

# Mantis

## Ultra Compact, High Performance SatCom System

**Mantis-10** and **Mantis-6** are ultra-compact, multi-purpose, **dual-band Ku/Ka mobile SATCOM** systems based on advanced **Luneburg Lens** technology. They deliver exceptional RF performance with **minimal SWaP** (size, weight, and power consumption) and a low RCS while supporting global connectivity across **GEO, MEO, and LEO** satellite constellations.



Mantis-10

### Mission-Optimized Design

Exceptional RF performance - lightweight & ruggedized

### Advanced Non-Metal Structure

Minimizes weight and radar cross-section (RCS)

### Precision Tactical Antenna

High Gain, Luneburg Lens, Ku and/or Ka bands

### Cybersecurity, GNSS-denied

Integrated Cybersecurity supports GNSS-denied environment

### Consistent Performance

Stable connectivity across all elevation angles with no scan-losses

### Continuous Link Assurance

No Zenith Keyholes for uninterrupted communication

### Integrated terminal

Including: ACU, IMU, Tracking Receiver, Servo drivers, LNBS & BUCs

### LEO/MEO-Ready Capability

Supports multi-beam seamless operation

### Available Configurations

Ku-band, Ka-band, Ku/Ka-band (Electronic Switchable)

### Target Platforms

UAVs, Mission Aircrafts, High Altitude Balloons, Ground Vehicles, Manned & Unmanned Vessels, Business Jets, First responders



## Specifications

## Mantis -10 Ku/Ka

## Mantis -6 Ku

Antenna Type	Luneburg Lens antenna	
Antenna Size	25 cm (10")	15 cm (6")
Stabilizer/Tracking Positioner	X/Y/Azimuth	
Elevation Angle Cross Angle Azimuth Range	-30° to +120° ± 60° Unlimited	
Frequency Range	TX: 13.75 - 14.50 GHz RX: 10.70 - 12.75 GHz TX: 29.00 - 31.00 GHz RX: 19.20 - 21.20 GHz	TX: 13.75 - 14.50 GHz RX: 10.70 - 12.75 GHz
G/T Typical (Mid-range, 30° EL. Clear Sky W/O Radome)	Ku: 8.5 dB/K Ka: 10.0 dB/K	4.0 dB/K
EIRP Typical (Mid-range, w/o Radome, Incl. BUC (P-Rated-PSAT))	Ku: 42.0 dBW (16W BUC) (*) Ka: 46.5 dBW (16W BUC) (*)	38.4 dBW (40W BUC)
Polarization	Ku: Linear (V/H) Ka: Circular (L/R)	Linear (V/H)
Satellites repointing time (assume 130° scan)	<3 seconds in one-beam configuration	
Tx Sidelobe	~ -25 dB	
Inst Bandwidth (does not depend on the scan angle)	The full frequency range	
System Power Consumption @ P-Rated-PSAT	Ku: 105W (16W BUC) Ka: 155W (16W BUC)	225W (40W BUC)
Antenna Weight (w/o BUC)	~ 12.0 Kg (26 Lb.) (**)	~ 6.5 Kg (14 Lb.)
Environmental Conditions	According to MIL-STD	
Operation Temperature	- 40°C to 60°C	
Composite Materials (low RCS)	YES	
Link with Satellite at Zenith	YES	
Supporting GEO/MEO/LEO in a single antenna (using Luneburg lens, Dual beams)	YES	NO

Notes: Specifications subject to change without notice | (\*) Larger BUCs are available | (\*\*) For Ku or Ka

