

Request for Experimental Authority

Iridium Satellite LLC (“Iridium”) seeks experimental authority to add the HALO-Net Free Flyer smallsat as a point of communication. For the reasons set forth below, Iridium requests experimental authority for a period of 18 months, beginning March 1, 2020.

Iridium’s request is made to support the HALO-Net Free Flyer, a 3U small satellite program run by the U.S. Navy. The primary experiment on HALO-Net Free Flyer is the retroreflector array. The retroreflectors will be tested for survivability and the amount of light reflected from the small satellite to a telescope on earth. If successful, HALO-Net Free Flyer will generate data to validate optical propagation models and influence the design of future optical communication payloads for the Navy. A GPS receiver and advanced nano-satellite communications suite will permit transmission of positional information as well as a simple receive capability.

The satellite will carry two Iridium model 9603 short burst data (“SBD”) modems, to be used aboard the HALO-Net Free Flyer, to transmit to space stations in Iridium’s “Big LEO” constellation. NTIA authorization for these HALO-Net Free Flyer transmissions is attached.

Iridium requests experimental authority to transmit in the reverse direction, from its Big LEO constellation to the modems on the HALO-Net Free Flyer, in the 1618.725–1626.5 MHz band. The technical characteristics of these transmissions will be identical to the technical characteristic of Iridium’s already-licensed space station transmissions in the 1618.725–1626.5 MHz band.¹

The HALO-Net Free Flyer is currently scheduled to launch from Virgin Orbit's Launcher One into low-earth orbit scheduled on March 1, 2020 and operate over the following 12 months. Iridium requests authority to cover 18 months to account for the possibility of launch delays.

Iridium’s space station constellation is licensed under Call Sign S2110. Because Iridium will be operating under the parameters of its license, no operating parameters, other than effective radiated power, were used in the form that this exhibit accompanies. The only change from Iridium’s licensed operations is that Iridium will be adding the HALO-Net Free Flyer-based modem as a point of communication. Iridium’s space station license does not cover intersatellite communications in the 1618.725–1626.5 MHz band.

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