



**INNOVATIVE TERMINAL FOR FSS GEO
KU-BAND SATELLITE IoT CONNECTIVITY**

Terminal

The ASTREA Terminal is a revolutionary IoT device developed for fixed applications via GEO satellites operating in the Ku band.

This cutting-edge solution enables stationary operations for a multitude of IoT applications.

The ASTREA Terminal is a low-cost, half duplex, compact single-unit satellite device. The terminal comprises of a innovative broadband patch antenna and a built-in digital modem, providing a mountable all-in- one solution.

Features

- For fixed installation
- GEO Satellite IoT - FSS Ku-band spectrum
- Typical G/T = 4 dB/K; typical EIRP = 44 dBW/36 MHz (wideband footprint)
- Bidirectional & Secured communications
- Form factor: 18cm x 18cm x 5cm
- Adaptive terminal bitrate up to 1 kbps for IoT
- Typical EIRP 11 dBW
- Multicast and datacast on the down-link
- Bi-directional connectivity with open standards such as MQTT and LoraWAN
- Very large number of IoT terminals managed thanks to the fully asynchronous up-link air-interface
- Based on CDMA (E-SSA). No DAMA signalling required

Platform

ASTREA IoT network, providing an innovative and cost-effective SDR-based platform (ASTREA HUB) enables high-performance solution for satellite-only environments.

The platform, managed by MBI, offers user-friendly, secure management of data within ASTREA private ecosystem. The ASTREA IoT Platform is provided with all the management systems required for its operation, such as NMS and terminal dashboard. Very reliable security based on LoraWAN. 24/7 operation center is available.

Adaptive Bit Rate Seamlessly with a typical bit rate of 1 kbit/sec, ensuring efficient data transmission tailored for IoT fixed applications.

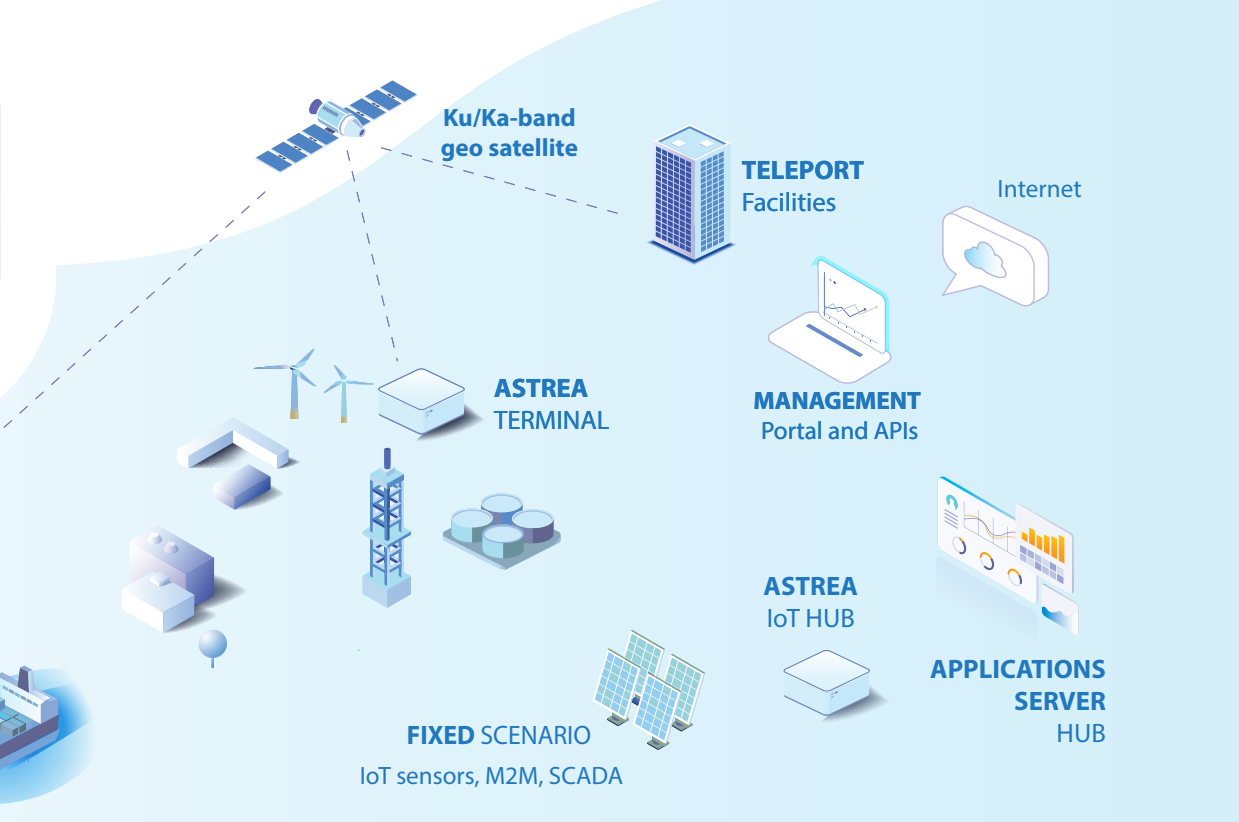
Bidirectional Communication Enjoy two-way communication for monitoring, control, and data exchange, with real-time insights.

GEO Satellite Compatibility Connection to GEO satellites, ensuring worldwide and reliable coverage.

Contact

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Specifications

Frequency band	Ku TX band 13.5-14.5 GHz Ku RX band 10.7-12.5 GHz
Operation mode	Half Duplex
Scenario	Geo satellite - FSS
Data rate	From 0.25 to 1.00 kbps
Form Factor	18x18x5 cm
EIRP	11 dBW
Gain	21 dBi
Polarization RX & TX	Linear (H/V)
Noise Figure	< 2 dB

Modem

Uplink channel	
Modulations	DBPSK - 1/3
CDMA wavaveforms	Spreading Factor up to 256
Data rate	Typical 1 kbps
Sensitivity	SNR down to -23 dB
Channelization	240kHz
Downlink channel	
Modulations	BPSK - 1/4
CDMA wavaveforms	Spreading Factor up to 64
Data rate	7.4 kbps
Sensitivity	SNR down to -19 dB
Channelization	2.4 MHz

Target industries



Remote Utilities



Government



Industrial Machinery



Maritime



Energy



Surveillance

Applications

- Agriculture
- Oil&Gas
- Energy&Utilities
- Asset Remote
- SmartMeters
- Environmental Monitoring

Power

- Fixed power supply or battery power with Solar Cel ;
- DC input (TBD);
- Power consumption (typical): STAND BY (< 0.1W), Tx (<10W) and Rx (<5W);

Interfaces

- Wire Interfaces: POE
- Wireless: Wi-Fi



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