

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

EXPERIMENTAL

(Nature of Service)

WD2XSJ

(Call Sign)

XC MO

(Class of Station)

0242-EX-ML-2011

(File Number)

NAME Titan Corporation, The

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(b) of the Commission's Rules

Station Locations

- (1) MOBILE: A: FSS4180 Mobile-CONUS+HI
- (2) MOBILE: B: FSS4180LP Mobile-CONUS+HI
- (3) MOBILE: C: FSS4180LC Mobile-CONUS+HI
- (4) MOBILE: D: FSS4180,LP,LC Mobile-CONUS+HI
- (5) MOBILE: CONUS+HI
- (6) MOBILE: CONUS+HI

Frequency Information

MOBILE: A: FSS4180 Mobile-CONUS+HI

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14000-14500 MHz	MO	2M45G7D	8 kW (ERP)	
14000-14500 MHz	MO	8M60G7D	28 kW (ERP)	

This authorization effective November 18, 2011 and
will expire 3:00 A.M. EST November 18, 2013

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

MOBILE: B: FSS4180LP Mobile-CONUS+HI

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14000-14500 MHz	MO	2M45G7D	8 kW (ERP)	
14000-14500 MHz	MO	8M60G7D	28 kW (ERP)	

MOBILE: C: FSS4180LC Mobile-CONUS+HI

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14000-14500 MHz	MO	2M45G7D	8 kW (ERP)	
14000-14500 MHz	MO	8M60G7D	28 kW (ERP)	

MOBILE: D: FSS4180,LP,LC Mobile-CONUS+HI

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14000-145000 MHz	MO	2M45G7D	8 kW (ERP)	
14000-145000 MHz	MO	8M60G7D	28 kW (ERP)	

Frequency Information

MOBILE: CONUS+HI

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14000-14500 MHz	MO	8M60G7D	8 kW (ERP)	

MOBILE: CONUS+HI

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14000-145000 MHz	MO	8M60G7D	8 kW (ERP)	

Special Conditions:

- (1) 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.
- (2) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (3) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (4) No transmissions are permitted between 14.0 GHz and 14.2 GHz within 125 km of White Sands, NM (latitude: 32° 20' 59" N, longitude 106° 36' 31" W and latitude: 32° 32' 40" N, longitude 106° 36' 48" W) and of NASA TDRSS facilities on Guam (latitude: 13° 36' 55" N, longitude 144° 51' 22" W).
- (5) No transmissions are permitted between 14.47 GHz and 14.5 GHz within 125 km of Mauna Kea, HI (at latitude 19° 48' N, longitude 155° 28' W).
- (6) POINTS OF COMMUNICATIONS: AMC-1, AMC-2, AMC-5, AMC-6, AMC-9, AMC-15, AMC-16 AMC-21, AMC-23, Amazonas 1, Amazonas 2, G-16, G-17, G-26, G-27, G-28, H-2, IS-2, Horizons-1, and Telstar 14.
- (7) The designated point-of-contact to terminate transmissions if interference occurs is Mr. William Harbison, cell: 1-858-342-8688.
- (8) Licensee shall comply with the EIRP density criteria set forth in Part 25.222(a)(1) through (a)(4) of the FCC's rules.
- (9) Licensee is authorized to up 50 units per test.

Special Conditions:

- (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 DAAB07-02-C-F404. 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) In accordance with Article 4.4 of the ITU Radio Regulations, the operations authorized herein shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the ITU Constitution, the ITU Convention, and the ITU Radio Regulations.
- (12) National Science Foundation (NSF) requests that licensee:
 - 1) Coordinate operation at the Taunton, MA site with the National Radio Astronomy Observatory's VLBA site at Hancock, NH. (POC Mr. Dan Mertely at Socorro, NM, Phone: 505- 835-7027 and e-mail: dmertely@nrao.edu).
 - 2) Coordinate operation at the Fredericksburg, VA site with Wes Sizemore at Green Bank. (Phone: 304-456-2107, e-mail:wsizemor@nrao.edu).
- (13) Note that if, during the term of this authorization, NASA seeks to provide protection to a future TDRSS site that has been coordinated through the National Telecommunications and Information Administration (NTIA) Interdepartment Radio Advisory Committee (IRAC) Frequency Assignment Subcommittee process, NTIA will notify the Commission that the site is nearing operational status. Upon notice from the Commission, licensee must cease operations in the 14.0-14.2 GHz band within 125 km of the new TDRSS site until The Boeing Company has coordinated with the new site. After coordination, operations will then again be permitted in the 14.0-14.2 GHz band within 125 km of the new TDRSS site, subject to any operational constraints developed in the coordination process.
- (14) Subject to coordination with the Western Area Frequency Coordinator located at the Navy Pacific Missile Test Center, Pt. Mugu, Cal., prior to use within a 322 kilometer radius of Pt. Mugu or in California south of Latitude 37 30' North.
- (15) Prior to operating in the 14.47-14.5 GHz frequency band, in the listed locations, The Titan Corporation will coordinate with the National Academy of Sciences (NSF) and notify the Commission of the results of that coordination:
 - Within 45 km of the radio observatory on St. Croix, Virgin Islands (latitude 17° 46' N, longitude 64° 35' W);
 - Within 90 km of the Arecibo Observatory on Puerto Rico (latitude 18° 20' 46" N, longitude 66° 45' 11" W); and
 - Within 160 km of the radio observatories listed in US203 as observing in the 14.47-14.5 GHz band.
- (16) No transmissions are permitted in the 14.00 - 14.2 GHz band within 125 km of Blossom Point, MD (latitude: 38° 25' 44" N, longitude 77° 05' 20" W).
- (17) Operation is subject to prior coordinate with White Sands Missile Range (WSMR) and Restone Arsenal.
- (18) Operation is subject to immediate cessation, if it causes harmful interference to Health and Human Service (HHS) Medical operations.
- (19) Licensee must notify adjacent satellite operators within six degrees prior to operation.
- (20) Earth station operations are limited to U.S.-registered vessels only.

Special Conditions:

- (21) Operation within 100 miles of NASA Dryden Flight Research Center (355630N 1175312W) is subject to prior coordination with NASA: Rich Rood at 661-276-2138.