



1.0m Low Profile Ku-band Stabilized COTM Systems Technical Proposal



Date: 6/April/2020



General

The system is based on patented technology, designed to meet the unique challenges of broadband satellite GEO communication in extreme conditions.

The low profile and lightweight design ensures best On-The-Move performance.

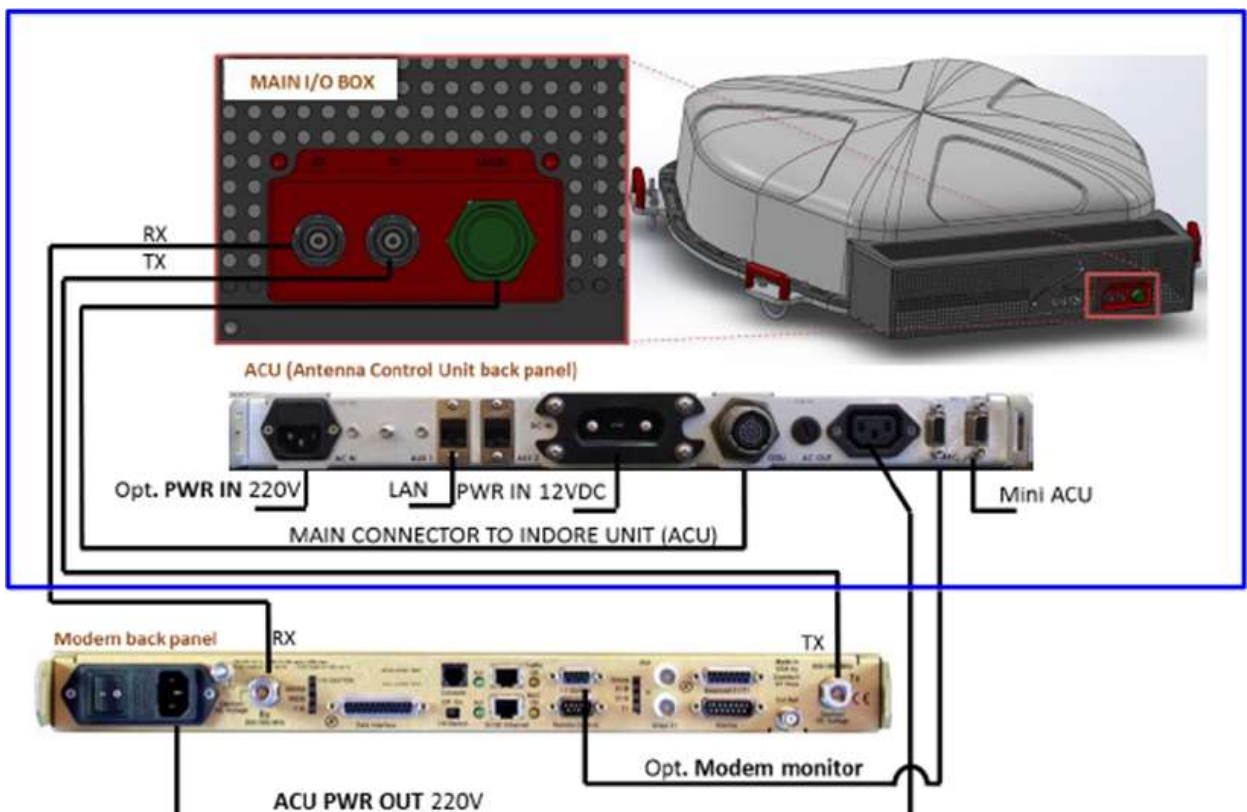
Simple installation, easy integration with OEM modules and minimum need of maintenance.

The system was installed on many vehicles and demonstrated a high level of reliability and performance.

Main Features

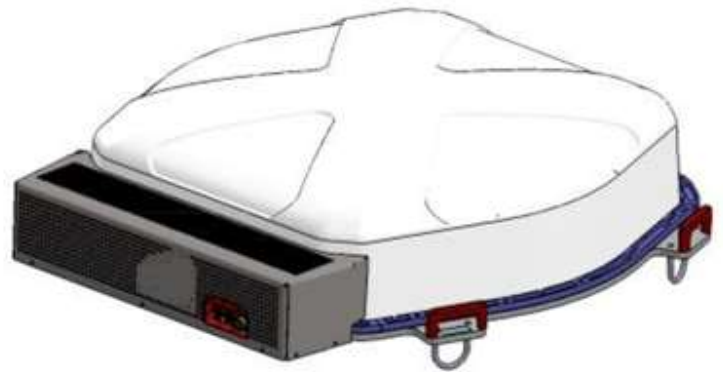
- ODU: D: 95cm H: 28cm W:45Kg
- Standard L Band IF-TX, IF-RX, for network modems compellability.
- Azimuth continues 360° tracking, elevation wide angle tracking.
- No GPS required for tracking.
- OpenAMIP interface
- Active cooling enables operating in extreme conditions
- Certified by the leading Satellite Companies
- Tested and certified for shock & vibration per MIL-STD 810F

Typical Block Diagram



RF Features

- Linear polarization
- Continues tracking.
- Built-in high power – BUC and LNB
- Compatibility with any Ku network
- Compatibility with OEM modems



Antenna

- Shaped Cassegrain reflector
- High bandwidth Tx/Rx antennas Symmetric IB /OB properties

