

Request For Special Temporary Authority

Harris Corporation (“Harris”) hereby seeks special temporary authority for the HSAT-1 satellite to downlink to a KSAT earth station located in Svalbard, Norway for a six-month period.¹ A full narrative of the mission experiment of the HSAT-1 cubesat is described in ELS File No. 0016-EX-CN-2016. HSAT-1 was launched on November 28, 2018 and was injected into a 505 km sun-synchronous orbit approximately 109 minutes after launch.²

The special temporary authority requested herein will allow Harris to continue performing S-Band communications with the HSAT-1 cubesat. As Harris has previously explained, HSAT-1 cubesat’s mission is an experiment related to demonstrating state-of-the-art radio technology.³ The primary objectives are to: (1) assess the effectiveness of radiation mitigation techniques of the payload in the actual environment with continual performance and event monitoring, (2) assess the performance of a broad-bandwidth deployable antenna (BBDA) specifically designed for cubesats through on-orbit measurement, and (3) assess the effective coverage of Harris’ earth-to-space and space-to-earth tracking, telemetry, and control (TT&C) and payload experiment data communications through on-orbit demonstration of an S-band radio. Importantly, operation of the HSAT-1 cubesat is also a risk-reduction activity for demonstrating space-ground communications related to Harris’ USAV project.

Harris submits that grant of the requested special temporary authority is in the public interest, convenience, and necessity as it will allow Harris to continue performing critical S-Band communications with the HSAT-1 cubesat.

¹ The coordinates for the KSAT earth station are as follows: 77° 52' 30" North (Lat) and 20° 58' 31" East (Long). Due to technical limitations in the ELS, Harris is unable to provide the coordinates on the STA application Form in the West longitude format; the “West” longitude coordinates that appear on the Form are actually “East” longitude.

² See ELS File No. 2051-EX-ST-2018.

³ See ELS File No. 0016-EX-CN-2016.