

Directional Antenna Information Exhibit

The information for both directional antennas in this submission is detailed in this exhibit since we do not plan to use them in a fixed orientation. Instead, we wish to use them to track and communicate with our microsatellite in orbit. As such the antennas will not broadcast to one particular direction.

AggieSat Lab currently owns a ground station with satellite tracking capabilities, used in our previous satellite mission. The plan is to modify the station to accept an M2 2MCP14 antenna for use of the VHF frequencies, and an M2 436CP30 antenna for use of the UHF frequencies. Both antennas are right-hand circularly polarized crossbeam Yagi antennas. The beamwidth of the VHF antenna is 52° , and 30° for the UHF antenna.

As mentioned above, this array will be used to track and communicate with satellites. Since our satellite will be deployed from the International Space Station, it will have roughly a 51.6° inclination, meaning that most of the sky could be covered by the orbit (except the extreme North and South).