

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: 400.500 MHz		
Satellite Name: Momentum X1		
<b>Data Field</b>	<b>Data Answer</b>	<b>Description/Comments</b>
Polarization (XAP)	XAP = J	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 0.0 dBi BEAMWIDTH 360 degrees XAD = 0G360B	(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 98.0 degrees, APOGEE IN KILOMETERS 585 km, PERIGEE IN KILOMETERS 585 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 61, THE NUMBER OF SATELLITES IN THE SYSTEM 1,  ORB = 98.0IN00585AP00585PE001.61H01NRT01	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 A)</b>		
State (RSC)	RSC = California	
City Name (RAL)	RAL = Santa Clara	
Latitude (DDMMSS)	Lat = 372248 N	
Longitude (DDMMSS)	Lon = 1215740 W	
Antenna Polarization (RAP)	RAP = J	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 22 dB, BEAMWIDTH 14 degrees, AZIMUTHAL RANGE 0 – 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 23 meters, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 13 meters,  RAD = 22G014B000-360A00023H013	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (insert name)		

<b>Earth Station Data (Receiver B)</b>		
State (RSC)	RSC = Colorado	
City Name (RAL)	RAL = Littleton	
Latitude (DDMMSS)	Lat = 393424 N	
Longitude (DDMMSS)	Lon = 1050801 W	
Antenna Polarization (RAP)	RAP = J	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 22 dB BEAMWIDTH 14 degrees,	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

	AZIMUTHAL RANGE 0 – 360 degrees THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 1773 meters, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 14 meters,  RAD = 22G014B000-360A01773H014	
FCC notes: <ol style="list-style-type: none"><li>1. Use S-Note S945.</li><li>2. REM AGN, Cubesat, (insert name)</li></ol>		

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

Earth Station Transmitter Data

<b>Earth Station Transmitter Data (Transmitter A)</b>		
Transmit Frequency: 402.900 MHz		
State (XSC)	XSC = California	
City Name (XAL)	XAL = Santa Clara	
Latitude (DDMMSS)	Lat = 372248	
Longitude (DDMMSS)	Lon = 1215740	
Antenna Polarization (XAP)	XAP = J	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 22 dB BEAMWIDTH 14 degrees, AZIMUTHAL RANGE 0 – 360 degrees THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 23 THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 13 meters  XAD = 22G014B000-360A00023H013	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
<b>Earth Station Transmitter Data (Transmitter B)</b>		
Transmit Frequency: 402.900 MHz		
State (XSC)	XSC = Colorado	
City Name (XAL)	XAL = Littleton	
Latitude (DDMMSS)	Lat = 393424 N	
Longitude (DDMMSS)	Lon = 1050801 W	
Antenna Polarization (XAP)	XAP = J	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 = V00	THE EARTH STATION Transmitter ANTENNA

(XAZ)		AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 22 dB BEAMWIDTH 14 degrees, AZIMUTHAL RANGE 0 – 360 degrees THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 1773 THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 14 meters  XAD = 22G014B000-360A01773H014	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
<b>Satellite Receive Specifications</b>		
Polarization (RAP)	RAP = J	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 = RAZ01 V00	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (RAD)	ANTENNA GAIN 0.0 dBi BEAMWIDTH 360 degrees  RAD = 0G360B	(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 98.0 degrees, APOGEE IN KILOMETERS 585 km, PERIGEE IN KILOMETERS 585 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 61, THE NUMBER OF SATELLITES IN THE SYSTEM 1,  ORB,98.0IN00585AP00585PE001.61H01NRT01	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