

Communications Plan - Meshbed

The Meshbed mission involves testing the capabilities of the FUSE antenna and the communications subsystem hardware on the satellite.

Radio Operations - TT&C

Communications with RBC ground station are conducted at 401.3 MHz for TT&C purposes. Meshbed will receive and transmit TT&C signals out of its onboard patch antenna. RBC and Meshbed will communicate each time Meshbed passes over the RBC ground station in Windham, New York and Deadhorse, Alaska.

Meshbed will communicate with the RBC ground station in Fairbanks, Alaska, under operational limitations as agreed upon in coordination with stakeholders identified in the EMC analysis.

Antenna Test - FUSE

Communications between Meshbed and the MITRE ground station in Bedford MA will be used to test the frequency flexibility range and signal performance of the FUSE antenna. To that end, the MITRE ground station and Meshbed will transmit and receive both the licensed 5 GHz and the submitted 2GHz beams.

Comms System Test- Compatibility

Meshbed will be testing compatibility with other satellites' radio systems through an "alpha ops" test campaign. During alpha ops, the Meshbed satellite will conduct listen-only passive receive tests of pre licensed, pre scheduled ground terminal passes of 3rd party partner satellites. If, in its orbit, Meshbed flies within the signal noise footprint of the partner satellite, it will listen into the transmission and communicate it back to earth to test the system's data conveyance capability and efficacy. To achieve the greatest partner radio system diversity and highest chances of a frequency conjunction event, ASI has partnered with several entities, who have sent agreement letters consenting to the specifics of the test. The list of partners, their satellites, frequencies, agreement letters, and operating licenses are discussed in full under Analytical Space license file number 1560-EX-ST-2019.