

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: 400.6 MHz		
Satellite Name: BRIO		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP01 = J XAP02 = 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)	XAZ01 = EC XAZ02 = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN 0.0 dBi BEAMWIDTH 60 degrees XAD = 00G060B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	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 97.52, APOGEE IN KILOMETERS 575 km, PERIGEE IN KILOMETERS 575 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL .60, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB= 97.5IN00575AP00575PE001.60H01NRT01	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)		
State (RSC)	RSC = Virginia	
City Name (RAL)	RAL = Fairfax	
Latitude (DDMMSS)	Lat = 385136N	
Longitude (DDMMSS)	Lon = 0771830W	
Antenna Polarization (RAP)	RAP = T	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 13.5 dB, BEAMWIDTH 30 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 111, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 20 RAD = 14G030B000-360A00111H020	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, CubeSat, BRIO		

Earth Station Data (Receiver)		
State (RSC)	RSC = Hawaii	
City Name (RAL)	RAL = Naalehu	
Latitude (DDMMSS)	Lat = 190326N	
Longitude (DDDMMSS)	Lon = 1553459W	
Antenna Polarization (RAP)	RAP = T	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 13.5 dB, BEAMWIDTH 30 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 256, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6 RAD = 14G030B000-360A00256H006	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, CubeSat, BRIO		

Earth Station Data (Receiver)		
State (RSC)	RSC = Alaska	
City Name (RAL)	RAL = North Pole	
Latitude (DDMMSS)	Lat = 644609N	
Longitude (DDDMMSS)	Lon = 1472620W	
Antenna Polarization (RAP)	RAP = T	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 13.5 dB, BEAMWIDTH 30 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 147, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6 RAD = 14G030B000-360A00147H006	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, CubeSat, BRIO		

Earth Station Data (Receiver)		
State (RSC)	RSC = Maine	
City Name (RAL)	RAL = Limestone	
Latitude (DDMMSS)	Lat = 465719N	
Longitude (DDDMMSS)	Lon = 0675419W	
Antenna Polarization (RAP)	RAP = T	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 13.5 dB, BEAMWIDTH 30 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 156, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6 RAD = 14G030B000-360A00156H006	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, CubeSat, BRIO		

Part B: Ground Stations, Earth to Space link data:**Earth Station Transmitter Data:**

Transmit Frequency: 399.950 MHz		
State (XSC)	XSC = Virginia	
City Name (XAL)	XAL = Fairfax	
Latitude (DDMMSS)	Lat = 385136N	
Longitude (DDMMSS)	Lon = 771830W	
Antenna Polarization (XAP)	XAP = T	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 Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 13.5 dB, BEAMWIDTH 30degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 111, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 20 XAD = 14G030B000-360A00111H020	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Transmit Frequency: 399.950MHz		
State (XSC)	XSC = Hawaii	
City Name (XAL)	XAL = Naalehu	
Latitude (DDMMSS)	Lat = 190326N	
Longitude (DDMMSS)	Lon = 1553459W	
Antenna Polarization (XAP)	XAP = T	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 Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 13.5 dB, BEAMWIDTH 30degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 256, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6 XAD = 14G030B000-360A00256H006	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Transmit Frequency: 399.950 MHz		
State (XSC)	XSC = Alaska	
City Name (XAL)	XAL = North Pole	
Latitude (DDMMSS)	Lat = 644609N	
Longitude (DDDMMSS)	Lon = 1472620W	
Antenna Polarization (XAP)	XAP = T	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 Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 13.5 dB, BEAMWIDTH 30 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 147, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6 XAD = 14G030B000-360A00147H006	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Transmit Frequency: 399.950 MHz		
State (XSC)	XSC = Limestone	
City Name (XAL)	XAL = Maine	
Latitude (DDMMSS)	Lat = 465719N	
Longitude (DDDMMSS)	Lon = 0675419W	
Antenna Polarization (XAP)	XAP = T	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 Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 13.5 dB, BEAMWIDTH 30 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 156, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6 XAD = 14G030B000-360A00156H006	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Satellite Receive Specification - 399.950 MHz		
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
Azimuth (RAZ)	RAZ = V00	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (RAD)	ANTENNA GAIN 0.0 dBi BEAMWIDTH 60 degrees RAD = 00G060B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary

Part B: Ground Stations, Earth to Space link data:**Earth Station Transmitter Data:**

Transmit Frequency: 145.92 MHz		
State (XSC)	XSC = Virginia	
City Name (XAL)	XAL = Fairfax	
Latitude (DDMMSS)	Lat = 385136N	
Longitude (DDMMSS)	Lon = 771830W	
Antenna Polarization (XAP)	XAP = T	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 Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 8.0 dB, BEAMWIDTH 60 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 111, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 20 XAD = 8G060B000-360A00111H020	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Transmit Frequency: 145.92 MHz		
State (XSC)	XSC = Hawaii	
City Name (XAL)	XAL = Naalehu	
Latitude (DDMMSS)	Lat = 190326N	
Longitude (DDMMSS)	Lon = 1553459W	
Antenna Polarization (XAP)	XAP = T	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 Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 8.0 dB, BEAMWIDTH 60 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 256, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6 XAD = 8G060B000-360A00256H006	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Transmit Frequency: 145.92 MHz		
State (XSC)	XSC = Alaska	
City Name (XAL)	XAL = North Pole	
Latitude (DDMMSS)	Lat = 644609N	
Longitude (DDDMMSS)	Lon = 1472620W	
Antenna Polarization (XAP)	XAP = T	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 Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 8.0 dB, BEAMWIDTH 60 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 147, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6 XAD = 8G060B000-360A00147H006	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Transmit Frequency: 145.92 MHz		
State (XSC)	XSC = Limestone	
City Name (XAL)	XAL = Maine	
Latitude (DDMMSS)	Lat = 465719N	
Longitude (DDDMMSS)	Lon = 0675419W	
Antenna Polarization (XAP)	XAP = T	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 Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 8.0 dB, BEAMWIDTH 60 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 156, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6 XAD = 8G060B000-360A00156H006	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Satellite Receive Specifications - 145.92 MHz		
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
Azimuth (RAZ)	RAZ = V00	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (RAD)	ANTENNA GAIN 0.0 dBi BEAMWIDTH 90 degrees RAD = 00G090B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary

