

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.

The following space record data is provided for SeaHawk-1 and for SeaHawk-2

Part A: Space to Earth Downlink Data**Satellite Transmitter Data – SeaHawk-1**

Transmit Frequency: 400-440 MHz		
Satellite Name: SeaHawk-1		
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 <u>0 dB</u> BEAMWIDTH <u>360 degrees</u> XAD =00G360B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = 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>97.7</u> , APOGEE IN KILOMETERS <u>575</u> , PERIGEE IN KILOMETERS <u>575</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.605</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>2</u> , ORB = 97.7IN00575AP00575PE001.61H02NRT01	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

Part A: Space to Earth Downlink Data

Satellite Transmitter Data - SeaHawk-1

Transmit Frequency: 8100 MHz		
Satellite Name: SeaHawk-1		
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 <u>7.8 dB</u> BEAMWIDTH <u>82 degrees</u> XAD =08G082	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = 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>97.7</u> , APOGEE IN KILOMETERS <u>575</u> , PERIGEE IN KILOMETERS <u>575</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.605</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>2</u> , ORB = 97.7IN00575AP00575PE001.61H02NRT01	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

Part A: Space to Earth Downlink Data**Satellite Transmitter Data – SeaHawk-2**

Transmit Frequency: 400-440 MHz		
Satellite Name: SeaHawk-2		
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 <u>0 dB</u> BEAMWIDTH <u>360 degrees</u> XAD = 00G360B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = 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>97.5</u> , APOGEE IN KILOMETERS <u>525</u> , PERIGEE IN KILOMETERS <u>525</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.59</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>2</u> , ORB = 97.5IN00525AP00525PE001.59H02NRT01	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

Part A: Space to Earth Downlink Data**Satellite Transmitter Data – SeaHawk-2**

Transmit Frequency: 8100 MHz		
Satellite Name: SeaHawk-2		
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 <u>7.8 dB</u> BEAMWIDTH <u>82 degrees</u> XAD = 08G082B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = 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>97.5</u> , APOGEE IN KILOMETERS <u>525</u> , PERIGEE IN KILOMETERS <u>525</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.59</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>2</u> , ORB = 97.5IN00525AP00525PE001.59H02NRT01	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

Part B: Ground Stations, Earth to Space link data:**Clyde Space, Glasgow, Scotland, UK: Uplink to SeaHawk-1 and SeaHawk-2**

Earth Station Transmitter Data

Transmit Frequency: VHF --- 140 – 150 MHz		
State (XSC)	XSC = G	
City Name (XAL)	XAL = Glasgow	
Latitude (DDMMSS)	Lat = 555744	
Longitude (DDDMMSS)	Lon = 0041649	
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 <u>10.2 dB</u> , BEAMWIDTH <u>52 degrees</u> , AZIMUTHAL RANGE <u>0 – 360</u> , THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>30 m</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>25 m</u> XAD = 10G052B000-360A00030H025	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006

Satellite Receive Specifications **UHF --- 140 - 150 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 <u>0.0 dB</u> BEAMWIDTH <u>30 degrees</u> RAD = 00G030B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = NO	Choose either: Geostationary or Nongeostationary

Part B: Ground Stations – Receive Only 8100 MHz – SeaHawk-1 and SeaHawk-2**NASA/NEN Wallops Flight Facility Ground Station -WG1 (Primary)**

Earth Station Data (Receiver) Wallops Flight Facility Ground Station -WG1		
State (RSC)	RSC = Virginia	
City Name (RAL)	RAL = Wallops	
Latitude (DDMMSS)	Lat = 375528	
Longitude (DDMMSS)	Lon = 0752835	
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 = 00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN <u>56.8 dBi</u> , BEAMWIDTH <u>0.23 degrees</u> , AZIMUTHAL RANGE <u>0-360</u> THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>-20.1</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>XXXXXX</u> RAD = 56G0.2G000-360A00000HXXX	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (insert name)		

Part B: Ground Station – Receive Only 8100 MHz – SeaHawk-1 and SeaHawk-2**NASA/NEN ALASKA AS1 (Secondary)**

Earth Station Data (Receiver) NASA/NEN ALASKA AS1		
State (RSC)	RSC = AK	
City Name (RAL)	RAL = Fairbanks	
Latitude (DDMMSS)	Lat = 645131	
Longitude (DDDMMSS)	Lon = 1475127	
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 = 00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN <u>56.8 dBi</u> , BEAMWIDTH <u>0.23 degrees</u> , AZIMUTHAL RANGE <u>0-360</u> THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>00217</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>XXX</u> RAD = 56G0.23B000-360A00217HXXX	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (insert name)		

Part B: Ground Station – Receive Only 8100 MHz – SeaHawk-1 and SeaHawk-2**NASA/NEN ALASKA AS2 (Secondary)**

Earth Station Data (Receiver) NASA/NEN ALASKA AS2		
State (RSC)	RSC = AK	
City Name (RAL)	RAL = Fairbanks	
Latitude (DDMMSS)	Lat = 645135	
Longitude (DDDMMSS)	Lon = 1475050	
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 = 00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN <u>56.8 dBi</u> , BEAMWIDTH <u>0.23 degrees</u> , AZIMUTHAL RANGE <u>0-360</u> THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>00238</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>XXX</u> RAD = 56G0.23B000-360A00238HXXX	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (insert name)		

Part B: Ground Station – Receive Only 8100 MHz – SeaHawk-1 and SeaHawk-2**NASA/NEN ALASKA AS3 (Secondary)**

Earth Station Data (Receiver) NASA/NEN ALASKA AS3		
State (RSC)	RSC = AK	
City Name (RAL)	RAL = Fairbanks	
Latitude (DDMMSS)	Lat = 645132	
Longitude (DDDMMSS)	Lon = 1475115	
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 = 00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN <u>56.8 dBi</u> , BEAMWIDTH <u>0.23 degrees</u> , AZIMUTHAL RANGE <u>0-360</u> THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>00220</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>XXX</u> RAD = 56G0.23B000-360A00220HXXX	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (insert name)		

Part B: Ground Station – Receive Only 8100 MHz – SeaHawk-1 and SeaHawk-2**NASA/NEN McMurdo - MG1 (Backup)**

Earth Station Data (Receiver) McMurdo - MG1		
State (RSC)	RSC = ANTR	
City Name (RAL)	RAL = MCMURDO STATION	
Latitude (DDMMSS)	Lat = 775021	
Longitude (DDDMMSS)	Lon = 1664001	
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 = V05	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN <u>56 dBi</u> , BEAMWIDTH <u>0.26 degrees</u> , AZIMUTHAL RANGE <u>0-360</u> THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS <u>00153</u> THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS <u>XXX</u> RAD = 56G0.26B000-360A00153HXXX	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (insert name)		