

UHF Ground Station Specification

- Groundcom **GC UHF** is a turnkey ground station solution for the satellite missions that meets all the new space demands.
- **GC UHF** is designed for satellite operations, TT&C and payload data downlink to support satellites and constellations on LEO.
- The solution is configured for commercial 395 – 405 MHz and/or HAM 430 – 450 MHz frequency bands.

Model

GC UHF

Antenna Type	2 x Crossed Yagi-Uda
Frequency ¹ [MHz]	395 – 405 430 – 450
Antenna Gain [dBi]	16.8 @ 401.5 MHz 16.2 @ 432.0 MHz
Beamwidth, FWHM ² [°]	29 @ 401.5 MHz 26 @ 432.0 MHz
G/T @ 10° elevation [dB/K]	-9.1 @ 401.5 MHz -9.8 @ 432.0 MHz
EIRP [dBW]	32
Mode of communication	Half-duplex
Modem	Software modem based on SDR acquisition compatible with GNU radio
Polarization	LHCP/RHCP (remotely switchable)
Antenna Length [m]	3.9 @ 395 – 405 MHz 3.5 @ 430 – 450 MHz
Tracking Range	Az 360 / El 180
Tracking Accuracy [°]	1.5
Pointing Accuracy [°]	1.5
Angular Velocity [°/s]	2.5
Tracking	Groundcom's control and scheduling SW with GUI

¹ Either one of the frequency bands can be provided as well as the combination of both bands.

² FWHM – Full width half maximum, i.e. -3 dB full width.

System Architecture

- Antenna subsystem consists of the Yagi-Uda antenna elements, antenna mast and the rotation stage.
- Outdoor Main Box includes LNAs, filters Rx/Tx and polarization switches, high-power amplifier, SDR, smart electric socket, power supplies for all components, router and PC and is mounted on the antenna mast.



Antenna subsystem

Outdoor Main Box

Operation and Controlling

- Web based application and REST API for station configuration and observation management.

