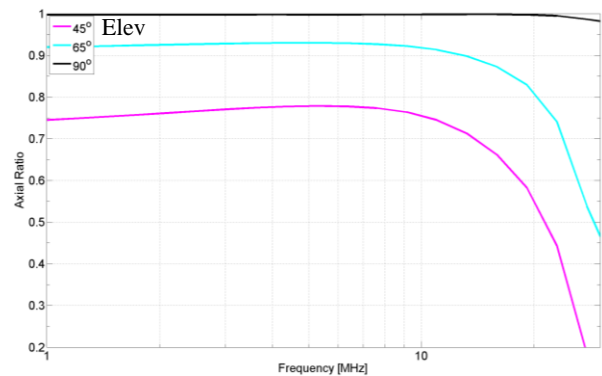
REALISED GAIN over earth  $\epsilon_r = 15, \sigma = 5 \text{ e} - 3 \text{ S/m}$



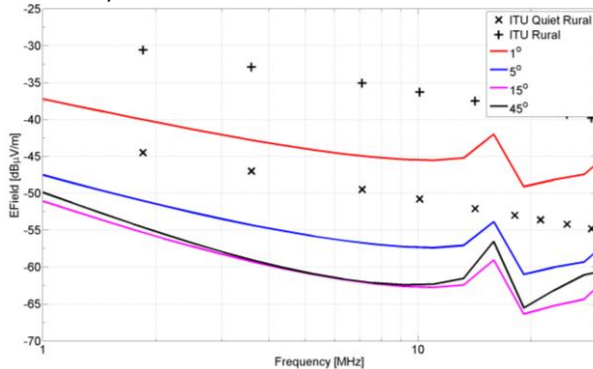
## Peak-to-Peak Azimuth Ripple



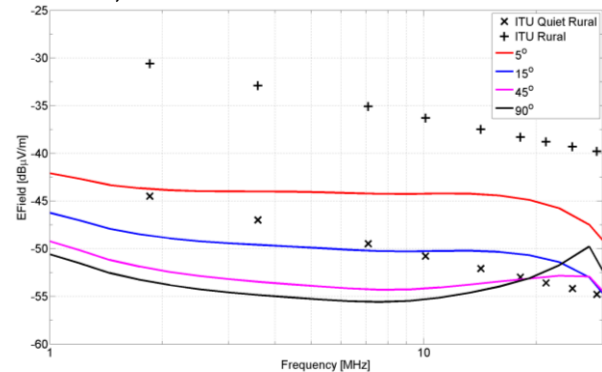
## Axial Ratio over earth $\epsilon_r=15, \sigma=5e-3S/m$



Equivalent Noise Field over earth  $\epsilon_r = 15,$   
 $\sigma = 5 \text{ e} - 3 \text{ S/m}$   
 NF = 5 dB, BW = 1Hz



Equivalent Noise Field over earth  $\epsilon_r = 15,$   
 $\sigma = 5 \text{ e} - 3 \text{ S/m}$   
 NF = 5 dB, BW = 1 Hz



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