NTIA Space record data form

NTIA requires the following data for space related experiments using government shared spectrum. For each transmit frequency, please provide the data for both ends of the transmit-receive link. Use Part A to describe the satellite to ground information. Part B is for all ground to space transmit links.

## Part A: Space to Earth Downlink Data

Satellite Transmitter Data

| Transmit Frequency:<br>2207.875 - 2208.525MHz | | |
|---|---|---|
| Satellite Name:<br>BlueWalker 1 | | |
| **Data Field** | **Data Answer** | **Description/Comments** |
| Polarization (XAP) | XAP = R | POLARIZATIONS INCLUDE :<br>H = HORIZONTAL,<br>V = VERTICAL,<br>S = HORIZONTAL AND VERTICAL,<br>L = LEFT HAND CIRCULAR,<br>R = RIGHT HAND CIRCULAR,<br>T = RIGHT AND LEFT HAND CIRCULAR,<br>J = LINEAR POLARIZATION |
| Orientation (XAZ) | XAZ = EC | NB= NARROWBEAM<br>EC = EARTH COVERAGE |
| Antenna Dimension (XAD) | ANTENNA GAIN 6dBi<br>BEAMWIDTH 80 degrees<br>XAD = XAD01 06G080B | (NTIA format (XAD), EXAMPLE, XAD01 16G030B) |
| Type of satellite (State = SP) (City = geo or non) | Type =<br>Nongeostationary | Choose either:<br>Geostationary or<br>Nongeostationary |
| For Geostationary | Longitude = | IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG). |
| For Nongeostationary (Orbital Data) | INCLINATION ANGLE 97.5 degrees,<br>APOGEE IN KILOMETERS 521 km,<br>PERIGEE IN KILOMETERS 442 km,<br>ORBITAL PERIOD IN HOURS 1 AND<br>FRACTIONS OF HOURS IN<br>DECIMAL .57,<br>THE NUMBER OF SATELLITES IN THE<br>SYSTEM 1,<br><br>ORB = 97.5IN0521AP0442PE001.57H01NRT01 | IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04<br>*ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL<br>*ORB FOR IT ENDING IN R01, EXAMPLE, REM05<br>*ORB,72.9IN03209AP00655PE013.46H01NRR01 |
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| **Earth Station Data (Receiver)** | | |
|---|---|---|
| State (RSC) | RSC = Texas | |
| City Name (RAL) | RAL = Midland | |
| Latitude (DDMMSS) | Lat = 315555N | |
| Longitude (DDDMMSS) | Lon = 1021227E | |
| Antenna Polarization (RAP) | RAP = R | POLARIZATIONS INCLUDE :<br>H = HORIZONTAL,<br>V = VERTICAL,<br>S = HORIZONTAL AND VERTICAL,<br>L = LEFT HAND CIRCULAR,<br>R = RIGHT HAND CIRCULAR,<br>T = RIGHT AND LEFT HAND CIRCULAR,<br>J = LINEAR POLARIZATION |
| Antenna Azimuth (RAZ) | RAZ = V20 | THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00 |
| Antenna Dimensions (RAD) | ANTENNA GAIN 31dBi,<br>BEAMWIDTH 4 degrees,<br>AZIMUTHAL RANGE 0-360 degrees,<br>THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 850m<br>THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 0m<br><br>RAD = RAD01 31G004B000-360A00850H000 | EXAMPLE ASSUMING NONGEOSTATIONARY,<br>RAD01 16G030B000-360A00357H006 |
| FCC notes:<br>1. Use S-Note S945.<br>2. REM AGN, Cubesat, (insert name) | | |

**Part B: Ground Stations, Earth to Space link data:**

Earth Station Transmitter Data

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|---|---|---|
| Transmit Frequency: 2033.375 - 2033.625MHz | | |
| State (XSC) | XSC = Texas | |
| City Name (XAL) | XAL = Midland | |
| Latitude (DDMMSS) | Lat = 315555N | |
| Longitude (DDDMMSS) | Lon = 1021227E | |
| Antenna Polarization (XAP) | XAP = R | POLARIZATIONS INCLUDE :<br>H = HORIZONTAL,<br>V = VERTICAL,<br>S = HORIZONTAL AND VERTICAL,<br>L = LEFT HAND CIRCULAR,<br>R = RIGHT HAND CIRCULAR,<br>T = RIGHT AND LEFT HAND CIRCULAR,<br>J = LINEAR POLARIZATION |
| Antenna Azimuth (XAZ) | XAZ = V20 | THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00 |
| Antenna Dimensions (XAD) | ANTENNA GAIN 31 dBi,<br>BEAMWIDTH 4 degrees,<br>AZIMUTHAL RANGE 0-360 degrees,<br>THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 850m<br>THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 0m<br><br>XAD = RAD01 31G004B000-360A00850H000 | EXAMPLE ASSUMING NONGEOSTATIONARY,<br>XAD01 16G030B000-360A00357H006 |
| **Satellite Receive Specifications** | | |
| Polarization (RAP) | RAP = R | POLARIZATIONS INCLUDE :<br>H = HORIZONTAL,<br>V = VERTICAL,<br>S = HORIZONTAL AND VERTICAL,<br>L = LEFT HAND CIRCULAR,<br>R = RIGHT HAND CIRCULAR,<br>T = RIGHT AND LEFT HAND CIRCULAR,<br>J = LINEAR POLARIZATION |
| Azimuth (RAZ) | RAZ = EC | NB= NARROWBEAM<br>EC = EARTH COVERAGE |
| Dimension (RAD) | ANTENNA GAIN 6dBi<br>BEAMWIDTH 80 degrees<br>RAD = RAD01 06G080B | (NTIA format (RAD), EXAMPLE, RAD01 16G030B) |
| Type of satellite (State = SP)<br>City = G/No | Type =<br><br>Nongeostationary | Choose either:<br>Geostationary or<br>Nongeostationary |

| | | |
|---|---|---|
| For Geostationary | Longitude = | IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG). |
| For Nongeostationary (Orbital Data) | INCLINATION ANGLE 97.5 degrees,<br>APOGEE IN KILOMETERS 521 km,<br>PERIGEE IN KILOMETERS 442 km,<br>ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL .57,<br>THE NUMBER OF SATELLITES IN THE SYSTEM 1,<br><br>ORB = 97.5IN0521AP0442PE001.57H01NRT01 | IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04<br>*ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL<br>*ORB FOR IT ENDING IN R01, EXAMPLE, REM05<br>*ORB,72.9IN03209AP00655PE013.46H01NRR01 |
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