

**S1. GENERAL INFORMATION** Complete for all satellite applications.

|   |                          |   |  |  |  |
|---|--------------------------|---|--|--|--|
| a. Space Station or Satellite Network Name:<br>PEGASUS 101W |                          | e. Estimated Date of Placement into Service:                              |  | i. Will the space station(s) operate on a Common Carrier Basis:<br>N   |  |
| b. Construction Commencement Date:                          |                          | f. Estimated Lifetime of Satellite(s):<br>12 Years                        |  | j. Number of transponders offered on a common carrier basis:<br>0  |  |
| c. Construction Completion Date:                            |                          | g. Total Number of Transponders:<br>232                                   |  | k. Total Common Carrier Transponder Bandwidth:<br>0 MHz  |  |
| d1. Est Launch Date Begin:                                  | d2. Est Launch Date End: | h. Total Transponder Bandwidth (no. transponders x Bandwidth)<br>6264 MHz |  | i. Orbit Type: Mark all boxes that apply:<br><input checked="" type="checkbox"/> GSO <input type="checkbox"/> NGSO |  |

**S2. OPERATING FREQUENCY BANDS** Identify the frequency range and transmit/receive mode for all frequency bands in which this station will oper  
Also indicate the nature of service(s) for each frequency band.

| Frequency Band Limits |                 |                       |                 | e. T/R Mode | f. Nature of Service(s): List all that apply to this band |
|-----------------------|-----------------|-----------------------|-----------------|-------------|---|
| Lower Frequency (.Hz) |                 | Upper Frequency (.Hz) |                 |             |   |
| a. Numeric            | b. Unit (K/M/G) | c. Numeric            | d. Unit (K/M/G) |             |   |
| 17.30                 | G               | 17.80                 | G               | T           | Broadcasting Satellite Service - Video                    |
| 24.75                 | G               | 25.25                 | G               | R           | Feeder Link for Broadcasting Satellite Service in FSS     |
| 17.30                 | G               | 17.80                 | G               | T           | Broadcasting Satellite Service - Sound                    |
| 17.30                 | G               | 17.80                 | G               | T           | Broadcasting Satellite Service - Data                     |

**S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:**

|  |                              |  |  |  |  |   |  |
|--|------------------------------|--|--|--|--|---|--|
| a. Nominal Orbital Longitude (Degrees E/W):<br>101 W |                              | b. Alternate Orbital Longitude (Degrees E/W):              |  | c. Reason for orbital location selection:<br>Good elevation angle for subscribers in fifty states. |  |   |  |
| Longitudinal Tolerance or E/W Station-Keeping:       |                              | f. Inclination Excursion or N/S Station-Keeping Tolerance: |  |  |  | Range of orbital are in which adequate service can be provided (Optional):<br><u>        </u> Degrees <u>        </u> E/W |  |
| d. Toward West: 0.05 Degrees                         | e. Toward East: 0.05 Degrees | 0.05 Degrees   |  |  |  | g. Westernmost:<br>h. Easternmost:  |  |
| i. Reason for service are selection (Optional):      |                              |  |  |  |  |   |  |

**FEDERAL COMMUNICATIONS COMMISSION  
SATELLITE SPACE STATION AUTHORIZATIONS  
FCC Form 312 - Schedule S: (Technical and Operational Description)**

S4. ORBITAL INFORMATION FOR NON-GEOSTATIONARY SATELLITES ONLY

S4a. Total Number of Satellites in Network or System:

S4c. Celestial Reference Body (Earth, Sun, Moon, etc.):

S4b. Total Number of Orbital Planes in Network or System:

S4d. Orbit Epoch Date:

For each Orbital Plane Provide:

| (e) Orbital Plane No. | (f) No. of Satellites in Plane | (g) Inclination Angle (degrees) | (h) Orbital Period (Seconds) | (i) Apogee (km) | (j) Perigee (km) | (k) Right Ascension of the Ascending Node (Deg.) | (l) Argument of Perigee (Degrees) | Active Service Arc Range (Degrees) |               |           |
|-----------------------|--------------------------------|---------------------------------|------------------------------|-----------------|------------------|--|-----------------------------------|------------------------------------|---------------|-----------|
|                       |                                |                                 |                              |                 |                  |  |                                   | (m) Begin Angle                    | (n) End Angle | (o) Other |
|                       |                                |                                 |                              |                 |                  |  |                                   |                                    |               |           |

S5. INITIAL SATELLITE PHASE ANGLE For each satellite in each orbital plane, provide the initial phase angle.

| (a) Orbital Plane No. | (b) Satellite Number | (c) Initial Phase Angle (Degrees) |
|-----------------------|----------------------|-----------------------------------|
|                       |                      |                                   |

