

NTIA Space Record 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: 437.250MHz		
Satellite Name: CIRBE		
Data Field	Data Answer	Description/Comments
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 __2dBi_____ BEAMWIDTH __360_____ XAD = 02G360B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = NGSO	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude = NGSO	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 __97.0°_____, APOGEE IN KILOMETERS __500_____, PERIGEE IN KILOMETERS __500_____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL _0.576_____, THE NUMBER OF SATELLITES IN THE SYSTEM __1_____, ORB = 97.0IN00500AP00500PE001.58H01NRT01	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

Transmit Frequency: 2402 MHz		
Satellite Name: CIRBE		
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__6.8 dBi_____ BEAMWIDTH __80°_____ XAD = 07G080B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = NGSO	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude = NGSO	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__97.0°_____, APOGEE IN KILOMETERS__500_____, PERIGEE IN KILOMETERS__500_____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL_0.576_____, THE NUMBER OF SATELLITES IN THE SYSTEM__1_____, ORB = 97.0IN00500AP00500PE001.58H01NRT01	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

Earth Station Data (Boulder 437.250 MHz Receiver)		
State (RSC)	RSC = Colorado	
City Name (RAL)	RAL = Boulder	
Latitude (DDMMSS)	Lat = 400032N	
Longitude (DDDMMSS)	Lon = 1051452W	
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____22dBi_____, BEAMWIDTH____15°_____, AZIMUTHAL RANGE__0-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ____1655 meters____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____15 meters_____ RAD = 22G015B000-360A01655H015	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, CIRBE		

Earth Station Data (Boulder 2402 MHz Receiver)		
State (RSC)	RSC = Colorado	
City Name (RAL)	RAL = Boulder	
Latitude (DDMMSS)	Lat = 400032N	
Longitude (DDMMSS)	Lon = 1051452W	
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____38dBi_____ BEAMWIDTH____2°_____ AZIMUTHAL RANGE__0-360_____ THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ____1655 meters____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____15 meters_____ RAD = 38G002B000-360A01655H015	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, CIRBE		

Earth Station Data (Fairbanks 437.250 MHz Receiver)		
State (RSC)	RSC = Alaska	
City Name (RAL)	RAL = Fairbanks	
Latitude (DDMMSS)	Lat = 650733N	
Longitude (DDMMSS)	Lon = 1472927W	
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___19dBi_____, BEAMWIDTH___19°_____, AZIMUTHAL RANGE__0-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___136 meters_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____15 meters_____ RAD = 19G019B000-360A00136H015	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, CIRBE		

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

Earth Station Transmitter Data (Boulder)

Transmit Frequency: 437.250MHz		
State (XSC)	XSC = Colorado	
City Name (XAL)	XAL = Boulder	
Latitude (DDMMSS)	Lat = 400032N	
Longitude (DDMMSS)	Lon = 1051452W	
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 RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN____22dBi_____ BEAMWIDTH____15°_____ AZIMUTHAL RANGE__0-360_____ THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ____1655 meters_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____15 meters_____ RAD = 22G015B000-360A01655H015	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

Earth Station Transmitter Data (Fairbanks)

Transmit Frequency: 437.250MHz		
State (XSC)	XSC = Alaska	
City Name (XAL)	XAL = Fairbanks	
Latitude (DDMMSS)	Lat = 650733N	
Longitude (DDDMMSS)	Lon = 1472927W	
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 RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN___19dBi_____, BEAMWIDTH___19°_____, AZIMUTHAL RANGE__0-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___1655 meters____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS _____15 meters_____ RAD = 19G021B000-360A01655H015	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

Satellite Receive Specifications 437.250MHz		
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
Orientation (RAZ)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (RAD)	ANTENNA GAIN ____ 2dBi ____ BEAMWIDTH ____ 360 ____ XAD = 02G360B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = NGSO	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude = NGSO	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 ____ 97.0° ____ APOGEE IN KILOMETERS ____ 500 ____ PERIGEE IN KILOMETERS ____ 500 ____ ORBITAL PERIOD IN HOURS ____ 1 ____ AND FRACTIONS OF HOURS IN DECIMAL ____ 0.576 ____ THE NUMBER OF SATELLITES IN THE SYSTEM ____ 1 ____ ORB = 97.0IN00500AP00500PE001.58H01NRT01	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