

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: 437.45 MHz		
Satellite Name: The Spectral Ocean Color (SPOC) Satellite		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP = R	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 = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN <u>0 dBi</u> BEAMWIDTH <u>360 deg</u> XAD = 00G360B	(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 = N/A	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 degrees</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 = *ORB,51.6IN00400AP00400PE001.54H01NRT01	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

<b>Earth Station Data (Receiver)</b>		
State (RSC)	RSC = Georgia	
City Name (RAL)	RAL = Athens	
Latitude (DDMMSS)	Lat = 335654	
Longitude (DDDMMSS)	Lon = 832230	
Antenna Polarization (RAP)	RAP = R	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 = V00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN <u>18.9 dBic</u> , BEAMWIDTH <u>21 deg</u> , AZIMUTHAL RANGE <u>360 deg</u> , THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>207</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>7.01</u>  RAD = 19G021B000-360A00207H007	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000 360A00357H006
FCC notes: 1. Use S Note S945. 2. REM AGN, Cubesat, SPOC		

#### Satellite Transmitter Data

Transmit Frequency: 2410.5 MHz		
Satellite Name: The Spectral Ocean Color (SPOC) Satellite		
<b>Data Field</b>	<b>Data Answer</b>	<b>Description/Comments</b>
Polarization (XAP)	XAP = R	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 <u>8 dBi</u> BEAMWIDTH <u>60 deg</u> XAD = 08G060B	(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 = N/A	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 degrees</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 =	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 = Georgia	
City Name (RAL)	RAL = Athens	
Latitude (DDMMSS)	Lat = 335654	
Longitude (DDDMMSS)	Lon = 832230	
Antenna Polarization (RAP)	RAP = R	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 = V00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN <u>33 dBic</u> , BEAMWIDTH <u>04 deg</u> , AZIMUTHAL RANGE <u>360 deg</u> , THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>207</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>7.01</u>  RAD = 33G004B000-360A00207H007	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000 360A00357H006
FCC notes: 1. Use S Note S945. 2. REM AGN, Cubesat, SPOC		

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

Earth Station Transmitter Data

Transmit Frequency:		
State (XSC)	XSC =GA	
City Name (XAL)	XAL = ATHENS	
Latitude (DDMMSS)	Lat = 335654	
Longitude (DDDMMSS)	Lon = 832230	
Antenna Polarization (XAP)	XAP = R	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 = V00	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN <u>18.9 dBic</u> , BEAMWIDTH <u>21 deg</u> , AZIMUTHAL RANGE <u>360 deg</u> , THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>207</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>207</u>  XAD = 19G021B000-360A00207H007	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000 360A00357H006
<b>Satellite Receive Specifications</b>		
Polarization (RAP)	RAP = R	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 = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN <u>0.0 dBic</u> BEAMWIDTH <u>360 deg</u> RAD = 00G360B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary

For Geostationary	Longitude = N/A	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 deg</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> ,	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