

Explanation of Communications Paths and Frequencies Requested

Exhibit for GEARRS-3 FCC Experimental Application 2021

The GEARRS-3 Cubesat, requests to use the following communications paths and frequencies.

Comm Paths

All of the comm paths for GEARRS-3 are via the Globalstar constellation; all paths are space to space links, there are no space to ground or ground to space links to or from GEARRS-3.

Globalstar will file a companion license application, to license transmissions from satellites in the Globalstar constellation, to GEARRS-3. That license application file number will be posted as an exhibit to the GEARRS-3 license application, when the file number is known.

GEARRS-3 carries two EyeStar S3 Simplex transmitters, and two EyeStar D2 Duplex transceivers, for communication with the Globalstar constellation. Each of these will transmit only when the associated antenna is facing up, away from Earth.

Frequencies

The Simplex transmitters will transmit on the single frequency prescribed by Globalstar for space use: Channel C, which is center frequency 1616.25 MHz.

The Duplex transceivers will transmit on one of the two channels prescribed by Globalstar for space use: Channel 5, 1615.65 MHz, and Channel 6, 1616.88 MHz. Each of these channels is listed in the application as a separate frequency.

The Duplex transceivers may receive on any of the 13 frequencies used by the Globalstar constellation, as shown in the following table. The frequency is chosen by the Globalstar satellite that is transmitting to a duplex radio on GEARRS-3.

Channel	Frequency
1	2484.39
2	2485.62
3	2486.85
4	2488.08
5	2489.31
6	2490.54
7	2491.77
8	2493
9	2494.23
10	2495.46
11	2496.69
12	2497.92
13	2499.15