**NO NGSO DATA FILED**

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S6. SERVICE AREA CHARACTERISTICS for each service area provide:

| (a) Service Area ID | (b) Type of Associated Station (Earth or Space) | (c) Service Area Diagram File Name (GXT File) | (d) Service Area Description. Provide list of geographic areas (state postal codes or ITU 3-ltr codes), satellites or Figure No. of Service Area Diagram. |
|---------------------|---|---|---|
| CONT                | E   |   | -4DB, CONUS   |
| S01T                | E   |   | -4DB  |
| S01R                | S   |   | -4DB  |
| S02T                | E   |   | -4DB  |
| S02R                | S   |   | -4DB  |
| S03T                | E   |   | -4DB  |
| S03R                | S   |   | -4DB  |
| S04T                | E   |   | -4DB  |
| S04R                | S   |   | -4DB  |
| S05T                | E   |   | -4DB  |
| S05R                | S   |   | -4DB  |
| S06T                | E   |   | -4DB  |
| S06R                | S   |   | -4DB  |
| S07T                | E   |   | -4DB  |
| S07R                | S   |   | -4DB  |
| S08T                | E   |   | -4DB  |
| S08R                | S   |   | -4DB  |
| S09T                | E   |   | -4DB  |
| S09R                | S   |   | -4DB  |
| S10T                | E   |   | -4DB  |
| S10R                | S   |   | -4DB  |
| S11T                | E   |   | -4DB  |
| S11R                | S   |   | -4DB  |
| S12T                | E   |   | -4DB  |
| S12R                | S   |   | -4DB  |
| S13T                | E   |   | -4DB  |
| S13R                | S   |   | -4DB  |
| S14T                | E   |   | -4DB  |
| S14R                | S   |   | -4DB  |
| S15T                | E   |   | -4DB  |

|      |   |  |      |
|------|---|--|------|
| S15R | S |  | -4DB |
| S16T | E |  | -4DB |
| S16R | S |  | -4DB |
| S17T | E |  | -4DB |
| S17R | S |  | -4DB |
| S18T | E |  | -4DB |
| S18R | S |  | -4DB |
| S19T | E |  | -4DB |
| S19R | S |  | -4DB |
| S20T | E |  | -4DB |
| S20R | S |  | -4DB |
| S21T | E |  | -4DB |
| S21R | S |  | -4DB |
| S22T | E |  | -4DB |
| S22R | S |  | -4DB |
| S23T | E |  | -4DB |
| S23R | S |  | -4DB |
| S24T | E |  | -4DB |
| S24R | S |  | -4DB |
| S25T | E |  | -4DB |
| S25R | S |  | -4DB |
| S26T | E |  | -4DB |
| S26R | S |  | -4DB |
| S27T | E |  | -4DB |
| S27R | S |  | -4DB |
| S28T | E |  | -4DB |
| S28R | S |  | -4DB |
| S29T | E |  | -4DB |
| S29R | S |  | -4DB |
| S30T | E |  | -4DB |
| S30R | S |  | -4DB |
| S31T | E |  | -4DB |
| S31R | S |  | -4DB |
| S32T | E |  | -4DB |
| S32R | S |  | -4DB |
| S33T | E |  | -4DB |
| S33R | S |  | -4DB |
| S34T | E |  | -4DB |
| S34R | S |  | -4DB |

|      |   |  |      |
|------|---|--|------|
| S35T | E |  | -4DB |
| S35R | S |  | -4DB |
| S36T | E |  | -4DB |
| S36R | S |  | -4DB |
| S37T | E |  | -4DB |
| S37R | S |  | -4DB |
| S38T | E |  | -4DB |
| S38R | S |  | -4DB |
| S39T | E |  | -4DB |
| S39R | S |  | -4DB |
| S40T | E |  | -4DB |
| S40R | S |  | -4DB |
| S41T | E |  | -4DB |
| S41R | S |  | -4DB |
| S42T | E |  | -4DB |
| S42R | S |  | -4DB |
| S43T | E |  | -4DB |
| S43R | S |  | -4DB |
| S44T | E |  | -4DB |
| S44R | S |  | -4DB |
| S45T | E |  | -4DB |
| S45R | S |  | -4DB |
| S46T | E |  | -4DB |
| S46R | S |  | -4DB |
| S47T | E |  | -4DB |
| S47R | S |  | -4DB |
| S48T | E |  | -4DB |
| S48R | S |  | -4DB |
| S49T | E |  | -4DB |
| S49R | S |  | -4DB |
| S50T | E |  | -4DB |
| S50R | S |  | -4DB |
| S51T | E |  | -4DB |
| S51R | S |  | -4DB |
| S52T | E |  | -4DB |
| S52R | S |  | -4DB |
| S53T | E |  | -4DB |
| S53R | S |  | -4DB |
| S54T | E |  | -4DB |

|      |   |  |        |
|------|---|--|--------|
| S54R | S |  | -4DB   |
| GBLT | E |  | GLOBAL |
| GBLR | S |  | GLOBAL |

**FEDERAL COMMUNICATIONS COMMISSION**  
**SATELLITE SPACE STATION AUTHORIZATIONS**  
**FCC Form 312 - Schedule S: (Technical and Operational Description)**

S7. SPACE STATION ANTENNA BEAM CHARACTERISTICS For each antenna beam provide:

