



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 high humidity environments.

-  **AoA DF coverage from 20 to 3,000 MHz**
-  **Monitoring and TNG from 20 to 6,000 MHz**
-  **Multiple tuner-channels can tune seamlessly across antenna bands**
-  **Full-band teamSENTINEL sequenced correlative interferometer DF**
-  **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

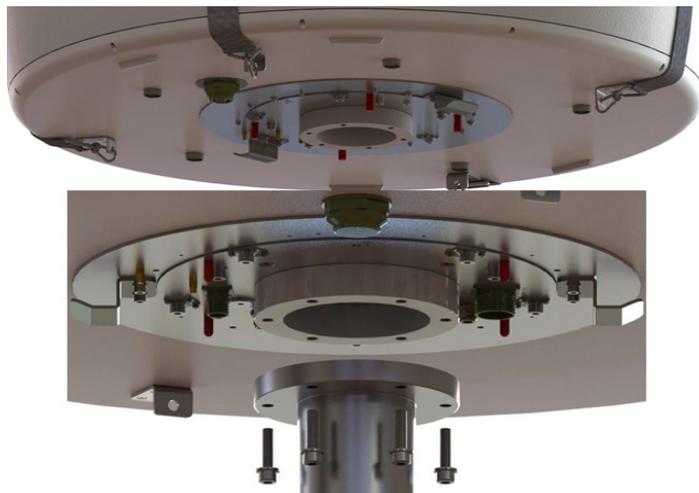
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|-----------------------|---------------------------------------|
| Frequency bands (MHz) | A: 1-700 B: 30-800 C: 500-6,000 |
|-----------------------|---------------------------------------|

teamSENTINEL SENSOR COMPATIBILITY

| | |
|-----------------------------|---|
| RF Conditioner Model(s) | RFC-D2U6-DF, RFC-D4U6-DF |
| Sensor Family Compatibility | teamSENTINELmicro teamSENTINELnano teamSENTINEL |



Each antenna is factory calibrated by Espy to support both AoA DF and TNG. Additional site calibration may be required for optimal TNG operations.



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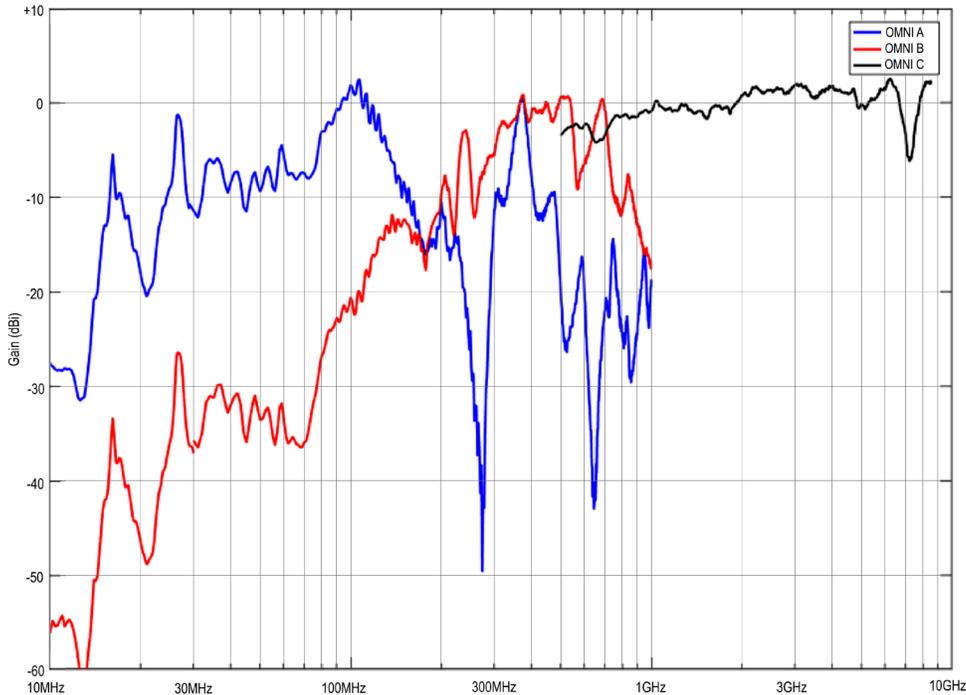
The Espy Corporation

"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 SIGINT/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. TeamSENTINEL DF sensor acquisition bandwidths from 32 MHz to over 1 GHz are supported.

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

