

NTIA Space record data form – TotumSat-1L

Hosted Payload On LOFT YAM-3 Spacecraft

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: 26 Channels,

2478.5MHz

2475.5MHz

2472.5MHz

2469.5MHz

2466.5MHz

2463.5MHz

2460.5MHz

2457.5MHz

2454.5MHz

2451.5MHz

2448.5MHz

2445.5MHz

2442.5MHz

2439.5MHz

2439.5MHz

2433.5MHz

2430.5MHz

2427.5MHz

2424.5MHz

2421.5MHz

2418.5MHz

2415.5MHz

2412.5MHz

2409.5MHz

2406.5MHz

2403.5MHz

Satellite Name: TotumSat-1L

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 = E	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN__07_____ BEAMWIDTH __090_ XAD01 07G090B	(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__98_____, APOGEE IN KILOMETERS __575_____, PERIGEE IN KILOMETERS __575_____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL __.60__, THE NUMBER OF SATELLITES IN THE SYSTEM__1_____, ORB,98.0IN00575AP00575PE001.60H01NRT01	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 = San Diego	
City Name (RAL)	RAL = CA	
Latitude (DDMMSS)	Lat = 324257	
Longitude (DDDMMSS)	Lon = 1170940	

<p>Antenna Polarization (RAP)</p>	<p>RAP = J</p>	<p>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</p>
<p>Antenna Azimuth (RAZ)</p>	<p>RAZ01 V00</p>	<p>THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00</p>
<p>Antenna Dimensions (RAD)</p>	<p>ANTENNA GAIN__1.5_____, BEAMWIDTH__180_____, AZIMUTHAL RANGE__000-360____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS _31_ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS __3_____ RAD = 01G180B000-360A00031H003</p>	<p>EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006</p>
<p>FCC notes:</p> <ol style="list-style-type: none"> 1. Use S-Note S945. 2. REM AGN, Cubesat, TotumSat-1L is an experiment mounted on a LOFT host satellite. It is not a free flying Cubesat. 		

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

Earth Station Transmitter Data

Transmit Frequency: A total of 101 Channels, from 2402.75 MHz to 2477.75 MHz.

2477.75, 2477.00, 2476.25, 2475.50,
 2474.75, 2474.00, 2473.25, 2472.50,
 2471.75, 2471.00, 2470.25, 2469.50,
 2468.75, 2468.00, 2467.25, 2466.50,
 2465.75, 2465.00, 2464.25, 2463.50,
 2462.75, 2462.00, 2461.25, 2460.50,
 2459.75, 2459.00, 2458.25, 2457.50,
 2456.75, 2456.00, 2455.25, 2454.50,
 2453.75, 2453.00, 2452.25, 2451.50,
 2450.75, 2450.00, 2449.25, 2448.50,
 2447.75, 2447.00, 2446.25, 2445.50,
 2444.75, 2444.00, 2443.25, 2442.50,
 2441.75, 2441.00, 2440.25, 2439.50,
 2438.75, 2438.00, 2437.25, 2436.50,
 2435.75, 2435.00, 2434.25, 2433.50,
 2432.75, 2432.00, 2431.25, 2430.50
 2429.75, 2429.00, 2428.25, 2427.50,
 2426.75, 2426.00, 2425.25, 2424.50,
 2423.75, 2423.00, 2422.25, 2421.50,
 2420.75, 2420.00, 2419.25, 2418.50,
 2417.75, 2417.00, 2416.25, 2415.50,
 2414.75, 2414.00, 2413.25, 2412.50,
 2411.75, 2411.00, 2410.25, 2409.50,
 2408.75, 2408.00, 2407.25, 2406.50,
 2405.75, 2405.00, 2404.25, 2403.50,
 2402.75

State (XSC)	XSC = CA	
City Name (XAL)	XAL = San Diego	
Latitude (DDMMSS)	Lat = 324257	
Longitude (DDDMMSS)	Lon = 1170940	
Antenna 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
Antenna Azimuth (XAZ)	XAZ01 V00	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00

Antenna Dimensions (XAD)	ANTENNA GAIN__1.5_____, BEAMWIDTH__180_____, AZIMUTHAL RANGE__000-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS _31_ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS __3_____	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
XAD =		

Satellite Receive Specifications

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 = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN__07_____ BEAMWIDTH __090_ RAD01 07G090B	(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__98.0_____, APOGEE IN KILOMETERS__575_____, PERIGEE IN KILOMETERS__575_____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL_.60_, THE NUMBER OF SATELLITES IN THE SYSTEM__1_____, ORB,98.0IN00575AP00575PE001.60H01NRT01	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

