

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: 37.5 – 42.0 GHz		
Satellite Name: VARUNA		
<b>Data Field</b>	<b>Data Answer</b>	<b>Description/Comments</b>
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
Orientation (XAZ)	XAZ = XAZ01 EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN - 24.7 dBi BEAMWIDTH@ ½ Power – 8.96 deg XAD = 27G70896B	(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 54 degrees, APOGEE IN KILOMETERS 1056 km, PERIGEE IN KILOMETERS 1056 km, ORBITAL PERIOD IN HOURS 1AND FRACTIONS OF HOURS IN DECIMAL 77, THE NUMBER OF SATELLITES IN THE SYSTEM 1  ORB = 54IN01056AP01056PE001.58H01NRT01	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
FCC notes: 1. Use S-Note S945. 2. Varuna satellite		

<b>Earth Station Data</b>		
State (RSC)	RSC = Canada	
City Name (RAL)	RAL = Saskatoon, Saskatchewan	
Latitude (DDMMSS)	Lat = 52821.516 N	
Longitude (DDDMMSS)	Lon = 10637.42374 W	
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 62.9 dBi, BEAMWIDTH 14 degrees, AZIMUTHAL RANGE 0 – 360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 502 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 2.5 meters  RAD = 62.9G110B000-360A00502H02.5	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. Varuna satellite		