| (a)<br>Beam<br>ID | (b)<br>T/R<br>Mode | (c) Isotropic Antenna Gain |                   | (e)<br>Pointing<br>Error<br>(Degrees) | (f)<br>Rotational<br>Error<br>(Degrees) | (g) Min.<br>Cross-<br>Polar Iso-<br>lation (dB) | (h) Polar-<br>ization<br>Switch-<br>able?<br>(Y/N) | (i) Polarization<br>Alignment Rel.<br>Equatorial<br>Plane (Degrees) | (j) Service<br>Area ID | Transmit                       |                                      |                              | Receive                            |                                       |  | Input Attenuator (dB) |                  |
|-------------------|--------------------|----------------------------|-------------------|---------------------------------------|---|---|--|---|------------------------|--------------------------------|--------------------------------------|------------------------------|------------------------------------|---------------------------------------|--|-----------------------|------------------|
|                   |                    | (c) Peak<br>(dBi)          | (d) Edge<br>(dBi) |                                       |   |   |  |   |                        | (k)<br>Input<br>Losses<br>(dB) | (l) Effective<br>Output<br>Power (W) | (m)<br>Max.<br>EIRP<br>(dBW) | (n)<br>System<br>Noise<br>Temp (k) | (o) G/T<br>Max.<br>Gain Pt.<br>(db/K) | (p) Min.<br>Saturation<br>Flux Density<br>(dBW/m2) | (q) Max.<br>Value     | (r) Step<br>Size |
|                   |                    |                            |                   |                                       |   |   |  |   |                        |                                |                                      |                              |                                    |                                       |  |                       |                  |
| S01T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S01T                   | 2.5                            | 2.94                                 | 54.08                        |                                    |                                       |  |                       |                  |
| S02T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S02T                   | 2.5                            | 3.29                                 | 54.57                        |                                    |                                       |  |                       |                  |
| S03T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S03T                   | 2.5                            | 2.68                                 | 53.68                        |                                    |                                       |  |                       |                  |
| S04T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S04T                   | 2.5                            | 3.25                                 | 54.52                        |                                    |                                       |  |                       |                  |
| S05T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S05T                   | 2.5                            | 3.96                                 | 55.38                        |                                    |                                       |  |                       |                  |
| S06T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S06T                   | 2.5                            | 2.82                                 | 53.9                         |                                    |                                       |  |                       |                  |
| S07T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S07T                   | 2.5                            | 2.67                                 | 53.67                        |                                    |                                       |  |                       |                  |
| S08T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S08T                   | 2.5                            | 4.48                                 | 55.91                        |                                    |                                       |  |                       |                  |
| S09T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S09T                   | 2.5                            | 3.23                                 | 54.49                        |                                    |                                       |  |                       |                  |
| S10T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S10T                   | 2.5                            | 4.28                                 | 55.71                        |                                    |                                       |  |                       |                  |
| S11T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S11T                   | 2.5                            | 3.48                                 | 3.4                          |                                    |                                       |  |                       |                  |
| S12T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S12T                   | 2.5                            | 3.4                                  | 54.71                        |                                    |                                       |  |                       |                  |
| S13T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S13T                   | 2.5                            | 7.55                                 | 58.18                        |                                    |                                       |  |                       |                  |
| S14T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S14T                   | 2.5                            | 3.4                                  | 54.71                        |                                    |                                       |  |                       |                  |
| S15T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S15T                   | 2.5                            | 3.03                                 | 54.22                        |                                    |                                       |  |                       |                  |
| S16T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S16T                   | 2.5                            | 5.98                                 | 57.17                        |                                    |                                       |  |                       |                  |
| S17T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S17T                   | 2.5                            | 1.56                                 | 51.32                        |                                    |                                       |  |                       |                  |
| S18T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S18T                   | 2.5                            | 5.52                                 | 56.82                        |                                    |                                       |  |                       |                  |
| S19T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S19T                   | 2.5                            | 3.01                                 | 54.18                        |                                    |                                       |  |                       |                  |
| S20T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S20T                   | 2.5                            | 5.7                                  | 56.96                        |                                    |                                       |  |                       |                  |
| S21T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S21T                   | 2.5                            | 3.72                                 | 55.1                         |                                    |                                       |  |                       |                  |
| S22T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S22T                   | 2.5                            | 2.11                                 | 52.65                        |                                    |                                       |  |                       |                  |
| S23T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S23T                   | 2.5                            | 1.52                                 | 51.23                        |                                    |                                       |  |                       |                  |
| S24T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S24T                   | 2.5                            | 8.15                                 | 58.51                        |                                    |                                       |  |                       |                  |
| S25T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S25T                   | 2.5                            | 4.24                                 | 55.67                        |                                    |                                       |  |                       |                  |
| S26T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S26T                   | 2.5                            | 3.17                                 | 54.41                        |                                    |                                       |  |                       |                  |
| S27T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S27T                   | 2.5                            | 2.61                                 | 53.56                        |                                    |                                       |  |                       |                  |
| S28T              | T                  | 49.4                       | 45.4              | 0.05                                  | 0.05                                    | 35  | N  |   | S28T                   | 2.5                            | 2.48                                 | 53.35                        |                                    |                                       |  |                       |                  |

