James Waddell, 1402 Airport Rd., Bridgewater, VA 22812,

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE

EXPERIMENTAL	WJ2XAY
(Nature of Service)	(Call Sign)
XC MO	0613-EX-CN-2017
(Class of Station)	(File Number)

NAME Leidos, Inc.

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(c) of the Commission's Rules

Station Locations

(1) MOBILE: Bridgewater VA, within 1 km, centered around NL 38-22-00; WL 78-57-37
(2) MOBILE: Bridgewater VA, within 370 km, centered around NL 38-22-00; WL 78-57-37
(3) MOBILE: Manassas VA, within 1 km, centered around NL 38-43-15; WL 77-30-54
(4) MOBILE: Airborne Operations Around Manassas VA, within 370 km, centered around NL 38-43-15; WL 77-30-54

Frequency Information

MOBILE: Bridgewater VA, within 1 km, centered around NL 38-22-00; WL 78-57-37

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
13.75-13.77 GHz	MO	10M0G1W	150 W (ERP)	
13.78-14.393 GHz	MO	10M0G1W	150 W (ERP)	
29.5-31 GHz	MO	10M0G1W	50 W (ERP)	

This authorization effective November 13, 2017 and
will expire 3:00 A.M. EST November 01, 2019

FEDERAL COMMUNICATIONS COMMISSION

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Special Conditions:

(1) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.

(2) The station identification requirements of Section 5.115 of the Commission's Rules are waived.

(3) Licensee should be aware that other stations may be licensed on these frequencies and if any interference occurs, the licensee of this authorization will be subject to immediate shut down.

(4) Leidos, Inc., must take all necessary measures to ensure that the operation authorized does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.13 10. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Requirements for restrictions can be determined by predictions based on calculations, modeling or by field measurements. The FCC's OET Bulletin 65 (available on-line at www.fcc.gov/oet/rfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers. The licensee shall ensure installation of terminals on aircraft by qualified installers who have an understanding of the antenna's radiation environment and the measures best suited to maximize protection of the general public and persons operating the aircraft and equipment. A terminal exhibiting radiation exposure levels exceeding 1.0 mW/cm2 in accessible areas, such as at the exterior surface of the radome, shall have a label attached to the surface of the terminal warning about the radiation hazard and shall include thereon a diagram showing the regions around the terminal where the radiation levels could exceed 1.0 mW/cm2.

(5) Operation pursuant to this authorization must be in compliance with the terms of Leidos, Inc.’s coordination agreements with the National Science Foundation and the National Aeronautics and Space Administration pertaining to operation of earth stations aboard aircraft (ESAA) in the Ku-Band.

(6) Airborne uplink operations must comply with the requirements in 47 C.F.R. 25.227.

Special Conditions:

(7) The primary stop buzzers are: Donald Pettit at (703) 785-2194 and Jordan Fettig at (815) 915-3311.
The secondary stop buzzers are: Joe Waddell at (540) 831-0261 and Richard Anderson at (540) 849-9955.

(8) Operation is subject to coordination prior to activation and, as appropriate, possible scheduling with Paulette Woody, pwoody@nrao.edu, (304) 456-2107, when used within 20 nautical miles of the National Radio Quiet Zone.

(9) Operation must be in accordance with the NRQZ coordination letter ID 11137_04OCT2017.

(10) This authorization is issued for the express purpose of conducting experimental operations described in the related application and required by the U.S. Government; contract number W56KGY-16-D-0001. The use of this radio station in any other manner or for any other purpose will constitute a violation of the privileges herein authorized. Except as subsequently authorized by the Commission, this radio station shall not be operated after the expiration date of the contract designated in the related application and enumerated above.

(11) Prior to operation, licensee must coordinate with stations authorized to operate in these frequency bands that are located within a 25 mile radius of the transmitter.

(12) ESAA authorized herein must be monitored and controlled by a ground-based network control and monitoring center. Such stations must be able to receive "enable transmission" and "disable transmission" commands from the network control center and must cease transmission immediately after receiving a "parameter change" command until receiving an "enable transmission" command from the network control center. The network control center must monitor operation of each ESAA to determine if it is malfunctioning, and each aircraft earth station must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed satellite service network.

(13) Antenna elevation for all operations must be at least 5 degrees above the geographic horizon while the aircraft is on the ground.

(14) Stations authorized herein must not be used to provide air traffic control communications.

(15) POINT OF COMMUNICATION: SES-1, AMC-21, IS-29E, IS-37E Satellites.

(16) Transmission is not permitted in 13.77-13.78 GHz band.