Part A: Space to Earth Downlink Data**Satellite Transmitter Data**

Transmit Frequency: 2288.50 MHz (2200 – 2290 MHz)		
Satellite Name: BRIO		
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 = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN 7.0 dBi BEAMWIDTH 30 degrees XAD01 = 07G030B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	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 97.52, APOGEE IN KILOMETERS 575 km, PERIGEE IN KILOMETERS 575 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL .60, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB= 97.5IN00575AP00575PE001.60H01NRT01	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)		
State (RSC)	RSC = Sweden	
City Name (RAL)	RAL = Esrange	
Latitude (DDMMSS)	Lat = 675322N	
Longitude (DDDMMSS)	Lon = 0210615E	
Antenna Polarization (RAP)	RAP = T	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 40 dB, BEAMWIDTH 1.5 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 372, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 5 RAD = 40G002B000-360A00372H005	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, CubeSat, BRIO		

Earth Station Data (Receiver)		
State (RSC)	RSC = Canada Northwest Territories	
City Name (RAL)	RAL = Inuvik	
Latitude (DDMMSS)	Lat = 682400N	
Longitude (DDMMSS)	Lon = 1333000W	
Antenna Polarization (RAP)	RAP = T	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 40 dB, BEAMWIDTH 1.5 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 147, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 5 RAD = 40G002B000-360A00147H005	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, CubeSat, BRIO		

Part B: Ground Stations, Earth to Space link data:**Earth Station Transmitter Data:**

Transmit Frequency: 2045.50 MHz (2025-2110 MHz)		
State(XSC)	XSC = Canada Northwest Territories	
City Name (XAL)	XAL = Inuvik	
Latitude (DDMMSS)	Lat = 682400N	
Longitude (DDDMMSS)	Lon = 1333000W	
Antenna Polarization (RAP)	RAP = T	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 40 dB, BEAMWIDTH 1.5 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 147, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 5 RAD = 40G002B000-360A00147H005	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, CubeSat, BRIO		

Transmit Frequency: 2045.50 MHz (2025-2110 MHz)		
State (RSC)	XSC = Sweden	
City Name (RAL)	XAL = Esrange	
Latitude (DDMMSS)	Lat = 675322N	
Longitude (DDDMMSS)	Lon = 0210615E	
Antenna Polarization (RAP)	XAP = T	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)	XAZ = V00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN 40 dB, BEAMWIDTH 1.5 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 372, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 5 RAD = 40G002B000-360A00372H005	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

Satellite Receive Specifications:

Receive Frequency: 2045.50 MHz (2025-2110 MHz)		
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 = V00	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (RAD)	ANTENNA GAIN 7.0 dBi BEAMWIDTH 30 degrees RAD = 07G030B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Nongeostationary	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 97.52, APOGEE IN KILOMETERS 575 km, PERIGEE IN KILOMETERS 575 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL .60, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB= 97.5IN00575AP00575PE001.60H01NRT0	v 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

Part A: Space to Earth Downlink Data**Satellite Transmitter Data**

Transmit Frequency: 400.6 MHz		
Satellite Name: BRIO		
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 0.0 dBi BEAMWIDTH 60 degrees XAD = 00G060B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	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 97.52, APOGEE IN KILOMETERS 575 km, PERIGEE IN KILOMETERS 575 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL .60, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB= 97.5IN00575AP00575PE001.60H01NRT01	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)		
State (RSC)	RSC = Virginia	
City Name (RAL)	RAL = Fairfax	
Latitude (DDMMSS)	Lat = 385136N	
Longitude (DDMMSS)	Lon = 0771830W	
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 = V00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN 0.0 dB, BEAMWIDTH 150 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 111, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 0 RAD = 0G150B000-360A00111H000	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, CubeSat, BRIO.		

Part B: Ground Stations, Earth to Space link data:**Earth Station Transmitter Data:**

Transmit Frequency: 399.95 MHz		
State (XSC)	XSC = Virginia	
City Name (XAL)	XAL = Fairfax	
Latitude (DDMMSS)	Lat = 385136N	
Longitude (DDMMSS)	Lon = 771830W	
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 = V00	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 0.0 dB, BEAMWIDTH 150 degrees, AZIMUTHAL RANGE 0 - 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 111, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 00 XAD = 0G150B000-360A00111H000	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Satellite Receive Specification - 399.95 MHz		
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
Azimuth (RAZ)	RAZ = V00	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (RAD)	ANTENNA GAIN 0.0 dBi BEAMWIDTH 60 degrees RAD = 00G060B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary