

SMATS: Satellite Messaging And Tracking System

System Overview

SMATS is a Satellite Messaging And Tracking System with two way messaging capability that connects to a central hub through a Geo stationary satellite for in-round communication. Users can exchange messages with the terminal through an Android application installed on a Smartphone with Bluetooth interface. Device is powered through an external DC power supply and also from an internal chargeable Li-Ion battery. This product is developed for tracking boats and other possible applications for Satellite message services, disaster warning dissemination and asset tracking solutions. The system will be operating 24/7

in Indian region under 5 operational beams for communication with central hub via GSAT6 Satellite.



Technical Specifications

Parameters	Specifications
SATCOM Forward Link	
<ul style="list-style-type: none"> Transmission frequency Modulation Scheme Data rate Channel Spacing 	<p>2.67 to 2.69 GHz</p> <p>QPSK(4)</p> <p>2.4 kbps</p> <p>10 kHz</p>
SATCOM Return link	
<ul style="list-style-type: none"> Reception frequency Modulation Scheme Data rate 	<p>2.56 to 2.59 GHz</p> <p>QPSK(4)</p> <p>9.6 kbps</p>
GNSS Receiver	
<ul style="list-style-type: none"> No. of tracking channels Supported Signals Positioning Modes Horizontal Position Accuracy TTF Cold start Speed Accuracy 	<p>16</p> <p>GPS L1, GAGAN-L1</p> <p>GPS+GAGAN, GPS Standalone</p> <p>2.5 m (RMS) with GAGAN , 5.0 m (RMS) Standalone GPS</p> <p>32 seconds (with HDOP<2 & Under Open sky conditions)</p> <p>0.1 meter per second</p>
Power, Antenna and Interface	
<ul style="list-style-type: none"> Power Supply Antennae Bluetooth interface Battery Life 	<p>12-volts, 5-amps AC-DC Adaptor</p> <p>In-built GPS Antenna and S-Band Antenna for SATCOM with +/- 45° Beam width</p> <p>Frequency 2.4 GHz/Class2, Signal Power≤4 dBm and protocol Bluetooth v2.0+EDR</p> <p>Rechargeable Li-ION Battery with 45 hours* run-time battery life(with 15 Minute forward transmission and Continuous reception mode)</p> <p>*which can be scalable</p>
Environmental Capabilities	
<ul style="list-style-type: none"> Operational temperature Humidity Packaging 	<p>0 °C to +50 °C</p> <p>95 %RH @ 40 °C</p> <p>IP65 – ABS plastic</p>