|      |   |      |      |      |      |    |   |  |      |     |      |       |     |      |        |    |   |
|------|---|------|------|------|------|----|---|--|------|-----|------|-------|-----|------|--------|----|---|
| S29T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S29T | 2.5 | 2.11 | 52.64 |     |      |        |    |   |
| S30T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S30T | 2.5 | 1.5  | 51.16 |     |      |        |    |   |
| S31T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S31T | 2.5 | 1.99 | 52.38 |     |      |        |    |   |
| S32T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S32T | 2.5 | 1.14 | 49.98 |     |      |        |    |   |
| S33T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S33T | 2.5 | 1.52 | 51.21 |     |      |        |    |   |
| S34T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S34T | 2.5 | 3.05 | 54.24 |     |      |        |    |   |
| S35T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S35T | 2.5 | 2.45 | 53.3  |     |      |        |    |   |
| S36T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S36T | 2.5 | 1.77 | 51.87 |     |      |        |    |   |
| S37T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S37T | 2.5 | 1.59 | 51.41 |     |      |        |    |   |
| S38T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S38T | 2.5 | 1.35 | 50.71 |     |      |        |    |   |
| S39T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S39T | 2.5 | 2.75 | 53.79 |     |      |        |    |   |
| S40T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S40T | 2.5 | 2.08 | 52.58 |     |      |        |    |   |
| S41T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S41T | 2.5 | 1.27 | 50.43 |     |      |        |    |   |
| S42T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S42T | 2.5 | 2.19 | 52.8  |     |      |        |    |   |
| S43T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S43T | 2.5 | 2.4  | 53.21 |     |      |        |    |   |
| S44T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S44T | 2.5 | 2.17 | 52.77 |     |      |        |    |   |
| S03R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S03R |     |      |       | 912 | 19.8 | -72.3  | 15 | 1 |
| S04R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S04R |     |      |       | 912 | 19.8 | -68.71 | 15 | 1 |
| S05R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S05R |     |      |       | 912 | 19.8 | -65.23 | 15 | 1 |
| S06R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S06R |     |      |       | 912 | 19.8 | -71.34 | 15 | 1 |
| S07R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S07R |     |      |       | 912 | 19.8 | -71.96 | 15 | 1 |
| S08R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S08R |     |      |       | 912 | 19.8 | -63.48 | 15 | 1 |
| S09R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S09R |     |      |       | 912 | 19.8 | -69.07 | 15 | 1 |
| S10R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S10R |     |      |       | 912 | 19.8 | -63.82 | 15 | 1 |
| S11R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S11R |     |      |       | 912 | 19.8 | -67.51 | 15 | 1 |
| S12R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S12R |     |      |       | 912 | 19.8 | -67.03 | 15 | 1 |
| S13R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S13R |     |      |       | 912 | 19.8 | -53.15 | 15 | 1 |
| S14R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S14R |     |      |       | 912 | 19.8 | -67.83 | 15 | 1 |
| S15R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S15R |     |      |       | 912 | 19.8 | -70.84 | 15 | 1 |
| S16R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S16R |     |      |       | 912 | 19.8 | 57.81  | 15 | 1 |
| S17R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S17R |     |      |       | 912 | 19.8 | -78.51 | 15 | 1 |
| S18R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S18R |     |      |       | 912 | 19.8 | -58.93 | 15 | 1 |
| S19R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S19R |     |      |       | 912 | 19.8 | -69.29 | 15 | 1 |
| S20R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S20R |     |      |       | 912 | 19.8 | -58.47 | 15 | 1 |
| S21R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S21R |     |      |       | 912 | 19.8 | -66    | 15 | 1 |
| S22R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S22R |     |      |       | 912 | 19.8 | -74.96 | 15 | 1 |
| S23R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S23R |     |      |       | 912 | 19.8 | -79.61 | 15 | 1 |
| S24R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S24R |     |      |       | 912 | 19.8 | -51.39 | 15 | 1 |
| S25R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S25R |     |      |       | 912 | 19.8 | -62.97 | 15 | 1 |



|      |   |      |      |      |      |    |   |  |  |     |      |       |      |        |    |   |
|------|---|------|------|------|------|----|---|--|--|-----|------|-------|------|--------|----|---|
| S26R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -69.31 | 15 | 1 |
| S27R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -73.05 | 15 | 1 |
| S28R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -71.8  | 15 | 1 |
| S29R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -75.46 | 15 | 1 |
| S30R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -79.52 | 15 | 1 |
| S31R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -75.33 | 15 | 1 |
| S32R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -81.86 | 15 | 1 |
| S33R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -78.46 | 15 | 1 |
| S34R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -68.68 | 15 | 1 |
| S35R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -72.62 | 15 | 1 |
| S36R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -77.08 | 15 | 1 |
| S37R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -78.17 | 15 | 1 |
| S38R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -80.91 | 15 | 1 |
| S39R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -70.28 | 15 | 1 |
| S40R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -75.59 | 15 | 1 |
| S41R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -81.22 | 15 | 1 |
| S42R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -73.99 | 15 | 1 |
| S43R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -72.68 | 15 | 1 |
| S44R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -75.17 | 15 | 1 |
| S45R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -82.09 | 15 | 1 |
| S46R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -73.54 | 15 | 1 |
| S47R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -81.16 | 15 | 1 |
| S48R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -77.32 | 15 | 1 |
| S49R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -79.8  | 15 | 1 |
| S50R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -77.26 | 15 | 1 |
| S51R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -75.77 | 15 | 1 |
| S52R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -81.72 | 15 | 1 |
| S53R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -79.93 | 15 | 1 |
| S54R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  |     |      | 912   | 19.8 | -74.7  | 15 | 1 |
| GBB  | T | 16   | 16   | 0.05 | 0.05 | 35 | N |  |  | 2.5 | 0.32 | 11    |      |        |    |   |
| GBT  | T | 16   | 16   | 0.05 | 0.05 | 35 | N |  |  | 2.5 | 0.59 | 13.7  |      |        |    |   |
| GBC  | R | 16   | 16   | 0.05 | 0.05 | 35 | N |  |  |     |      |       | 794  | -13    |    |   |
| S45T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  | 2.5 | 1.17 | 50.1  |      |        |    |   |
| S46T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  | 2.5 | 2.48 | 53.35 |      |        |    |   |
| S47T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  | 2.5 | 1.25 | 50.38 |      |        |    |   |
| S48T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  | 2.5 | 1.76 | 51.86 |      |        |    |   |
| S49T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  | 2.5 | 1.41 | 50.88 |      |        |    |   |
| S50T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  | 2.5 | 1.82 | 52.01 |      |        |    |   |
| S51T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  |  | 2.5 | 2    | 52.4  |      |        |    |   |

