

Request for Experimental License

Iridium Satellite LLC (“Iridium”) seeks an experimental license for a twenty-four month period, beginning December 1, 2021, to add four experimental satellites, to be operated by the National Aeronautics and Space Administration (“NASA”), as points of communication for Iridium’s low earth orbit constellation authorized under Part 25 of the Commission’s Rules. Iridium is seeking an experimental license for these operations because its Part 25 space station license does not cover space-to-space communications.¹

Iridium respectfully requests that grant of this experimental license be issued in advance, but no later than September 15, 2021.² The 24-month license term requested by Iridium herein takes into account the scheduled duration of the mission and the possibility of delays in the launch of the satellites or the start of the mission.

NASA’s satellites are part of a technology demonstration to showcase in-space inspection technologies that will reduce risk and accelerate NASA and industry development of the type of spacecraft used. NASA has separately requested authority from the National Telecommunications and Information Administration (“NTIA”) to operate the satellites.

For the technology demonstration, four nearly identical NASA space stations will be sent into orbit via three launches. Below is a summary of the launch and relevant operational details:

Launch Event	No. and type of Spacecraft	Orbit	Expected Launch Date
1	1x - 3U spacecraft	500 km circular orbit at 41° inclination	December 2021
2	2x: 1- 3U and 1- 6U spacecraft	500 km circular orbit at 41° inclination	April 2022
3	1x - 6U spacecraft	550 km sun synchronous orbit	April 2022

¹ Iridium’s constellation is licensed under Call sign S2110 and is comprised of 66 satellites, any one of which may be used as part of the experiment at any point in time.

² The launch vehicle integrator requires proof of authorization as a condition of including the satellites in the respective launch vehicle, well in advance of the launch.

Each of NASA's spacecraft will utilize a single NAL Research A3LA-RS modem to transmit data to the space stations in Iridium's "Big LEO" constellation. Iridium seeks authority to transmit in the reverse direction, from its Big LEO constellation to the modems on NASA's space stations. The technical characteristics of these transmissions will be identical to the technical characteristics of Iridium's already-licensed Part 25 space station transmissions in the 1618.725-1626.5 MHz band.

Iridium's experimental operations will be in accordance with the parameters of its Part 25 license. Accordingly, no operating parameters other than effective radiated power and emission designator are provided in the form that this exhibit accompanies. The only change from Iridium's Part 25 licensed operations is to add NASA's satellites as points of communication.