

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: 137.880-138.000 MHz		
Satellite Name: SPACEBEE-8, SPACEBEE-9		
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 = 0.00 dBi BEAMWIDTH = 360 degrees XAD = XAD01 00G360B	(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 <u>45.0</u> , APOGEE IN KILOMETERS <u>475</u> , PERIGEE IN KILOMETERS <u>475</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.568</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>2</u> , ORB = ORB,045.0IN00475AP00475PE0001.57H0 2NRT01	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 = Los Altos	
Latitude (DDMMSS)	Lat = 37 21 53 N	
Longitude (DDMMSS)	Lon = 122 06 39 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 = 0-50 V00 to V50 (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__11.0_____, BEAMWIDTH__50_____, AZIMUTHAL RANGE__0 to 50_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS __132_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS __3_____ RAD = RAD01 11G050B	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (SPACEBEE)		

Earth Station Data (Receiver) #2		
State (RSC)	RSC = GA	
City Name (RAL)	RAL = Flowery Branch	
Latitude (DDMMSS)	Lat = 034 11 29 N	
Longitude (DDMMSS)	Lon = 083 56 29 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 = 0-50 V00 to V50	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__11.0_____, BEAMWIDTH__50_____, AZIMUTHAL RANGE__0 to 50_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS __366_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS __3_____ RAD = RAD01 11G050B	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 3. Use S-Note S945. 4. REM AGN, Cubesat, (SPACEBEE)		

Earth Station Data (Receiver) #3		
State (RSC)	RSC = UT	
City Name (RAL)	RAL = Draper	
Latitude (DDMMSS)	Lat = 40 28 53 N	
Longitude (DDDMMSS)	Lon = 111 49 23 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 = 0-50 V00 to V50 (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__11.0_____, BEAMWIDTH__50_____, AZIMUTHAL RANGE__0 to 50_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS __1796_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS __3_____ RAD = RAD01 11G050B	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 5. Use S-Note S945. 6. REM AGN, Cubesat, (SPACEBEE)		

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

Earth Station Transmitter Data #1

Transmit Frequency: 148.300-148.420 MHz		
State (XSC)	XSC = CA	
City Name (XAL)	XAL = Los Altos	
Latitude (DDMMSS)	Lat = 37 21 53 N	
Longitude (DDDMMSS)	Lon = 122 06 39 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 = EC	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN__11.0_____, BEAMWIDTH__50_____, AZIMUTHAL RANGE__0 to 50_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS __132_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS __3_____ RAD = RAD01 11G050B	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
Satellite Receive Specifications		
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 = EC	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (RAD)	ANTENNA GAIN = 0.00 dBi BEAMWIDTH = 360 degrees XAD = XAD01 00G360B	(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 <u>45.0</u> , APOGEE IN KILOMETERS <u>475</u> , PERIGEE IN KILOMETERS <u>475</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.568</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>2</u> , ORB = <u>ORB,045.0IN00475AP00475PE0001.57H0 2NRT01</u>	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: <u>148.300-148.420 MHz</u>		
State (XSC)	XSC = <u>GA</u>	
City Name (XAL)	XAL = <u>Buford</u>	
Latitude (DDMMSS)	Lat = <u>34 05 05 N</u>	
Longitude (DDDMMSS)	Lon = <u>083 56 51 W</u>	
Antenna Polarization (XAP)	XAP = <u>V</u>	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 = <u>EC</u>	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN <u>11.0</u> , BEAMWIDTH <u>50</u> , AZIMUTHAL RANGE <u>0 to 50</u> , THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>366</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>3</u> RAD = <u>RAD01 11G050B</u>	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
Satellite Receive Specifications		
Polarization (RAP)	RAP = <u>R</u>	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 (RAD)	ANTENNA GAIN = 0.00 dBi BEAMWIDTH = 360 degrees XAD = XAD01 00G360B	(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__45.0_____, APOGEE IN KILOMETERS__475_____, PERIGEE IN KILOMETERS__475_____, ORBITAL PERIOD IN HOURS__1____AND FRACTIONS OF HOURS IN DECIMAL__0.568_____, THE NUMBER OF SATELLITES IN THE SYSTEM__2_____, ORB = ORB,045.0IN00475AP00475PE0001.57H0 2NRT01	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 #3

Transmit Frequency: 148.300-148.420 MHz		
State (XSC)	XSC = UT	
City Name (XAL)	XAL = Draper	
Latitude (DDMMSS)	Lat = 40 28 53 N	
Longitude (DDMMSS)	Lon = 111 49 23 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 = EC	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00

Antenna Dimensions (XAD)	ANTENNA GAIN <u>11.0</u> _____, BEAMWIDTH <u>50</u> _____, AZIMUTHAL RANGE <u>0 to 50</u> _____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>1796</u> _____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>3</u> _____ RAD = <u>RAD01 11G050B</u>	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
Satellite Receive Specifications		
Polarization (RAP)	RAP = <u>V</u>	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 = <u>EC</u>	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (RAD)	ANTENNA GAIN = <u>0.00 dBi</u> BEAMWIDTH = <u>360 degrees</u> XAD = <u>XAD01 00G360B</u>	(NTIA format (RAD)), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = <u>Nongeostationary</u> State = <u>SP</u> City = <u>non</u>	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 <u>45.0</u> _____, APOGEE IN KILOMETERS <u>475</u> _____, PERIGEE IN KILOMETERS <u>475</u> _____, ORBITAL PERIOD IN HOURS <u>1</u> _____ AND FRACTIONS OF HOURS IN DECIMAL <u>0.568</u> _____, THE NUMBER OF SATELLITES IN THE SYSTEM <u>2</u> _____, ORB = <u>ORB,045.0IN00475AP00475PE0001.57H02NRT01</u>	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