

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: UHF, 400.74MHz		
Satellite Name: TYVAK-0129		
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 ____ 2dBic_____ BEAMWIDTH ____ 360° HPBW_____ XAD = 2G360B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = SP, NON	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 ____ 98°_____ APOGEE IN KILOMETERS ____ 500km_____ PERIGEE IN KILOMETERS ____ 500km_____ ORBITAL PERIOD IN HOURS ____ 1 ____ AND FRACTIONS OF HOURS IN DECIMAL __ 58 __, THE NUMBER OF SATELLITES IN THE SYSTEM ____ 1 ____,  ORB = 98.0IN00500AP00500PE001.58H01NRT01	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) - UHF</b>		
State (RSC)	RSC = CA	

City Name (RAL)	RAL = SAN DIEGO	
Latitude	Lat = 0325349	(DDMMSS)
Longitude	Lon = 1171236	(DDMMSS)
Antenna Polarization (RAP)	RAP = T	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____16dBic_____ BEAMWIDTH____40°_____ AZIMUTHAL RANGE__0 to 360_____ THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS __22m_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS _____6m_____  RAD = 16G040B000-360A00022H006	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
<b>Earth Station Data (Receiver) – UHF</b>		
State (RSC)	RSC = AK	
City Name (RAL)	RAL = DEAD HORSE	
Latitude	Lat = 0701236	(DDMMSS)
Longitude	Lon = 1482436	(DDMMSS)
Antenna Polarization (RAP)	RAP = T	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____16dBic_____ BEAMWIDTH____40°_____ AZIMUTHAL RANGE__0 to 360_____ THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS __13m_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS _____0m_____  RAD = 16G040B000-360A00013H000	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (insert name)		

Satellite Transmitter Data

Transmit Frequency: S-Band, 2235 MHz		
Satellite Name: TYVAK-0129		
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 ___ 5dBic ___ BEAMWIDTH ___ 65° HPBW ___ XAD = 5G065B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = SP, NON	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 ___ 98° ___, APOGEE IN KILOMETERS ___ 500km ___, PERIGEE IN KILOMETERS ___ 500km ___, ORBITAL PERIOD IN HOURS ___ 1 ___ AND FRACTIONS OF HOURS IN DECIMAL ___ 58 __, THE NUMBER OF SATELLITES IN THE SYSTEM ___ 1 ____,  ORB = 98.0IN00500AP00500PE001.58H01NRT01	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

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

Earth Station Transmitter Data

Transmit Frequency: UHF, 401.205MHz		
State (XSC)	XSC = CA	
City Name (XAL)	XAL = SAN DIEGO	
Latitude	Lat = 0325349	(DDMMSS)
Longitude	Lon = 1171236	(DDDMMSS)
Antenna Polarization (XAP)	XAP = T	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 ____ 16dBic_____ BEAMWIDTH ____ 40°_____ AZIMUTHAL RANGE ____ 0 to 360_____ THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ____ 22m_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____ 6m_____  XAD = 16G040B000-360A00022H006	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
Transmit Frequency: UHF, 401.205MHz		
State (XSC)	XSC = AK	
City Name (XAL)	XAL = DEAD HORSE	
Latitude	Lat = 0701236	(DDMMSS)
Longitude	Lon = 1482436	(DDDMMSS)
Antenna Polarization (XAP)	XAP = T	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 ____ 16dBic_____ BEAMWIDTH ____ 40°_____ AZIMUTHAL RANGE ____ 0 to 360_____ THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ____ 13m_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____ 0m_____  XAD = 16G040B000-360A00013H006	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

	XAD = 16G040B000-360A00013H000	
<b>Satellite Receive Specifications - UHF</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 = V00	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (RAD)	ANTENNA GAIN ____ 2dBic ____ BEAMWIDTH ____ 360° HPBW ____ RAD = 2G360B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = SP, No	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 ____ 98° ____ , APOGEE IN KILOMETERS ____ 500km ____ , PERIGEE IN KILOMETERS ____ 500km ____ , ORBITAL PERIOD IN HOURS ____ 1 ____ AND FRACTIONS OF HOURS IN DECIMAL ____ 58 ____ , THE NUMBER OF SATELLITES IN THE SYSTEM ____ 1 ____ ,  ORB = 98.0IN00500AP00500PE001.58H01NRR 01	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,98.0IN00510AP00510PE001.58H01NRTO 1, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR0 1