|      |   |      |      |      |      |    |   |  |      |     |      |       |     |      |        |    |   |
|------|---|------|------|------|------|----|---|--|------|-----|------|-------|-----|------|--------|----|---|
| S52T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S52T | 2.5 | 1.2  | 50.19 |     |      |        |    |   |
| S53T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S53T | 2.5 | 1.47 | 51.06 |     |      |        |    |   |
| S54T | T | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S54T | 2.5 | 2.22 | 52.86 |     |      |        |    |   |
| S01R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S01R |     |      |       | 912 | 19.8 | -70.62 | 15 | 1 |
| S02R | R | 49.4 | 45.4 | 0.05 | 0.05 | 35 | N |  | S02R |     |      |       | 912 | 19.8 | -68.71 | 15 | 1 |

**FEDERAL COMMUNICATIONS COMMISSION**  
**SATELLITE SPACE STATION AUTHORIZATIONS**  
**FCC Form 312 - Schedule S: (Technical and Operational Description)**

S8. ANTENNA BEAM DIAGRAMS For each beam pattern provide the reference to the graphic image and numerical data:  
 Also provide the power flux density levels in each beam that result from the emission with the highest power flux density.

| (a)<br>Beam<br>ID | (b)<br>T/R<br>Mode | (c) Co-or<br>Cross<br>Polar<br>Mode ("C"<br>or" X") | (d) GSO<br>Ref.<br>Orbital<br>Longitude<br>(Deg. E/W) | (e) NGSO Antenna Gain<br>Contour Description<br>(Figure/Table/ Exhibit) | (f) GSO Antenna<br>Gain Contour Data<br>(GXT File) | Max. Power Flux Density (dBW/M2/Hz)                                  |            |            |            |            |
|-------------------|--------------------|---|---|---|--|--|------------|------------|------------|------------|
|                   |                    |   |   |   |  | At Angle of Arrival above horizontal (for emission with highest PFD) |            |            |            |            |
|                   |                    |   |   |   |  | (g) 5 Deg  | (h) 10 Deg | (i) 15 Deg | (j) 20 Deg | (k) 25 Deg |
| CON               | T                  | C   | -101  |   | GASUS CONUS 101.                                   | -142.9   | -142.8     | -141.6     | -130.3     | -125.2     |
| S01T              | T                  | C   | -101  |   |  | -142.6   | -141.3     | -132       | -123.3     | -117.1     |

**FEDERAL COMMUNICATIONS COMMISSION**  
**SATELLITE SPACE STATION AUTHORIZATIONS**  
**FCC Form 312 - Schedule S: (Technical and Operational Description)**

S9. SPACE STATION CHANNELS For each frequency channel provide: S10. SPACE STATION TRANSPONDERS For each transponder provide:

| (a) Channel No. | (B) Assigned Bandwidth (kHz) | (c) T/R Mode | (d) Center Frequency (MHz) | (e) Polarization (H, V, L, R) | (f) TTC or Comm Channel (T or C) |
|-----------------|------------------------------|--------------|----------------------------|-------------------------------|----------------------------------|
| DR001           | 27000                        | T            | 17321.75                   | R                             | C                                |
| DR002           | 27000                        | T            | 17352                      | R                             | C                                |
| DR003           | 27000                        | T            | 17382.25                   | R                             | C                                |
| DR004           | 27000                        | T            | 17412.5                    | R                             | C                                |
| DR005           | 27000                        | T            | 17442.75                   | R                             | C                                |
| DR006           | 27000                        | T            | 17473                      | R                             | C                                |
| DR007           | 27000                        | T            | 17503.25                   | R                             | C                                |
| DR008           | 27000                        | T            | 17533.5                    | R                             | C                                |
| DR009           | 27000                        | T            | 17563.75                   | R                             | C                                |
| DR010           | 27000                        | T            | 17594                      | R                             | C                                |
| DR011           | 27000                        | T            | 17624.25                   | R                             | C                                |
| DR012           | 27000                        | T            | 17654.5                    | R                             | C                                |
| DR013           | 27000                        | T            | 17684.75                   | R                             | C                                |
| DR014           | 27000                        | T            | 17715                      | R                             | C                                |
| DR015           | 27000                        | T            | 17745.25                   | R                             | C                                |
| DR016           | 27000                        | T            | 17775.5                    | R                             | C                                |
| DL001           | 27000                        | T            | 17321.75                   | L                             | C                                |
| DL002           | 27000                        | T            | 17352                      | L                             | C                                |
| DL003           | 27000                        | T            | 17382.25                   | L                             | C                                |
| DL004           | 27000                        | T            | 17412.5                    | L                             | C                                |
| DL005           | 27000                        | T            | 17442.75                   | L                             | C                                |
| DL006           | 27000                        | T            | 17473                      | L                             | C                                |
| DL007           | 27000                        | T            | 17503.25                   | L                             | C                                |
| DL008           | 27000                        | T            | 17533.5                    | L                             | C                                |
| DL009           | 27000                        | T            | 17563.75                   | L                             | C                                |
| DL010           | 27000                        | T            | 17594                      | L                             | C                                |
| DL011           | 27000                        | T            | 17624.25                   | L                             | C                                |
| DL012           | 27000                        | T            | 17654.5                    | L                             | C                                |
| DL013           | 27000                        | T            | 17684.75                   | L                             | C                                |
| DL014           | 27000                        | T            | 17715                      | L                             | C                                |

