

Fixed IoT Ka Terminal



ST Engineering iDirect's Fixed IoT Ka terminal is part of a unique line of satellite terminals that brings together innovative technology to enable low data rate IoT with highly competitive services for existing and new markets. The Fixed IoT Ka terminal is a low cost, compact satellite device based on a state-of-the-art design, ideal for mounting on objects such as buildings, poles or other fixed mounting positions with a clear view to the satellite. Designed for outdoor applications, the Fixed IoT Ka Terminal features an integrated satellite modem with a low profile patch antenna, no moving mechanical parts, fast synchronization, and low power consumption. The device supports Power-over-Ethernet (PoE) for remote powering or adaptation to solar power configurations. The Fixed IoT Ka terminal is intended for deployment in extremely remote regions for LDR/MDR applications in Utilities, Pipeline and other Energy markets as well as Mining or Agricultural sensor backhaul applications with low data rates communication services over Ka-GEO satellites.

The terminal features manual pointing and acquisition of signals using an intuitive smartphone app and provide versatile connectivity options using Wi-Fi, Bluetooth Low Energy (BLE) for phone, tablets and sensors as well as wired PoE Ethernet for connecting to remote IoT aggregation, Edge Computing, or an IoT Sensor.

Markets

Utilities
Energy
Mining
Agriculture
Government

Main Features

- Ka-Band terminal with integrated modem and flat panel antenna design
- Ideal for low data rates: 7.33 -200Kbps
- Outdoor housing IP67 compliant
- Versatile Ethernet, WiFi and Bluetooth interfaces
- Compact and lightweight design
- Low power consumption with PoE++
- Easy installation via smartphone app
- Can be installed by non-professionals
- Fast rain fade recovery



Fixed Modem Specification

| | |
|--------------------------|---------------------|
| Modulation | BPSK |
| Data Burst Rates | 7.33Kbps - 200Kbps |
| FEC Type, Rates | Turbo 1/3 |
| Ka Transmit Range | 27.5GHz to 30GHz |
| Ka Receive Range | 17.7GHz to 20.2GHz |
| Receiver Lock Time | 50msec |
| Frequency Switching Time | 1msec |
| Chip Rate | 110 - 3125 Kcps |
| Spreading Factor | 5 - 64 (7dB - 18dB) |
| Eb/n0 Threshold | 1.5dB |

Antenna Specifications

| | |
|----------------|-----------|
| Type | Patch |
| EIRP | 51.8 dBW |
| G/T | -3.2 dB/K |
| Gain | 20.8 dBi |
| Noise | 3.2 dB |
| Beam Wldth | 12° |
| Receiver Eb/No | 1.5db |

Interfaces

| | |
|-----------|------------------------------------|
| WiFi | 802.11 b/g/n 2.4Ghz |
| Bluetooth | Bluetooth 5.0 |
| Ethernet | Ethernet with PoE 802.11bt / PoE++ |

Mechanical and Environmental

| | |
|------------------|---|
| Dimensions | D 24 x W 17 x H 5.0 cm (D 9.44 in x W 6.69 in x H 1.96 in) |
| Weight | 2.0 kg (4.40 lbs) |
| Mounting | VESA compliant |
| Operating Temp.: | -20° to +55°C (-4 ° to + 131 °F) |
| Water Resistance | IP67 |

Power Supply

| | |
|-------------------|---|
| Power | PoE++ / 802.3bt |
| Power Consumption | 56 VDC @ 0.9A POE 16.5 Watts Nominal (Rx only) 38 Watts Max Full Rx/Tx mode >50 Watts Power Supply Mandatory (to allow for TX spikes) |