

**United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
SPECIAL TEMPORARY AUTHORIZATION**

EXPERIMENTAL

(Nature of Service)

WD9XCQ

(Call Sign)

XT MO

(Class of Station)

0530-EX-ST-2007

(File Number)

NAME Raysat Antenna Systems, LLC

This Special Temporary Authorization is granted upon the express condition that it may be terminated by the Commission at any time without advance notice or hearing if in its discretion the need for such action arises. Nothing contained herein shall be construed as a finding by the Commission that the authority herein granted is or will be in the public interest beyond the express terms hereof.

This Special Temporary Authorization shall not vest in the grantee any right to operate the station nor any right in the use of the frequencies designated in the authorization beyond the term hereof, nor in any other manner than authorized herein. Neither the authorization nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This authorization is subject to the right of use of control the Government of the United States conferred by Section 706 of the Communications Act of 1934.

Special Temporary Authority is hereby granted to operate the apparatus described below:

Purpose Of Operation:

To test up to 100 Land Mobile-Satellite Service (LMSS).

Station Locations

(1) MOBILE: CONUS, Alaska and Hawaii

Frequency Information

MOBILE: CONUS, Alaska and Hawaii

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14000-14500 MHz	MO	4M00G7W	4.47 kW (ERP)	

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) 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.
- (3) 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).

This authorization effective November 27, 2007 and
will expire 3:00 A.M. EST May 28, 2008

**FEDERAL
COMMUNICATIONS
COMMISSION**



Special Conditions:

- (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).
- (5) 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 Raysat Antenna Systems, LLC 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.
- (6) 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).
- (7) 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.
- (8) POINTS OF COMMUNICATION: Ku-band: AMC-6, SBS-6, AMC-5, GALAXY-28, AMC-4, HORIZONS-1, GALAXY-27, GE-23, GALAXY-26, GALAXY-4R, Telstar-14.
- (9) Licensee shall comply with the EIRP density criteria set forth in Part 25.222(a)(1) through (a)(4) of the FCC's rules.
- (10) Prior to operating in the 14.47-14.5 GHz frequency band, in the listed locations, Raysat Antenna Systems, LLC 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 125 km of the radio observatory on Mauna Kea, Hawaii (latitude 19° 48' N, longitude 155° 28' 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.
- (11) The designated point-of-contact to terminate transmissions if interference occurs is Mr. Ilan Kaplan at (703) 584-3770.
- (12) Coordinate with NASA when in the area of Moffett Field, Pasadena and Goldstone, CA.

Special Conditions:

- (13) Raysat Antenna Systems, LLC will need to update its coordination agreement with NASA to include operations within 125 km of the new TDRSS site at Blossom Point, MD. Raysat Antenna Systems, LLC METs shall cease operations within 125 km of the new Blossom Point facilities when those facilities become operational, unless Raysat Antenna Systems, LLC reaches an agreement with NASA permitting such operations.
- (14) Raysat Antenna Systems, LLC shall take all reasonable and customary measures to ensure that the MET does not create a potential for harmful non-ionizing radiation to persons who may be in the vicinity of the MET when it is in operation. At a minimum, permanent warning label(s) shall be affixed to the MET warning of the radiation hazard and including a diagram showing the regions around the MET where the radiation levels could exceed 1.0 mW/cm². The operator of the MET shall be responsible for assuring that individuals do not stray into the regions around the MET where there is a potential for exceeding the maximum permissible exposure limits required by Section 1.1310 of the Commission's rules, 47 C.F.R., § 1.1310. This shall be accomplished by means of signs, caution tape, verbal warnings, placement of the MET so as to minimize access to the hazardous region and/or any other appropriate means.
- (15) In the event that another co-frequency FSS satellite commences operation at a location within six degrees of the target satellite, Raysat Antenna Systems, LLC must reduce aggregate off-axis radiation from its METs to levels one dB below the routine-processing envelope, pending demonstration of coordination with the operator of the new satellite.
- (16) Raysat Antenna Systems, LLC METs must employ a tracking algorithm that is resistant to capturing and tracking adjacent satellite signals, and each Raysat Antenna Systems, LLC MET must be capable of inhibiting its own transmission in the event it detects unintended satellite tracking.