| (a) Transponder ID | (b) Transponder Gain (dB) | Receive Band    |             | Transmit Band   |             |
|--------------------|---------------------------|-----------------|-------------|-----------------|-------------|
|                    |                           | (c) Channel No. | (d) Beam ID | (e) Channel No. | (f) Beam ID |
| US001              | 152                       | UL001           | S31R        | DR001           | CONT        |
| US002              | 152                       | UL002           | S31R        | DR002           | CONT        |
| US003              | 152                       | UL003           | S31R        | DR003           | CONT        |
| US004              | 152                       | UL004           | S31R        | DR004           | CONT        |
| US005              | 152                       | UL005           | S31R        | DR005           | CONT        |
| US006              | 152                       | UL006           | S31R        | DR006           | CONT        |
| US007              | 152                       | UL007           | S31R        | DR007           | CONT        |
| US008              | 152                       | UL008           | S31R        | DR008           | CONT        |
| US009              | 152                       | UL009           | S31R        | DR009           | CONT        |
| US010              | 152                       | UL010           | S31R        | DR010           | CONT        |
| US011              | 152                       | UL011           | S31R        | DR011           | CONT        |
| US012              | 152                       | UL012           | S31R        | DR012           | CONT        |
| US013              | 152                       | UL013           | S31R        | DR013           | CONT        |
| US014              | 152                       | UL014           | S31R        | DR014           | CONT        |
| US015              | 152                       | UL015           | S31R        | DR015           | CONT        |
| US016              | 152                       | UL016           | S31R        | DR016           | CONT        |
| US017              | 152                       | UL001           | S32R        | DR001           | CONT        |
| US018              | 152                       | UL002           | S32R        | DR002           | CONT        |
| US019              | 152                       | UL003           | S32R        | DR003           | CONT        |
| US020              | 152                       | UL004           | S32R        | DR004           | CONT        |
| US021              | 152                       | UL005           | S32R        | DR005           | CONT        |
| US022              | 152                       | UL006           | S32R        | DR006           | CONT        |
| US023              | 152                       | UL007           | S32R        | DR007           | CONT        |
| US024              | 152                       | UL008           | S32R        | DR008           | CONT        |
| US025              | 152                       | UL009           | S32R        | DR009           | CONT        |
| US026              | 152                       | UL010           | S32R        | DR010           | CONT        |
| US027              | 152                       | UL011           | S32R        | DR011           | CONT        |
| US028              | 152                       | UL012           | S32R        | DR012           | CONT        |
| US029              | 152                       | UL013           | S32R        | DR013           | CONT        |
| US030              | 152                       | UL014           | S32R        | DR014           | CONT        |

|       |       |   |          |   |   |
|-------|-------|---|----------|---|---|
| DL015 | 27000 | T | 17745.25 | L | C |
| DL016 | 27000 | T | 17775.5  | L | C |
| UL001 | 27000 | R | 24771.75 | L | C |
| UL002 | 27000 | R | 24802    | L | C |
| UL003 | 27000 | R | 24832.25 | L | C |
| UL004 | 27000 | R | 24862.5  | L | C |
| UL005 | 27000 | R | 24892.75 | L | C |
| UL006 | 27000 | R | 24923    | L | C |
| UL007 | 27000 | R | 24953.25 | L | C |
| UL008 | 27000 | R | 24983.5  | L | C |
| UL009 | 27000 | R | 25013.75 | L | C |
| UL010 | 27000 | R | 25044    | L | C |
| UL011 | 27000 | R | 25074.25 | L | C |
| UL012 | 27000 | R | 25104.5  | L | C |
| UL013 | 27000 | R | 25134.75 | L | C |
| UL014 | 27000 | R | 25165    | L | C |
| UL015 | 27000 | R | 25195.25 | L | C |
| UL016 | 27000 | R | 25225.5  | L | C |
| UR001 | 27000 | R | 24771.75 | R | C |
| UR002 | 27000 | R | 24802    | R | C |
| UR003 | 27000 | R | 24832.25 | R | C |
| UR004 | 27000 | R | 24862.5  | R | C |
| UR005 | 27000 | R | 24892.75 | R | C |
| UR006 | 27000 | R | 24923    | R | C |
| UR007 | 27000 | R | 24953.25 | R | C |
| UR008 | 27000 | R | 24983.5  | R | C |
| UR009 | 27000 | R | 25013.75 | R | C |
| UR010 | 27000 | R | 25044    | R | C |
| UR011 | 27000 | R | 25074.25 | R | C |
| UR012 | 27000 | R | 25104.5  | R | C |
| UR013 | 27000 | R | 25134.75 | R | C |
| UR014 | 27000 | R | 25165    | R | C |
| UR015 | 27000 | R | 25195.25 | R | C |
| UR016 | 27000 | R | 25225.5  | R | C |
| BCN   | 1     | T | 17795.0  |   | T |
| TLM   | 316   | T | 17303    |   | T |
| CMD   | 2000  | R | 24754    |   | T |

