Updates:

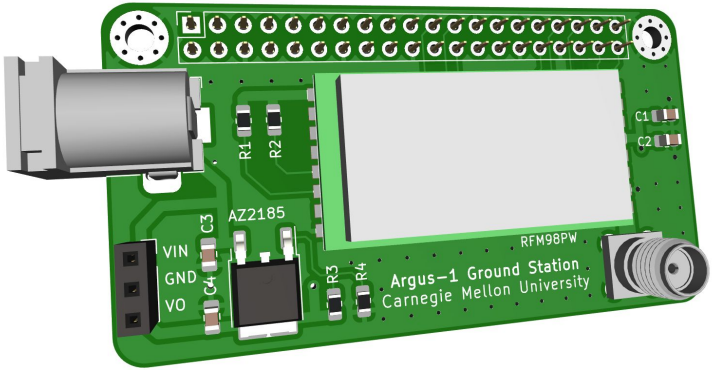


Fig. 1: Groundstation Pi pHAT

Possible Blockers:

- LoRa use and licensing in U.S. ?
- Experimental license ?
- ISM bands ?

Milestones:

- v1.0 ground station schematic and PCB
- Subdivision of responsibilities for Comms team
- v0.0 ground station GUI

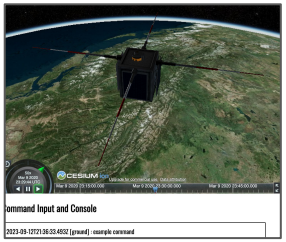


Fig. 2: GS GUI

Cross Team Info:

Comms Team Point of Contacts

- RF Power Use: Jason
- Antenna: Tim
- RF Software: DJ

Cross Team Interfaces/Dependencies

- Mechanical: Antenna
- GNC: GS to sat information
- Avionics: RF software + protocols

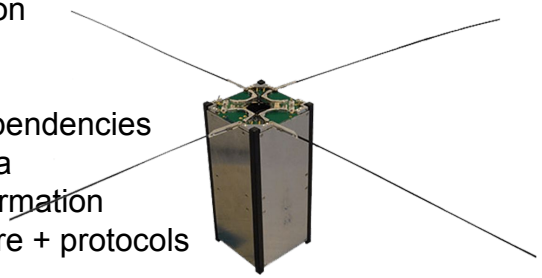


Fig. 3: Turnstile Antenna

Updates:

- Selected the CSDC Space Packet Protocol for the satellite <> ground station communication

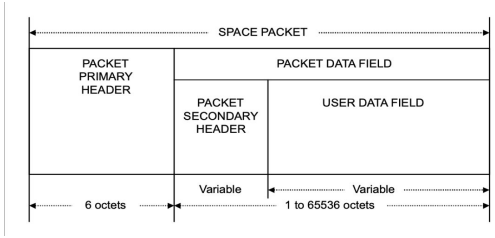
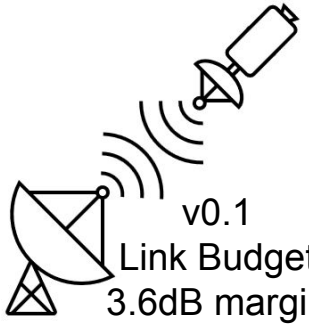


Fig. 1: SPP



v0.1
Link Budget
3.6dB margin

Possible Blockers:

- Access to lab / ground station inventory

Milestones:

This week

- Link Budget v0.1
- SPP + low level RF libraries
- Antenna trade study / analysis

Next week

- Link Budget v0.2
- RF pHAT assembly, board bringup
- Pi-Pi RF communication

Cross Team Info:

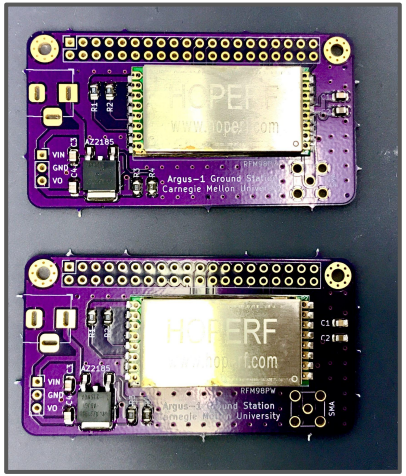
Vision

- Image transmission format
- May need to transmit image in parts (dividing in 4 parts should transmit in 4 passes)

- Any data that teams will need to communicate from ground <> satellite, please share with D.J.
- Will develop database with message IDs and data field formatting.

Updates:

- Assembled 2 x Ground Station pHATs
- Link Budget v0.2
- SQL Command Database



Possible Blockers:

- Access to 2 x Raspberry Pis (2, 3, 4, Zero) for initial LoRa communication

Milestones:

This week

- Ground station pHAT assembly
- Link budget v0.2

Next week

- Continue initial satellite <> ground station command database file
- Setup demonstration of satellite <> ground station communication (Digital only, packet passing)
- Assemble another ground station pHAT

Cross Team Info:

- Continue to send DJ command/telemetry variables (Vbat, sensor outputs)
- GNC: Attitude control & detumbling