

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: 434.02 MHz		
Satellite Name: CACTUS-I		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP =H	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN 2.1 BEAMWIDTH 78 degrees XAD = 2G78B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type =Nongeostationary	Choose either: Geostationary or 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 90, APOGEE IN KILOMETERS 500, PERIGEE IN KILOMETERS 500, ORBITAL PERIOD IN HOURS (94.47min) 1 AND FRACTIONS OF HOURS IN DECIMAL 0.5745, THE NUMBER OF SATELLITES IN THE SYSTEM 1,  ORB = 90.01N00500AP00500PE001.57H01NRT01	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 *ORB,98.01N00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.91N03209AP00655PE013.46H01NRR01

<b>Earth Station Data (Receiver)</b>		
State (RSC)	RSC = MD	
City Name (RAL)	RAL = Laurel	
Latitude (DDMMSS)	Lat = 390250	
Longitude (DDDMMSS)	Lon = 0765104	
Antenna Polarization (RAP)	RAP = H	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = V10	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN 10dB, BEAMWIDTH 50 degrees, AZIMUTHAL RANGE 0-360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 54 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 35 meters  RAD = 10G050B000-360A00054H035	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes:		
<ol style="list-style-type: none"> <li>1. Use S-Note S945.</li> <li>2. REM AGN, Cubesat, Cactus-I</li> </ol>		

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

Earth Station Transmitter Data

Transmit Frequency:		
State (XSC)	XSC = MD	
City Name (XAL)	XAL = Laurel	
Latitude (DDMMSS)	Lat = 390250	
Longitude (DDDMMSS)	Lon = 765104	
Antenna Polarization (XAP)	XAP = H	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ =V10	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 10dB, BEAMWIDTH 50, AZIMUTHAL RANGE 0-360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 54 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 35 meters  XAD = 10G050B000-360A00054H035	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
<b>Satellite Receive Specifications</b>		
Polarization (RAP)	RAP = H	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Azimuth (RAZ)	RAZ = V00	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (RAD)	ANTENNA GAIN 2.1 dB BEAMWIDTH 78 RAD = 02G078B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Nongeostationary	Choose either: Geostationary or 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 0 degrees, APOGEE IN KILOMETERS 500km, PERIGEE IN KILOMETERS 500km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.5745, THE NUMBER OF SATELLITES IN THE SYSTEM 1, 0IN00500AP00500PE001.57H01NRT01	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 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01