



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

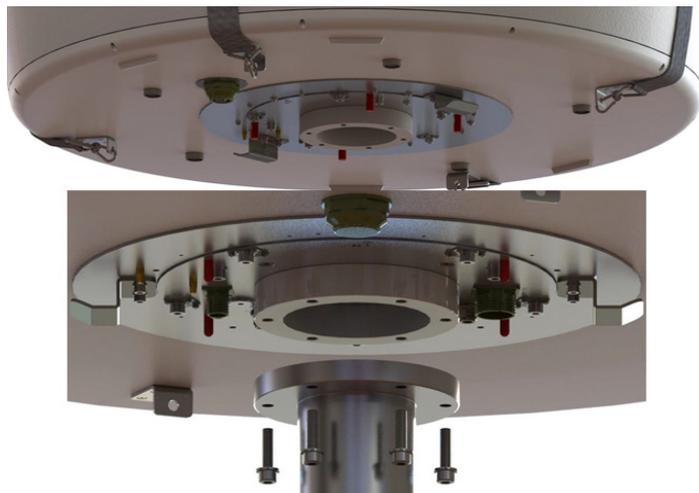
Frequency bands (MHz)	A: 1-700 B: 30-800 C: 500-6,000
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teamSENTINEL SENSOR COMPATIBILITY

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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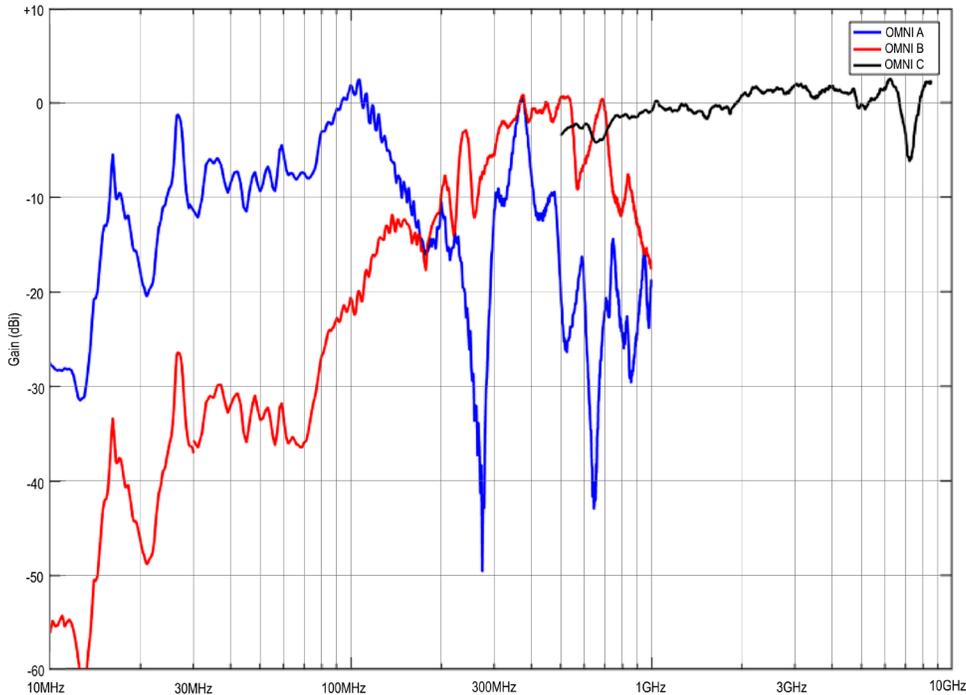
The Espy Corporation

"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

