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.

Three Sections: UHF, X-band, S-band,

UHF

Part A: Space to Earth Downlink Data

Satellite Transmitter Data		
Transmit Frequency: 401.3 MHz		
Satellite Name: V1		
Data Field	**Data Answer**	**Description/Comments**
Polarization (XAP)	XAP = J	POLARIZATIONS INCLUDE : 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 = Omnidirectional, Dipole HPBW = 180 x 360 degrees XAD = XAD01 02G180B	(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____97.4_____, 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_____2_____, ORB = ORB,97.4IN00500AP00500PE001.58H02NRT01	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 = AK	
City Name (RAL)	RAL = Fairbanks	
Latitude (DDMMSS)	Lat = 64° 47' 37.0 N	
Longitude (DDDMMSS)	Lon = 147° 32' 10.7 W	
Antenna Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : 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_____16.5_____, BEAMWIDTH_____30_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___142_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ RAD = RAD01 16G030B000-360A00142H003	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

Earth Station Data (Receiver) #2		
State (RSC)	RSC = WA	
City Name (RAL)	RAL = Brewster	
Latitude (DDMMSS)	Lat = 48° 8' 48.5 N	
Longitude (DDDMMSS)	Lon = 119° 41' 59.6 W	
Antenna Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : 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_____16.5 _____, BEAMWIDTH_____30_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___384_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

	METERS ____3_____ RAD = RAD01 16G030B000-360A00384H003	

Earth Station Data (Receiver) #3		
State (RSC)	RSC = ND	
City Name (RAL)	RAL = Maddock	
Latitude (DDMMSS)	Lat = 47° 50' 39.1 N	
Longitude (DDDMMSS)	Lon = 99° 28' 9.8 W	
Antenna Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : 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_____16.5 _____, BEAMWIDTH_____30_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___474_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ RAD = RAD01 16G030B000-360A00474H003	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

Earth Station Data (Receiver) #4		
State (RSC)	RSC = HI	
City Name (RAL)	RAL = Oahu	
Latitude (DDMMSS)	Lat = 21° 40' 12.0 N	
Longitude (DDDMMSS)	Lon = 158° 2' 2.0 W	
Antenna Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : 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_____16.5 _____, BEAMWIDTH_____30_____,	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

	AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___143_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ RAD = RAD01 16G030B000-360A00143H003	

Earth Station Data (Receiver) #5		
State (RSC)	RSC = NM	
City Name (RAL)	RAL = Las Cruces	
Latitude (DDMMSS)	Lat = 32° 16' 48.0 N	
Longitude (DDDMMSS)	Lon = 106° 45' 0.0 W	
Antenna Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : 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_____16.5 _____, BEAMWIDTH_____30_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___1200_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ RAD = RAD01 16G030B000-360A01200H003	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

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

Satellite Receive Specifications		
Receive Frequency: 450.0 MHz		
Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : 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 = 2.15 dBi BEAMWIDTH = Omnidirectional, Dipole HPBW = 180 x 360 degrees. RAD = RAD02 02G180B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)

Type of satellite (State = SP) City = G/No	Type = Nongeostationary State = SP City = No	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____97.4_____, 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_____2_____, ORB = ORB,97.4IN00500AP00500PE001.58H02NRR01	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 #1		
State (XSC)	XSC = AK	
City Name (XAL)	XAL = Fairbanks	
Latitude (DDMMSS)	Lat = 64° 47' 37.0 N	
Longitude (DDDMMSS)	Lon = 147° 32' 10.7 W	
Antenna Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : 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 (XAD)	ANTENNA GAIN_____16.5_____, BEAMWIDTH_____30_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___142_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ XAD = XAD02 16G030B000-360A00142H003	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Earth Station Transmitter Data #2		
Transmit Frequency: 450.0 MHz		
State (XSC)	XSC = WA	
City Name (XAL)	XAL = Brewster	
Latitude (DDMMSS)	Lat = 48° 8' 48.5 N	
Longitude (DDDMMSS)	Lon = 119° 41' 59.6 W	
Antenna Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : 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 (XAD)	ANTENNA GAIN_____16.5_____, BEAMWIDTH_____30_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___384_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ XAD = XAD02 16G030B000-360A00384H003	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Earth Station Transmitter Data #3		
Transmit Frequency: 450.0 MHz		
State (XSC)	XSC = ND	
City Name (XAL)	XAL = Maddock	
Latitude (DDMMSS)	Lat = 47° 50' 39.1 N	
Longitude (DDDMMSS)	Lon = 99° 28' 9.8 W	
Antenna Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : 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 (XAD)	ANTENNA GAIN_____16.5_____, BEAMWIDTH_____30_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

	IN METERS ___474_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ XAD = XAD02 16G030B000-360A00474H003	

Earth Station Transmitter Data #4		
Transmit Frequency: 450.0 MHz		
State (XSC)	XSC = HI	
City Name (XAL)	XAL = Oahu	
Latitude (DDMMSS)	Lat = 21° 40' 12.0 N	
Longitude (DDDMMSS)	Lon = 158° 2' 2.0 W	
Antenna Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : 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 (XAD)	ANTENNA GAIN_____16.5_____, BEAMWIDTH_____30_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___143_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ XAD = XAD02 16G030B000-360A00143H003	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Earth Station Transmitter Data #5		
Transmit Frequency: 450.0 MHz		
State (XSC)	XSC = NM	
City Name (XAL)	XAL = Las Cruces	
Latitude (DDMMSS)	Lat = 32° 16' 48.0 N	
Longitude (DDDMMSS)	Lon = 106° 45' 0.0 W	
Antenna Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth	XAZ = 0-360	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM

