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: 137.920 MHz		
Satellite Name: BEE		
Data Field	**Data Answer**	**Description/Comments**
Polarization (XAP)	XAP = V	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 = 2.15 dBi BEAMWIDTH = Toroidal HPBW = 60 x 360 degrees XAD = XAD01 02GDIPOLE	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary State = SP City = non	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____85_____, APOGEE IN KILOMETERS____500_____, PERIGEE IN KILOMETERS_____500____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL___0.577___, THE NUMBER OF SATELLITES IN THE SYSTEM_____4_____, ORB = ORB,085.0IN00500AP00500PE0001.58H04NRT01	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) #1		
State (RSC)	RSC = CA	
City Name (RAL)	RAL = Menlo Park	
Latitude (DDMMSS)	Lat = 37 26 11 N	
Longitude (DDDMMSS)	Lon = 122 12 44 W	
Antenna Polarization (RAP)	RAP = V	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 = 0-360 V00 to V90 (Azimuth = 0 to 360, Elevation 0 to 90)	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN_____2.15_____, BEAMWIDTH_____180_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___42_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ RAD = RAD01 02GDIPOLE	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (SWARM BEE)		

Earth Station Data (Receiver) #2		
State (RSC)	RSC = GA	
City Name (RAL)	RAL = Buford	
Latitude (DDMMSS)	Lat = 34 05 05 N	
Longitude (DDDMMSS)	Lon = 083 56 51 W	
Antenna Polarization (RAP)	RAP = V	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 = 0-360 V00 to V90	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00

	(Azimuth = 0 to 360, Elevation 0 to 90)	
Antenna Dimensions (RAD)	ANTENNA GAIN_____2.15 _____, BEAMWIDTH_____180_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___366_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ RAD = RAD01 02GDIPOLE	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (SWARM BEE)		

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

Earth Station Transmitter Data #1

Transmit Frequency: 148.500 MHz		
State (XSC)	XSC = CA	
City Name (XAL)	XAL = Los Altos	
Latitude (DDMMSS)	Lat = 37 22 54 N	
Longitude (DDDMMSS)	Lon = 122 5 50 W	
Antenna Polarization (XAP)	XAP = V	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 = 0-360 V00 to V90 (Azimuth = 0 to 360, Elevation 0 to 90)	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN_____2.15_____, BEAMWIDTH_____180_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___48_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ RAD = RAD01 02GDIPOLE	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
Satellite Receive Specifications		
Polarization (RAP)	RAP = V	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	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (XAD)	ANTENNA GAIN = 2.15 dBi BEAMWIDTH = Toroidal HPBW = 60 x 360 degrees. XAD = XAD01 02GDIPOLE	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP)	Type = Nongeostationary State = SP	Choose either: Geostationary or Nongeostationary

City = G/No	City = non	
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____85.0_____, APOGEE IN KILOMETERS____500_____, PERIGEE IN KILOMETERS_____500____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL___0.577___, THE NUMBER OF SATELLITES IN THE SYSTEM_____4_____, ORB = ORB,085.0IN00500AP00500PE0001.58H04NRR01	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 Transmitter Data #2

Transmit Frequency: 148.500 MHz		
State (XSC)	XSC = GA	
City Name (XAL)	XAL = Buford	
Latitude (DDMMSS)	Lat = 34 05 05 N	
Longitude (DDDMMSS)	Lon = 083 56 51 W	
Antenna Polarization (XAP)	XAP = V	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 = 0-360 V00 to V90 (Azimuth = 0 to 360, Elevation 0 to 90)	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (RAD)	AANTENNA GAIN_____2.15_____, BEAMWIDTH_____180_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___48_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ RAD = RAD01 02GDIPOLE	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
Satellite Receive Specifications		

Polarization (RAP)	RAP = V	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	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (XAD)	ANTENNA GAIN = 2.15 dBi BEAMWIDTH = Toroidal HPBW = 60 x 360 degrees. XAD = XAD01 02GDIPOLE	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Nongeostationary State = SP City = non	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____85.0_____, APOGEE IN KILOMETERS____500_____, PERIGEE IN KILOMETERS_____500____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL___0.577__, THE NUMBER OF SATELLITES IN THE SYSTEM_____4_____, ORB = ORB,085.0IN00500AP00500PE0001.58H04NNRR01	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