## 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

| Satellite Name: Cubesatellite Test Bed (CTB) 14 and 15      |  |  |  |  |
|---|--|--|--|--|
| 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 = EC   | NB= NARROWBEAM<br>EC = EARTH COVERAGE  |  |  |
| Antenna<br>Dimension (XAD)                                  | ANTENNA GAIN: 6dB<br>BEAMWIDTH: 180°<br>XAD01 06G180B  | (NTIA format (XAD), EXAMPLE, XAD01 16G030B)  |  |  |
| Type of satellite<br>(State = SP)<br>(City = geo or<br>non) | Type = Non-geostationary   | Choose either:<br>Geostationary or<br>Nongeostationary   |  |  |
| For Geostationary   | Longitude = N/A  | IF ANY SATELLITES ARE GEOSTATIONARY, REPORT<br>ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND<br>REPORT ITS LONGITUDE (XLG AND/OR RLG).  |  |  |
| For<br>Nongeostationary<br>(Orbital Data)                   | INCLINATION ANGLE 97.6° APOGEE IN KILOMETERS 550 PERIGEE IN KILOMETERS 550 ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.58333 THE NUMBER OF SATELLITES IN THE SYSTEM 2 ORB,97.8IN00550AP00550PE1.583H02NR | 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 =GA   |  |  |  |
| City Name (RAL)               | RAL = Pendergrass   |  |  |  |
| Latitude<br>(DDMMSS)          | Lat = 34 10 48 N  | 34.18 N  |  |  |
| Longitude<br>(DDDMMSS)        | Lon = 83 48 12 W  | -83.67 E   |  |  |
| Antenna<br>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 |  |  |
| Antenna Azimuth<br>(RAZ)      | RAZ = V05   | THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00   |  |  |
| Antenna<br>Dimensions (RAD)   | ANTENNA GAIN 38dBi, BEAMWIDTH 1.9°, AZIMUTHAL RANGE 000-360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 230 THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6.4 | EXAMPLE ASSUMING NONGEOSTATIONARY,<br>RAD01 16G030B000-360A00357H006   |  |  |
|                               | RAD01 38G001.9B000-360A00230H006.4  |  |  |  |

## FCC notes:

- 1. Use S-Note S945.
- 2. REM AGN, Cubesat, CBT-14 & CBT-15

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

Earth Station Transmitter Data

| Transmit Frequency: 2037.5 MHz   |                                    |  |  |  |
|----------------------------------|------------------------------------|--|--|--|
| State (XSC)                      | XSC = GA                           |  |  |  |
| City Name (XAL)                  | XAL = Pendergrass                  |  |  |  |
| Latitude                         | Lat = 34 10 48 N                   |  |  |  |
| (DDMMSS)                         | Lat - 34 10 46 N                   |  |  |  |
| Longitude                        | Lon = 83 48 12 W                   |  |  |  |
| (DDDMMSS)                        | LOII = 83 48 12 W                  |  |  |  |
| Antenna                          | XAP = R                            | POLARIZATIONS INCLUDE :                                    |  |  |
| Polarization (XAP)               | AAF - N                            | H = HORIZONTAL,  |  |  |
| Folditzation (AAF)               |                                    | 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 = V05                          | THE EARTH STATION Transmitter ANTENNA                      |  |  |
| (XAZ)                            |                                    | AZIMUTH (XAZ), THE MINIMUM ANGLE OF                        |  |  |
| ( ",                             |                                    | ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00                  |  |  |
| Antenna                          | ANTENNA GAIN 38dBi,                | EXAMPLE ASSUMING NONGEOSTATIONARY,                         |  |  |
| Dimensions (XAD)                 | BEAMWIDTH 1.9°,                    | XAD01 16G030B000-360A00357H006                             |  |  |
|                                  | AZIMUTHAL RANGE 000-360,           |  |  |  |
|                                  | THE SITE ELEVATION ABOVE MEAN SEA  |  |  |  |
|                                  | LEVEL IN METERS 230                |  |  |  |
|                                  | THE ANTENNA HEIGHT ABOVE TERRAIN   |  |  |  |
|                                  | IN METERS 6.4                      |  |  |  |
|                                  |                                    |  |  |  |
|                                  | XAD01 38G001.9B000-360A00230H006.4 |  |  |  |
| Satellite Receive Specifications |                                    |  |  |  |
| Polarization (RAP)               | RAP = R                            | POLARIZATIONS INCLUDE :                                    |  |  |
| Totalization (total)             | TVII - IV                          | 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: 6dB                  | (NTIA format (RAD), EXAMPLE, RAD01 16G030B)                |  |  |
| 2                                | BEAMWIDTH: 180°                    | ·  |  |  |
|                                  | RAD01 06G180B                      |  |  |  |
| Type of satellite                | Type = Non Geostationary           | Choose either:   |  |  |
| (State = SP)                     | ,,                                 | Geostationary or<br>Nongeostationary                       |  |  |
| City = G/No                      |                                    | Nongeostational y  |  |  |

| For Geostationary                         | Longitude = N/A  | IF ANY SATELLITES ARE GEOSTATIONARY, REPORT<br>ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND<br>REPORT ITS LONGITUDE (XLG AND/OR RLG).   |
|---|--|---|
| For<br>Nongeostationary<br>(Orbital Data) | INCLINATION ANGLE 97.6° APOGEE IN KILOMETERS 550 PERIGEE IN KILOMETERS 550 ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.58333 THE NUMBER OF SATELLITES IN THE SYSTEM 2 ORB,97.8IN00550AP00550PE1.583H02NR | 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 |
|   |  |   |