

Ground Station Support for Cubesat 1HOPSAT-TD

Exhibit for Application 0267-EX-ST-2020

Licensing for the associated ground stations, and associated space station network, is covered as follows:

X Band Downlink: The X band is downlink only, no uplink. X band carries experiment data from the 1HOPSAT-1D optical experiment. The receiving station for the X band downlink is the CSTARS listening facility at Miami University, in Miami, Florida. It is a receive only station, and it operates with no license.

C Band Uplink and Downlink: The C band carries commands up, and bus status and backup experiment data transmission, down. This is supported by the Santa Clara University ground station facility in Santa Clara, California. Two antennas will be available for this service – the 4.5m dish antenna, and the 3m dish antenna.

The 4.5m antenna license is 0973-EX-CN-2018. The 3m antenna license is 0117-EX-CM-2019.

Iridium Duplex Link: The Iridium constellation support of 1HOPSAT-TD has been covered under Iridium companion license 1235-EX-ST-2019. We have requested that Iridium obtain a modification or new license, to cover operation through July 30, 2020 or beyond. When it is issued, this modification will be added as an exhibit to the 1HOPSAT-1D file.