|       |     |       |      |       |      |
|-------|-----|-------|------|-------|------|
| US031 | 152 | UL015 | S32R | DR015 | CONT |
| US032 | 152 | UL016 | S32R | DR016 | CONT |
| B0001 | 152 | UR002 | S01R | DL002 | S01T |
| B0002 | 152 | UR006 | S01R | DL006 | S01T |
| B0003 | 152 | UR010 | S01R | DL010 | S01T |
| B0004 | 152 | UR014 | S01R | DL014 | S01T |
| B0005 | 152 | UR002 | S04R | DL002 | S04T |
| B0006 | 152 | UR006 | S04R | DL006 | S04T |
| B0007 | 152 | UR010 | S04R | DL010 | S04T |
| B0008 | 152 | UR014 | S04R | DL014 | S04T |
| B0009 | 152 | UR002 | S12R | DL002 | S12T |
| B0010 | 152 | UR006 | S12R | DL006 | S12T |
| B0011 | 152 | UR010 | S12R | DL010 | S12T |
| B0012 | 152 | UR014 | S12R | DL014 | S12T |
| B0013 | 152 | UR002 | S14R | DL002 | S14T |
| B0014 | 152 | UR006 | S14R | DL006 | S14T |
| B0015 | 152 | UR010 | S14R | DL010 | S14T |
| B0016 | 152 | UR014 | S14R | DL014 | S14T |
| B0017 | 152 | UR002 | S20R | DL002 | S20T |
| B0018 | 152 | UR006 | S20R | DL006 | S20T |
| B0019 | 152 | UR010 | S20R | DL010 | S20T |
| B0020 | 152 | UR014 | S20R | DL014 | S20T |
| B0021 | 152 | UR002 | S22R | DL002 | S22T |
| B0022 | 152 | UR006 | S22R | DL006 | S22T |
| B0023 | 152 | UR010 | S22R | DL010 | S22T |
| B0024 | 152 | UR014 | S22R | DL014 | S22T |
| B0025 | 152 | UR002 | S23R | DL002 | S23T |
| B0026 | 152 | UR006 | S23R | DL006 | S23T |
| B0027 | 152 | UR010 | S23R | DL010 | S23T |
| B0028 | 152 | UR014 | S23R | DL014 | S23T |
| B0029 | 152 | UR002 | S33R | DL002 | S33T |
| B0030 | 152 | UR006 | S33R | DL006 | S33T |
| B0031 | 152 | UR010 | S33R | DL010 | S33T |
| B0032 | 152 | UR014 | S33R | DL014 | S33T |
| B0033 | 152 | UR002 | S36R | DL002 | S36T |
| B0034 | 152 | UR006 | S36R | DL006 | S36T |
| B0035 | 152 | UR010 | S36R | DL010 | S36T |
| B0036 | 152 | UR014 | S36R | DL014 | S36T |
| B0037 | 152 | UR002 | S39R | DL002 | S39T |

|       |     |       |      |       |      |
|-------|-----|-------|------|-------|------|
| B0038 | 152 | UR006 | S39R | DL006 | S39T |
| B0039 | 152 | UR010 | S39R | DL010 | S39T |
| B0040 | 152 | UR014 | S39R | DL014 | S39T |
| B0041 | 152 | UR002 | S40R | DL002 | S40T |
| B0042 | 152 | UR006 | S40R | DL006 | S40T |
| B0043 | 152 | UR010 | S40R | DL010 | S40T |
| B0044 | 152 | UR014 | S40R | DL014 | S40T |
| B0045 | 152 | UR002 | S44R | DL002 | S44T |
| B0046 | 152 | UR006 | S44R | DL006 | S44T |
| B0047 | 152 | UR010 | S44R | DL010 | S44T |
| B0048 | 152 | UR014 | S44R | DL014 | S44T |
| B0049 | 152 | UR002 | S47R | DL002 | S47T |
| B0050 | 152 | UR006 | S47R | DL006 | S47T |
| B0051 | 152 | UR010 | S47R | DL010 | S47T |
| B0052 | 152 | UR014 | S47R | DL014 | S47T |
| B0053 | 152 | UR002 | S53R | DL002 | S53T |
| B0054 | 152 | UR006 | S53R | DL006 | S53T |
| B0055 | 152 | UR010 | S53R | DL010 | S53T |
| B0056 | 152 | UR014 | S53R | DL014 | S53T |
| A0001 | 152 | UR001 | S02R | DL001 | S02T |
| A0002 | 152 | UR005 | S02R | DL005 | S02T |
| A0003 | 152 | UR009 | S02R | DL009 | S02T |
| A0004 | 152 | UR013 | S02R | DL013 | S02T |
| A0005 | 152 | UR001 | S11R | DL001 | S11T |
| A0006 | 152 | UR005 | S11R | DL005 | S11T |
| A0007 | 152 | UR009 | S11R | DL009 | S11T |
| A0008 | 152 | UR013 | S11R | DL013 | S11T |
| A0009 | 152 | UR001 | S16R | DL001 | S16T |
| A0010 | 152 | UR005 | S16R | DL005 | S16T |
| A0011 | 152 | UR009 | S16R | DL009 | S16T |
| A0012 | 152 | UR013 | S16R | DL013 | S16T |
| A0013 | 152 | UR001 | S18R | DL001 | S18T |
| A0014 | 152 | UR005 | S18R | DL005 | S18T |
| A0015 | 152 | UR009 | S18R | DL009 | S18T |
| A0016 | 152 | UR013 | S18R | DL013 | S18T |
| A0017 | 152 | UR001 | S24R | DL001 | S24T |
| A0018 | 152 | UR005 | S24R | DL005 | S24T |
| A0019 | 152 | UR009 | S24R | DL009 | S24T |
| A0020 | 152 | UR013 | S24R | DL013 | S24T |