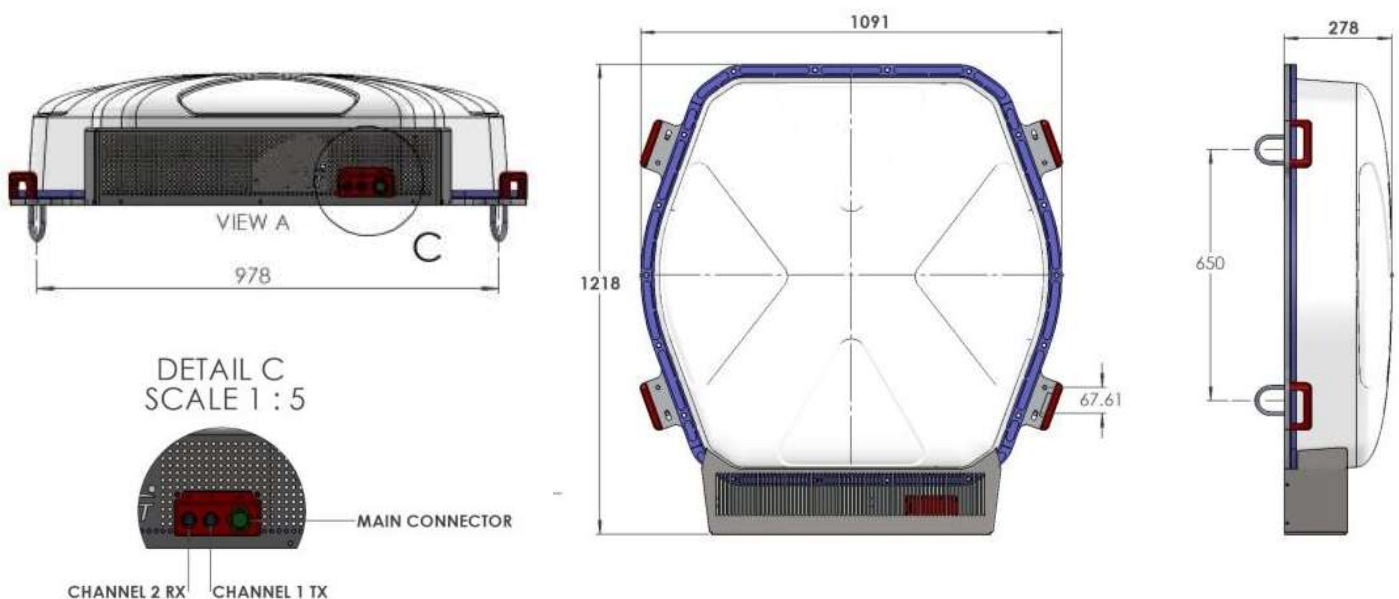
Tracking System

- Complete 6 DOF IMU on-board.
- Combined IMU & signal strength tracking.

Pedestal

- Heavy duty hi G-force load.
- Rotary joint, slip rings, bearing and mount are all horizontal assembly.

Interface Control Drawing (ICD)



System Specifications

Antenna

Rx. Frequency range 10.75GHz – 12.75GHz (in 1 bands)
 Tx. Frequency range 13.75 GHz – 14. 5GHz (in 1 bands)
 IF Frequency 950-2150MHz
 Antenna Gain Rx: 34.1dB, Tx: 35.4dB
 G/T Typ: 11.6 dBi/K
 EIRP UPL (40W BUC) 50.4dBw
 Polarization Linear continues
 SSPA.[P1dB] 40W

Pedestal

Azimuth 360° Continues
 Elevation 6°-90°
 Angular Velocity AZ= 150°/S, EL= 200°/S
 Tracking Accuracy 0.15°

Assembly

Power Inputs AC 110V-220V and DC 12V [optional 24V]
 Power Consumption (Including 40W BUC) 450W peak, 380W average
 ODU NET Weight and dimensions Diameter: 42", Height: 10.9", Weight: 45Kg
 ODU Wiring One cable connection
 IDU NET Weight and Dimensions Rack 19" 1U (Including 1000W DC/AC inverter), Weight: 6Kg

Start-Up & Acquisition

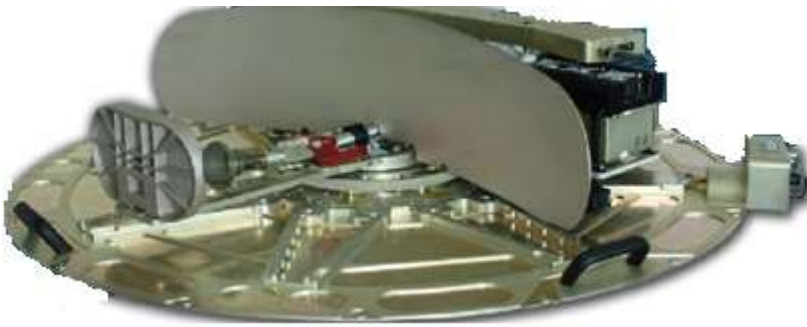
Cold start acquisition <3 Min
 Scan and acquisition (complete) <40sec
 Reacquisition after signal blockage <100ms

Transmit Control

<50ms Automatic UPL transmission shutdown based on continues receive DNL signal monitoring when detecting loss of reception signal.

Environmental Specifications

- Operating Temperature -30°C to 55°C
- Relative Humidity 100%
- Operating Altitude Max. 25000ft.
- Ground Speed Up to 350km/h
- Vibration MIL-STD-810F Method 514.5
- Shock MIL-STD-810F Method 516.5



Mini ACU (Optional)



ACU

Antenna Mounting on the Vehicle Roof

