








Toadstool V/UHF-DF Antenna, 20-3000 MHz

Gen2 - Fixed-Site Direction Finding and Geolocation

Attached to a teamSENTINEL V/UHF DF-enabled sensor, the Espy Toadstool V/ UHF-DF Gen2 antenna can be configured to support both Angle of Arrival direction finding (AoA DF) from 20MHz up to 3 GHz, as well as, Theater Net-centric Geolocation (TNG) of received signals from 20 MHz up to 6 GHz.

The low band has a loop array for good DF performance at low frequencies where the phase size of the array is small, and two pentagonal arrays for the middle and high frequency ranges. A cavity at the base of the antenna houses Espy's high-performance RF switches, eliminating the need for field calibration. This cavity slides open to allow for in-place servicing of the RF switches, without removing the antenna from its mast. Hydrophobic breathing vents, as well as high a capacity drain valve allow egress of water accumulations in severely humid environments.

-  **AoA DF coverage from 20 to 3,000 MHz**
-  **Monitoring and TNG from 20 to 6,000 MHz**
-  **Multiple simultaneous receivers can tune seamlessly across bands**
-  **Full-band teamSENTINEL DF correlative interferometer**
-  **Wideband dedicated omni capability**

SYSTEM SPECIFICATIONS

ELECTRICAL

Frequency Range (MHz)	20-6,000 Monitoring 20-3,000 DF
Feed Power Handling	0.5 W (receive only)
Polarization	Vertical
Nominal Input Impedance	50 Ω

DF

DF type	Correlative interferometer
Frequency Bands (MHz)	A: 20-120 B: 100-800 C: 700-3,000 D: 2,500-6000 (optional)
DF accuracy in azimuth (RMS)	A: 3° B: 2° C: 2°

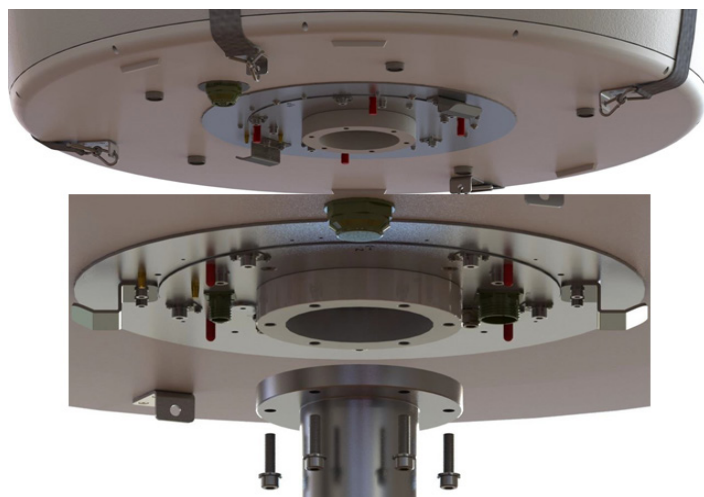
MONITORING

Frequency bands (MHz)	A: 1-700 B: 30-800 C: 500-6,000
Monitoring antennas	A: Monopole B: combined 5 dipoles D: Bicone

Each antenna is factory calibrated by Espy to support both AoA DF and TNG. Additional site calibration is required for optimal TNG operations. Ruggedized versions of this antenna are available for environmentally challenging environments such as shipboard deployments.



Not shown in the above picture is the omni directional monitoring antenna which provides coverage up to 6,000 MHz. Tripod sold separately.



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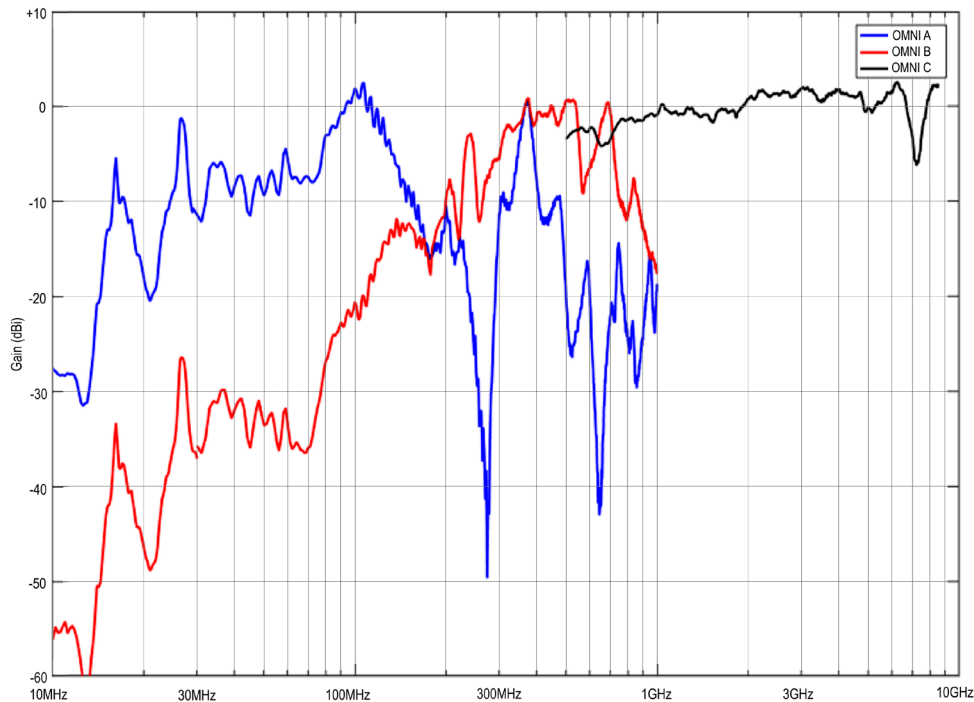
The Espy Corporation

"Helping discover the way"



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Omni Gain vs. Frequency



The Toadstool Gen2 antenna system is to serve as a compact, light-weight and wideband COMINT and spectrum monitoring antenna solution, specifically targeted at vehicular or semi-tactical deployments. It can also serve as a lower cost alternative to large scale fixed tower-based systems, and can be used in ad hoc deployments (e.g. on a purpose built tripod system) to great effect.

MECHANICAL SPECIFICATIONS

Weight	58.5 lbs (26.54 kg)
Height	29.6 in (75.18 cm)
Diameter	43.3 in (110 cm)
Color	White (custom colors available)
Wind Loading	1.9685 ft ² (0.6 m ²)
MAX Wind Speed	64.8 mph (120 km/h) (without ice)
Operating Temperatures	-22° to 158° F (-30° to 70° C)
Operating Humidity	95%



Required EField for RMS error of 2° with NF = 9dB and BW = 25kHz

