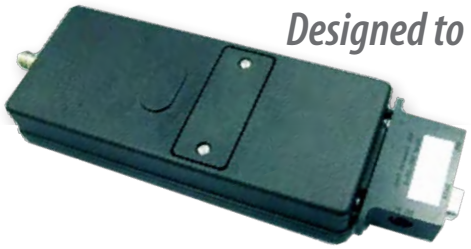
IRIDIUM SATELLITE MODEM

Designed to Operate with the Iridium Network under SBD-Only Mode



The Iridium Satellite Modem is designed to operate with the Iridium Network under SBD-only data mode. Similar to a standard land-line telephone modem, it can be controlled by any DTE (data terminal equipment) capable of sending AT commands via a serial port.

A DTE can be a

- Desktop computer
- Laptop computer
- PDA
- Micro-controller

The Iridium Modem has a DB25 multi-interface male connector and, therefore, can be retrofitted into existing SBD only applications that utilize similar products.

The Modem has been used to provide real-time communications between command/control centers and over-the-horizon platforms including helicopters, fixed wing aircraft, unmanned aerial vehicles, rockets, high altitude balloons, ships, speed-boats, ground vehicles and unattended sensors.

FEATURES

- Similar to a standard land-line modem—serial interface and AT commands
- Configured for either the DoD or commercial gateway
- Supports SBD only
- Real-time communications
- Two-way communications
- Pole-to-pole global coverage
- Operates similar to a standard modem
- Supports SBD data mode only
- Can be configured for either the DoD or commercial gateway
- Two-way, real-time communications
- Truly global coverage

✓ *Use the Iridium Rod Antenna with this Modem (page 2).*

SPECIFICATIONS

MECHANICAL	
Dimensions	4.42"L 2.42"W x 1.05"D (112 mm x 61 mm x 127 mm)
Weight	0.41 pounds (185 g)
I/O Interface	25-Pin D-Sub
Antenna	SMA Female
Cooling	Convection
Enclosure	Aluminum/EMI Shielding
ELECTRICAL	
Input Voltage Range	4.5VDC to 5.5VDC
Input Nominal Voltage	5.0VDC
Input Ripple Voltage	40mV peak-to-peak
Average Standby Current	66mA @ 5.0VDC
Average Transmit Current	350mA @ 5.0VDC
Peak Power-up Current	~1.5A @ 5.0VDC
IRIDIUM RF BOARD	
Operating Frequency	1616 to 1626.5 MHz
Duplexing Method	Time Division Duplex
Multiplexing Method	TDMA/FDMA
Link Margin Downlink	13 dB average
Link Margin Uplink	7 dB average
Data I/O	
SBD Mobile Originated	340 Bytes/Message
SBD Mobile Terminated	270 Bytes/Message
Hardwater Interface	RS232
Software Interface	AT Commands
ENVIRONMENTAL	
Operating Temperature	-22°F to +140°F (–30°C to +60°C)
Operating Humidity	< 75% RH
Storage Temperature	–40°F to +185°F (–40°C to +85°C)
Storage Humidity	<93% RH

Certified to MIL-STD-810F standards for temperature, humidity, altitude, rain, shock, sand, dust, salt and fog

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IRIDIUM SATELLITE ROD ANTENNA

GENERAL DESCRIPTION

The Iridium Satellite Rod Antenna is a passive L-band antenna designed to operate with the satellite modems and trackers. It provides continuous coverage from 1610 to 1626.5 MHz specifically for the Iridium Network. The Rod Antenna is suitable for harsh environments and long term operation. It is also UV, impact, chemical and jet fuel resistant.

SPECIFICATIONS	
MECHANICAL	
Dimensions	3.5" D x 4.69" H (8.89 cm x 11.91 cm)
Weight	5.15 oz. (146 g)
Finish	Skydrol Resistant Polyurethane Enamel and Base Iridite Per MIL-C-5441
Color	Gloss White Lusterless Gray Olive Drab Green Lusterless Black
Connector	TNC Female Connector (Option: TNC, SMA, N, N Bulkhead, MCX, MMCX or Cable)
Material	6061-T6 Aluminum Alloy Base; Composite Radome
ENVIRONMENTAL	
Operating Temperature	-67°F to +185°F (–55°C to +85°C)
Operating Altitude	70,000 ft (21 km)
Vibration	> 30 G's
Leakage	Hermetically Sealed
ELECTRICAL	
Frequency	1610 to 1626.5 MHz
Radiation Pattern	Hemispherical
Polarization	Right Hand Circular
VSWR	Less than 1.5:1
Gain (dB)	90° Zenith +1.9 10° Elevation 0.0 20° Elevation +0.9 30° Elevation +1.6 45° Elevation +2.0 70° Elevation +2.0
Axial Ratio	2 dB
Lightning Protection	DC Grounded
Cable Loss between Antenna & Modem	Must be kept <3 dB
Designed To: FAA TSO-C144, DO-160D, D0-228, MIL-C-5541, MIL-E-5400, MIL-I-45208A, MIL-STD-810 and SAE J1455