

## Request for Special Temporary Authority

Iridium Satellite LLC (“Iridium”) seeks experimental special temporary authority (“STA”) to transmit in the 1618.725-1626.5 MHz band from its space stations<sup>1</sup> to the S4 CROSSOVER smallsat operated by Near Space Launch, Inc. (“NSL”), which will be attached to the second stage of an Astra launch vehicle. Iridium requests that grant of STA be made no later than January 23, 2022, and extend for a period of one hundred-eighty days.

As outlined in NSL’s companion application for the S4 CROSSOVER mission,<sup>2</sup> a single Iridium transceiver modem (model 9603) will be installed on the smallsat and will communicate with the Iridium constellation. This radio only can receive a signal from the Iridium constellation when its antenna is pointed away from the Earth, and a signal from the constellation must be received to enable the radio to transmit.

The experiment is expected to last until demise within a few weeks after launch. Iridium is requesting a 180-day term for its STA to leave room for possible launch delays or mission extension.

Features that will be tested include the Iridium transceiver and environmental instruments to characterize the radiation and plasma densities to which the payloads will be exposed. The S4 CROSSOVER smallsat will serve as a demonstration for a platform that may be used to host future payloads.

There will be no change during the experiment in the operating parameters of Iridium’s space stations, which are licensed as Part 25 space stations under Call Sign S2110. For this reason, no operating parameters, other than effective radiated power and emission designator, are used in the form that this exhibit accompanies. The only change for which Iridium seeks an STA is adding the S4 CROSSOVER smallsat as a point of communication. Iridium’s Part 25 space station license does not cover space-to-space communications.

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<sup>1</sup> Iridium’s constellation is comprised of 66 satellites, operating in the 1618.725–1626.5 MHz band any one of which may be used as part of the experiment at any point in time.

<sup>2</sup> See Near Space Launch, Inc., Application for Special Temporary Authority, OET File No. 1952-EX-ST-2021.