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: CUTE		
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 = 2G360B	(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___97.6º_____, APOGEE IN KILOMETERS____550____, PERIGEE IN KILOMETERS____550____, ORBITAL PERIOD IN HOURS __1___AND FRACTIONS OF HOURS IN DECIMAL_0.594____, THE NUMBER OF SATELLITES IN THE SYSTEM____1_____, ORB = 97.6IN00550AP00585PE001.59H01NRT01	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: CUTE		
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 = 7G080B	(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___97.6°_____, APOGEE IN KILOMETERS____550____, PERIGEE IN KILOMETERS____550____, ORBITAL PERIOD IN HOURS __1___AND FRACTIONS OF HOURS IN DECIMAL_0.594____, THE NUMBER OF SATELLITES IN THE SYSTEM____1_____, ORB = 97.6IN00550AP00550PE001.59H01NRT01	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 (DDMMSS)	Lon = 1051451W	
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_____21dBi_____, BEAMWIDTH_____15º_____, 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 = =21G015B000-360A01655H015	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, CUTE		

Earth Station Data (Boulder 2402 MHz Receiver)

State (RSC)	RSC = Colorado	
City Name (RAL)	RAL = Boulder	
Latitude (DDMMSS)	Lat = 400032N	
Longitude (DDDMMSS)	Lon = 1051451W	
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, CUTE		

Earth Station Data (Fairbanks 437.250 MHz Receiver)		
State (RSC)	RSC = Alaska	
City Name (RAL)	RAL = Fairbanks	
Latitude (DDMMSS)	Lat = 644739N	
Longitude (DDDMMSS)	Lon = 1474311W	
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_____19º_____, 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, CUTE		

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 (DDDMMSS)	Lon = 1051451W	
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_____21dBi_____, 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 = =21G015B000-360A01655H015	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 = 645122N	
Longitude (DDDMMSS)	Lon = 1474311W	
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_____19º_____, 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 = 2G360B	(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___97.6°_____, APOGEE IN KILOMETERS____550____, PERIGEE IN KILOMETERS____550____, ORBITAL PERIOD IN HOURS __1___AND FRACTIONS OF HOURS IN DECIMAL_0.594____, THE NUMBER OF SATELLITES IN THE SYSTEM____1_____, ORB = 97.6IN00550AP00585PE001.59H01NRT01	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