

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

EXPERIMENTAL

(Nature of Service)

WE2XEW

(Call Sign)

XD MO

(Class of Station)

0030-EX-TC-2007

(File Number)

NAME HNS License Sub, LLC

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(d, f & i) of the Commission's Rules

Station Locations

- (1) MOBILE: CONUS and territorial coastal waters, but not within 125 km of White Sands, NM
- (2) MOBILE: CONUS and territorial coastal waters, but not within 125 km of White Sands, NM
- (3) MOBILE: CONUS and territorial coastal waters, but not within 125 km of White Sands, NM

Frequency Information

MOBILE: CONUS and territorial coastal waters, but not within 125 km of White Sands, NM

| Frequency   | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 14-14.5 GHz | MO            | 12M8G7D             | 44 kW (ERP)      | 0.00001 %                 |
| 29.5-30 GHz | MO            | 800KG7D             | 93 kW (ERP)      |                           |

This authorization effective June 23, 2008 and  
will expire 3:00 A.M. EST June 01, 2009

**FEDERAL  
COMMUNICATIONS  
COMMISSION**



## Frequency Information

MOBILE: CONUS and territorial coastal waters, but not within 125 km of White Sands, NM

| Frequency   | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 14-14.5 GHz | MO            | 12M8G7D             | 30 kW (ERP)      | 0.00001 %                 |

MOBILE: CONUS and territorial coastal waters, but not within 125 km of White Sands, NM

| Frequency   | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 14-14.5 GHz | MO            | 12M8G7D             | 25 kW (ERP)      | 0.00001 %                 |

## Special Conditions:

- (1) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (2) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (3) 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.
- (4) POINTS OF COMMUNICATION: Ku-band: Galaxy 10-R at 123.0 West Longitude or SATMEX-5 at 116.8 degrees West Longitude; Ka-band: SpaceWay-1, SpaceWay-2, Spaceway 3, AMC-15 and AMC-16.

**Special Conditions:**

- (5) Prior to commencement of operation with Galaxy 10-R satellite at 123.0 WL or SATMEX-5 at 116.8 degrees WL pursuant to this special temporary authority (STA), licensee shall obtain a certification from the owners of Galaxy 10-R and/or SATMEX-5 that they have notified all satellite operators with co-frequency operations within 6 degrees longitude of their respective satellite, generally describing the experimental operations authorized herein, including the term thereof, and providing a point of contact for the purpose of resolving any complaints of interference. Licensee shall obtain a similar certification from the owners of Galaxy 10-R and/or SATMEX-5 if, during the term of this STA, a new or different satellite operator commences co-frequency operations within 6 degrees longitude of their respective satellite. If the point of contact receives a complaint of harmful interference, the party receiving the complaint (if not the licensee) will notify licensee, and licensee shall immediately cease such operations or adjust such operations to avoid harmful interference. Licensee will submit a copy of the certification(s) to the Commission for incorporation into the record of this file.
- (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) Prior to operating in the 14.47-14.5 GHz frequency band within 160 km of the locations listed in footnote US203 of the Table of Frequency Allocation in 47CFR2.106, licensee will coordinate with the National Academy of Sciences (NSF) and notify the Commission of the results of that coordination.
- (8) 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 HNS 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.
- (9) Maximum EIRP density allowed is 13.5 dBW/4kHz.
- (10) Off-axis EIRP spectral density for cross-polarized signals emitted from the earth station shall not exceed the calculations given in 47CFR25.222(a)(4).
- (11) All emissions from the earth station shall automatically cease within 100 milliseconds if the angle between the orbital location of the target satellite and the axis of the main lobe of the earth station antenna exceeds 0.5°, and transmission will not resume until such angle is less than 0.2°.