

Request for Experimental Authority

Iridium Satellite LLC (“Iridium”) seeks a two-year experimental license to add the Technical Educational Satellite -7 (“TechEdSat-7”) low earth orbit nanosatellite as a point of communication to its space stations, as described below, in the 1618.725–1626.5 MHz band.

The Commission previously granted Iridium special temporary authority (“STA”) to support the TechEdSat-7 mission under call sign WN9XUC.¹ But launch delays prevented TechEdSat-7 from being initiated within the 180-day term of the STA.

Given continued uncertainty as to the timing of a launch for TechEdSat-7, and given that STAs are granted for no more than 180 days, Iridium seeks an experimental license for a period of two years to eliminate the need for repetitive STA filings if there are further delays.

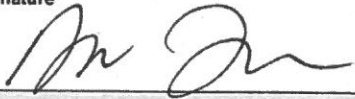
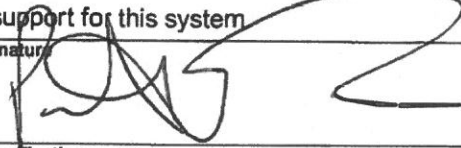
As set forth in Iridium’s initial application for STA, The National Telecommunications and Information Administration (“NTIA”) has authorized the National Aeronautics and Space Administration (“NASA”) to conduct experiments with TechEdSat-7. A copy of that authorization is attached hereto. In connection with these experiments, NASA will operate an Iridium modem that it will host on TechEdSat-7. The modem, which can be disabled via the Iridium network should the need arise, will transmit from TechEdSat-7 to space stations in Iridium’s “Big LEO” constellation.² The transmissions will, among other goals, utilize Iridium’s constellation as a tracking and data relay system.

Iridium seeks an experimental license for transmissions in the reverse direction, from its satellites to TechEdSat-7.³ 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 experimental license is adding TechEdSat-7 as a point of communication. Iridium’s Part 25 space station license does not cover space-to-space communications.

¹ OET File No. 2035-EX-ST-2018 filed Dec 5, 2018.

² The form that this narrative accompanies states that two Iridium modem units will be used. This statement reflects the fact that there will be a primary unit and a back-up unit. But only a single unit will be operational at any given time.

³ 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.

FORM NTIA-44 (3/91)		U.S. DEPARTMENT OF COMMERCE NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION		Classification UNCLASSIFIED		Control Number Doc. 43134/1 SPS-22153/1	
CERTIFICATION OF SPECTRUM SUPPORT							
Recipient Agency NASA		System Technical Education Satellite-7 (TechEdSat-7) Mission				Stage of Review 2 – Experimental	
Section 1: OPERATING CHARACTERISTICS FOR WHICH SUPPORT IS CERTIFIED							
Frequency (MHz)	Emission	Mean Power (W)	Station Class (Stage 2)	Transmit Locations	Receive Locations		
1618.725 - 1626.5	41K7Q7W	1	XT	Space	Space		
Section 2: SOURCE DOCUMENTS							
Docket Number SPS-22116/1	Description of Document NASA Request for Stage 2 System Review					Dated November 23, 2016	
Section 3: SPECTRUM PLANNING SUBCOMMITTEE (SPS) RECOMMENDATIONS							
The SPS reviewed this system under the provisions of Chapter 10 of the NTIA Manual, noting that this system will not advance to Stage 4 and the RF characteristics are identical to TechEdSat-5 (SPS-21887/2 and SPS-22120/1), and recommends that: 1. NTIA certify Stage 2 spectrum support for the Technical Education Satellite-7 (TechEdSat-7) Mission as specified in Section 1. 2. NASA be aware that operations of this system are limited for a duration of 3-6 months from the date of frequency assignment. 3. NASA be aware that operations of this system using the frequency band 1618.725 - 1626.5 MHz in the space research service are to be conducted on an unprotected, noninterference basis in accordance with Section 8.2.40 of the NTIA Manual. 4. NASA ensure that this system is equipped with the ability to turn on or to provide immediate cessation of emission by telecommand in accordance with Section 8.2.32 of the NTIA Manual. 5. NASA be aware that coordination with Iridium is required for use of the frequency band 1618.725 - 1626.500 MHz, and that operation of this system is contingent upon Iridium successfully obtaining authorization from the FCC. 6. NASA submit a request that NTIA waive the ITU international registration requirement to the Space Systems Subcommittee (SSS) in accordance with Section 3.3.1.2 of the NTIA Manual. 7. NASA protect personnel from radiation levels that exceed generally accepted exposure criteria.							
Name/Title of Recommending Official Binyam Tadesse SPS Vice Chairperson		Signature 			Date DEC 14 2016		
Section 4: NTIA CERTIFICATION							
The Office of Spectrum Management concurs with the SPS recommendations in Section 3. This office certifies Stage 2 spectrum support for this system							
Name/Title of Certifying Official Peter A. Tenhula Deputy Associate Administrator		Signature 			Date DEC 14 2016		
Downgrading Instructions		Classification UNCLASSIFIED			Distribution IRAC, SPS, FAS		