Request for Experimental Authority

Iridium Satellite LLC ("Iridium") seeks an experimental license to transmit in the 1618.725-1626.5 MHz band from its space stations[1] to the CRYPTO3 cubesat which is to be operated by Cryptosat Inc. ("Cryptosat") and which is scheduled for a June 2023 launch.

Iridium requests that its experimental license have a term of 24 months (two years). Iridium asks that its experimental license application be granted by May 10, 2023, to satisfy the requirements of Cryptosat's launch integrators.

Cryptosat is authorized to launch and operate CRYPTO3 through Germany's Bundesnetzagentur ("BNetzA"). BNetzA submitted advance publication information for CRYPTO3 to the International Telecommunication Union on February 15, 2023.[2]

CRYPTO3 will be the third satellite of a cubesat constellation whose mission is to provide cryptographic applications in space. The constellation is in a developmental phase, and the experimental operations proposed in this application will assist in proof of performance for the constellation.

A pair of Iridium 9603 transceiver modems will be installed on CRYPTO3 to communicate with the Iridium constellation. Transmissions will consist of blockchain ledger information, cryptographic primitives such as zero-knowledge proofs, random numbers as well as satellite commands, and telemetry.

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 authority is adding the CRYPTO3 cubesat as a point of communication. Iridium's Part 25 space station license does not cover space-to-space communications.

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[1] 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.

[2] *See* Advance Publication Information, Submission Reference No. D2023-58701, available at this URL: https://www.itu.int/ITU-R/space/asreceived/Publication/DisplayPublication/47974.