(XAZ)	V00 to V90 (Azimuth = 0 to 360, Elevation 0 to 90)	ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN_____16.5_____, BEAMWIDTH_____30_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___1200_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ XAD = XAD02 16G030B000-360A01200H003	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

X-band

Part A: Space to Earth Downlink Data

Satellite Transmitter Data		
Transmit Frequency: 8025-8400 MHz (Data)		
Satellite Name: V1		
Data Field	**Data Answer**	**Description/Comments**
Polarization (XAP)	XAP = T	POLARIZATIONS INCLUDE : L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN = 21 dBi BEAMWIDTH = 8 XAD = XAD03 21G008B	(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____97.4_____, 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_____2_____, ORB = ORB,97.4IN00500AP00500PE001.58H02NRT01	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

Satellite Transmitter Data		
Transmit Frequency: 8030 MHz (Telemetry)		
Satellite Name: V1		
Data Field	**Data Answer**	**Description/Comments**

Polarization (XAP)	XAP = R	POLARIZATIONS INCLUDE : 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 = 5 dBi BEAMWIDTH = 70 XAD = XAD06 05G070B	(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____97.4_____, 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_____2_____, ORB = ORB,97.4IN00500AP00500PE001.58H02NRT01	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 = AK	
City Name (RAL)	RAL = Fairbanks	
Latitude (DDMMSS)	Lat = 64° 47' 37.0 N	
Longitude (DDDMMSS)	Lon = 147° 32' 10.7 W	
Antenna Polarization (RAP)	RAP = T	POLARIZATIONS INCLUDE : 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_____49_____, BEAMWIDTH_____0.5_____,	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

	AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___142_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ RAD = RAD03 49G00.6B000-360A00142H003 RAD = RAD06 49G00.6B000-360A00142H003 (One antenna for both Data and Telemetry)	

Earth Station Data (Receiver) #2		
State (RSC)	RSC = WA	
City Name (RAL)	RAL = Brewster	
Latitude (DDMMSS)	Lat = 48° 8' 48.5 N	
Longitude (DDDMMSS)	Lon = 119° 41' 59.6 W	
Antenna Polarization (RAP)	RAP = T	POLARIZATIONS INCLUDE : 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_____49_____, BEAMWIDTH_____0.5_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___384_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ RAD = RAD03 49G00.6B000-360A00384H003 RAD = RAD06 49G00.6B000-360A00384H003 (One antenna for both Data and Telemetry)	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

Earth Station Data (Receiver) #3		
State (RSC)	RSC = ND	
City Name (RAL)	RAL = Maddock	
Latitude (DDMMSS)	Lat = 47° 50' 39.1 N	
Longitude (DDDMMSS)	Lon = 99° 28' 9.8 W	
Antenna Polarization (RAP)	RAP = T	POLARIZATIONS INCLUDE : 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_____49_____, BEAMWIDTH_____0.5_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___474_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ RAD = RAD03 49G00.6B000-360A00474H003 RAD = RAD06 49G00.6B000-360A00474H003 (One antenna for both Data and Telemetry)	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

S-band

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

Satellite Receive Specifications		
Receive Frequency: 2081.0 MHz		
Polarization (RAP)	RAP = R	POLARIZATIONS INCLUDE : 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 dBi BEAMWIDTH = 70 deg RAD = RAD04 00G070B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Nongeostationary State = SP City = No	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____97.4_____, 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_____2_____, ORB = ORB,97.4IN00500AP00500PE001.58H02NRT01	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 #1		
State (XSC)	XSC = AK	
City Name (XAL)	XAL = Fairbanks	
Latitude (DDMMSS)	Lat = 64° 47' 37.0 N	
Longitude (DDDMMSS)	Lon = 147° 32' 10.7 W	
Antenna Polarization (RAP)	RAP = R	POLARIZATIONS INCLUDE : 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 (XAD)	ANTENNA GAIN_____37_____, BEAMWIDTH_____2.4_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___142_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ XAD = XAD04 37G02.4B000-360A00142H003	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Earth Station Transmitter Data #2		
State (XSC)	RSC = WA	
City Name (XAL)	RAL = Brewster	
Latitude (DDMMSS)	Lat = 48° 8' 48.5 N	
Longitude (DDDMMSS)	Lon = 119° 41' 59.6 W	
Antenna Polarization (RAP)	RAP = R	POLARIZATIONS INCLUDE : 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 (XAD)	ANTENNA GAIN_____37_____, BEAMWIDTH_____2.4_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___384_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ XAD = XAD04 37G02.4B000-360A00384H003	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Earth Station Transmitter Data #3		
State (XSC)	RSC = ND	
City Name (XAL)	RAL = Maddock	

Latitude (DDMMSS)	Lat = 47° 50' 39.1 N	
Longitude (DDDMMSS)	Lon = 99° 28' 9.8 W	
Antenna Polarization (RAP)	RAP = R	POLARIZATIONS INCLUDE : 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 (XAD)	ANTENNA GAIN_____37_____, BEAMWIDTH_____2.4_____, AZIMUTHAL RANGE__0 to 360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS ___474_____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____3_____ XAD = XAD04 37G02.4B000-360A00474H003	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006