

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: <u>468.000 MHz</u>		
Satellite Name: <u>OPAL</u>		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP = <u>L</u>	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 = <u>EC</u>	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN <u>5</u> BEAMWIDTH <u>060</u> XAD = <u>XAD01 05G060B</u>	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = <u>Nongeostationary</u>	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 <u>51.6</u> , APOGEE IN KILOMETERS <u>400</u> , PERIGEE IN KILOMETERS <u>400</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>.54</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = <u>ORB, 51.6 IN00400AP00400 PE001.54H01NRT01</u>	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

Earth Station Data (Receiver)		
State (RSC)	RSC = <u>Virginia</u>	
City Name (RAL)	RAL = <u>Temperanceville</u>	
Latitude (DDMMSS)	Lat = <u>375121 North</u>	
Longitude (DDMMSS)	Lon = <u>0753043 West</u>	
Antenna Polarization (RAP)	RAP = <u>R</u>	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 = <u>RAZ 01 V00</u>	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN <u>36</u> , BEAMWIDTH <u>3</u> , AZIMUTHAL RANGE <u>0-360</u> , THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>0</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>10</u> RAD = <u>RAD 01 360003B000-360A00000H010</u>	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (insert name) <u>OPAL</u>		

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

Earth Station Transmitter Data

Transmit Frequency: <u>450.000 MHz</u>		
State (XSC)	XSC = <u>Virginia</u>	
City Name (XAL)	XAL = <u>Temperanceville</u>	
Latitude (DDMMSS)	Lat = <u>375121 North</u>	
Longitude (DDDMMSS)	Lon = <u>0753043 West</u>	
Antenna Polarization (XAP)	XAP = <u>R</u>	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 = <u>XAZ01 V00</u>	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN <u>36</u> BEAMWIDTH <u>3</u> AZIMUTHAL RANGE <u>0-360</u> THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>0</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>10</u> XAD = <u>XAD01 36G003B000-360A00000H010</u>	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
Satellite Receive Specifications		
Polarization (RAP)	RAP = <u>J</u>	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 = <u>RAZ01 V00</u>	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (RAD)	ANTENNA GAIN <u>5</u> BEAMWIDTH <u>060</u> RAD = <u>RAD01 05G060B</u>	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = <u>Nongeostationary</u>	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 <u>51.6</u> , APOGEE IN KILOMETERS <u>400</u> , PERIGEE IN KILOMETERS <u>400</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>.54</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , <u>ORB, 51.6 IN 00400 AP00400 PE001.54 #01NRT01</u>	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