

Hawaii University NEUTRON-1 NTIA Space record data form

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 (Do one for S Band, and one for UHF)

Satellite Transmitter Data

Transmit Frequency: 437.27 MHz		
Satellite Name: NEUTRON		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP = XAP01 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 = XAZ01 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN <u> 1.8 </u> BEAMWIDTH <u> 80 </u> XAD = XAD01 01.8G080B	(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).

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For Nongeostationary (Orbital Data)	INCLINATION ANGLE _____ 51.6 _____, APOGEE IN KILOMETERS _____ 400 _____, PERIGEE IN KILOMETERS _____ 400 _____, ORBITAL PERIOD IN HOURS _____ 1 _____ AND FRACTIONS OF HOURS IN DECIMAL _____ 55 _____, THE NUMBER OF SATELLITES IN THE SYSTEM _____ 1 _____, ORB = ORB,51.6IN00400AP00400PE001.55H01NRT01	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) (UHF)		
State (RSC)	RSC = HI	
City Name (RAL)	RAL = LIHUE	
Latitude (DDMMSS)	Lat = 215806	
Longitude (DDDMMSS)	Lon = 1592347	
Antenna Polarization (RAP)	RAP = RAP01 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
Antenna Azimuth (RAZ)	RAZ = RAZ01 V10	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN _____ 18.9 _____, BEAMWIDTH _____ 80 _____, AZIMUTHAL RANGE _____ 360 _____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS _____ 107 _____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS _____ 10 _____ RAD = 18.9G080B000-360A00107H010	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (insert name)		

Hawaii University NEUTRON-1 NTIA Space record data form

Transmit Frequency: 2429.24 MHz		
Satellite Name: NEUTRON		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP = XAP02 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 = XAZ02 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN ____ 2.8 ____ BEAMWIDTH ____ 70 ____ XAD = XAD02 02.8G070B	(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 ____ 51.6 ____ , APOGEE IN KILOMETERS ____ 400 ____ , PERIGEE IN KILOMETERS ____ 400 ____ , ORBITAL PERIOD IN HOURS ____ 1 ____ AND FRACTIONS OF HOURS IN DECIMAL ____ 55 ____ , THE NUMBER OF SATELLITES IN THE SYSTEM ____ 1 ____ , ORB = ORB,51.6IN00400AP00400PE001.55H01NRT01	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) (S Band)		
State (RSC)	RSC = HI	
City Name (RAL)	RAL = LIHUE	

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Latitude (DDMMSS)	Lat = 215806	
Longitude (DDMMSS)	Lon = 1592347	
Antenna Polarization (RAP)	RAP = RAP02 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
Antenna Azimuth (RAZ)	RAZ = RAZ02 V10	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN _____ 33 _____, BEAMWIDTH _____ 3 _____, AZIMUTHAL RANGE _____ 360 _____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS _____ 107 _____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS _____ 10 _____ RAD = 33G003B000-360A00107H010	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (insert name)		

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Part B: Ground Stations, Earth to Space link data: Do one for S Band, and one for VHF

Earth Station Transmitter Data

Transmit Frequency: 2429.24 MHz		
State (XSC)	XSC = HI	
City Name (XAL)	XAL = LIHUE	
Latitude (DDMMSS)	Lat = 215806	
Longitude (DDDMMSS)	Lon = 1592347	
Antenna Polarization (XAP)	XAP = XAP01 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
Antenna Azimuth (XAZ)	XAZ = XAZ01 V10	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN _____ 33 _____, BEAMWIDTH _____ 3 _____, AZIMUTHAL RANGE _____ 360 _____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS _____ 107 _____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS _____ 10 _____ XAD = XAD01 33G003B000-360A00107H010	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
Satellite Receive Specifications		
Polarization (RAP)	RAP = RAP 01 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 = RAZ01 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN _____ 2.8 _____ BEAMWIDTH _____ 70 _____ RAD = RAD 01 2.8G070B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)

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Type of satellite (State = SP) City = G/No	Type = NON	Choose either: Geostationary or Nongeostationary
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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 _____ 51.6 _____, APOGEE IN KILOMETERS _____ 400 _____, PERIGEE IN KILOMETERS _____ 400 _____, ORBITAL PERIOD IN HOURS ____ 1 ____ AND FRACTIONS OF HOURS IN DECIMAL ____ 55 _____, THE NUMBER OF SATELLITES IN THE SYSTEM ____ 1 _____, ORB = ORB,51.6IN00400AP00400PE001.55H01NRT01	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

Transmit Frequency: 145.98 MHz		
State (XSC)	XSC = HI	
City Name (XAL)	XAL = LIHUE	
Latitude (DDMMSS)	Lat = 215806	
Longitude (DDDMMSS)	Lon = 1592347	
Antenna Polarization (XAP)	XAP = XAP02 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
Antenna Azimuth (XAZ)	XAZ = XAZ02 V10	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00

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Antenna Dimensions (XAD)	ANTENNA GAIN _____ 11.9 _____, BEAMWIDTH _____ 38 _____, AZIMUTHAL RANGE _____ 360 _____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS _____ 107 _____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS _____ 10 _____ XAD = XAD02 11.9G038B000-360A00107H010	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
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Satellite Receive Specifications

Polarization (RAP)	RAP = RAP02 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 = RAZ02 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN _____ 2 _____ BEAMWIDTH _____ 80 _____ RAD = RAD 02 02G080B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	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 _____ 51.6 _____, APOGEE IN KILOMETERS _____ 400 _____, PERIGEE IN KILOMETERS _____ 400 _____, ORBITAL PERIOD IN HOURS ___ 1 ___ AND FRACTIONS OF HOURS IN DECIMAL ___ 55 ___, THE NUMBER OF SATELLITES IN THE SYSTEM _____ 1 _____, ORB = ORB,51.6IN00400AP00400PE001.55H01NRT01	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