|       |     |       |      |       |      |
|-------|-----|-------|------|-------|------|
| A0021 | 152 | UR001 | S27R | DL001 | S27T |
| A0022 | 152 | UR005 | S27R | DL005 | S27T |
| A0023 | 152 | UR009 | S27R | DL009 | S27T |
| A0024 | 152 | UR013 | S27R | DL013 | S27T |
| A0025 | 152 | UR001 | S28R | DL001 | S28T |
| A0026 | 152 | UR005 | S28R | DL005 | S28T |
| A0027 | 152 | UR009 | S28R | DL009 | S28T |
| A0028 | 152 | UR013 | S28R | DL013 | S28T |
| A0029 | 152 | UR001 | S29R | DL001 | S29T |
| A0030 | 152 | UR005 | S29R | DL005 | S29T |
| A0031 | 152 | UR009 | S29R | DL009 | S29T |
| A0032 | 152 | UR013 | S29R | DL013 | S29T |
| A0033 | 152 | UR001 | S32R | DL001 | S32T |
| A0034 | 152 | UR005 | S32R | DL005 | S32T |
| A0035 | 152 | UR009 | S32R | DL009 | S32T |
| A0036 | 152 | UR013 | S32R | DL013 | S32T |
| A0037 | 152 | UR001 | S34R | DL001 | S34T |
| A0038 | 152 | UR005 | S34R | DL005 | S34T |
| A0039 | 152 | UR009 | S34R | DL009 | S34T |
| A0040 | 152 | UR013 | S34R | DL013 | S34T |
| A0041 | 152 | UR001 | S35R | DL001 | S35T |
| A0042 | 152 | UR005 | S35R | DL005 | S35T |
| A0043 | 152 | UR009 | S35R | DL009 | S35T |
| A0044 | 152 | UR013 | S35R | DL013 | S35T |
| A0045 | 152 | UR001 | S38R | DL001 | S38T |
| A0046 | 152 | UR005 | S38R | DL005 | S38T |
| A0047 | 152 | UR009 | S38R | DL009 | S38T |
| A0048 | 152 | UR013 | S38R | DL013 | S38T |
| A0049 | 152 | UR001 | S46R | DL001 | S46T |
| A0050 | 152 | UR005 | S46R | DL005 | S46T |
| A0051 | 152 | UR009 | S46R | DL009 | S46T |
| A0052 | 152 | UR013 | S46R | DL013 | S46T |
| A0053 | 152 | UR001 | S49R | DL001 | S49T |
| A0054 | 152 | UR005 | S49R | DL005 | S49T |
| A0055 | 152 | UR009 | S49R | DL009 | S49T |
| A0056 | 152 | UR013 | S49R | DL013 | S49T |
| A0057 | 152 | UR001 | S50R | DL001 | S50T |
| A0058 | 152 | UR005 | S50R | DL005 | S50T |
| A0059 | 152 | UR009 | S50R | DL009 | S50T |

|       |     |       |      |       |      |
|-------|-----|-------|------|-------|------|
| A0060 | 152 | UR013 | S50R | DL013 | S50T |
| A0061 | 152 | UR001 | S52R | DL001 | S52T |
| A0062 | 152 | UR005 | S52R | DL005 | S52T |
| A0063 | 152 | UR009 | S52R | DL009 | S52T |
| A0064 | 152 | UR013 | S52R | DL013 | S52T |
| C0001 | 152 | UR003 | S03R | DL003 | S03T |
| C0002 | 152 | UR007 | S03R | DL007 | S03T |
| C0003 | 152 | UR011 | S03R | DL011 | S03T |
| C0004 | 152 | UR015 | S03R | DL015 | S03T |
| C0005 | 152 | UR003 | S05R | DL003 | S05T |
| C0006 | 152 | UR007 | S05R | DL007 | S05T |
| C0007 | 152 | UR011 | S05R | DL011 | S05T |
| C0008 | 152 | UR015 | S05R | DL015 | S05T |
| C0009 | 152 | UR003 | S07R | DL003 | S07T |
| C0010 | 152 | UR007 | S07R | DL007 | S07T |
| C0011 | 152 | UR011 | S07R | DL011 | S07T |
| C0012 | 152 | UR015 | S07R | DL015 | S07T |
| C0013 | 152 | UR003 | S13R | DL003 | S13T |
| C0014 | 152 | UR007 | S13R | DL007 | S13T |
| C0015 | 152 | UR011 | S13R | DL011 | S13T |
| C0016 | 152 | UR015 | S13R | DL015 | S13T |
| C0017 | 152 | UR003 | S17R | DL003 | S17T |
| C0018 | 152 | UR007 | S17R | DL007 | S17T |
| C0019 | 152 | UR011 | S17R | DL011 | S17T |
| C0020 | 152 | UR015 | S17R | DL015 | S17T |
| C0021 | 152 | UR003 | S21R | DL003 | S21T |
| C0022 | 152 | UR007 | S21R | DL007 | S21T |
| C0023 | 152 | UR011 | S21R | DL011 | S21T |
| C0024 | 152 | UR015 | S21R | DL015 | S21T |
| C0025 | 152 | UR003 | S25R | DL003 | S25T |
| C0026 | 152 | UR007 | S25R | DL007 | S25T |
| C0027 | 152 | UR011 | S25R | DL011 | S25T |
| C0028 | 152 | UR015 | S25R | DL015 | S25T |
| C0029 | 152 | UR003 | S26R | DL003 | S26T |
| C0030 | 152 | UR007 | S26R | DL007 | S26T |
| C0031 | 152 | UR011 | S26R | DL011 | S26T |
| C0032 | 152 | UR015 | S26R | DL015 | S26T |
| C0033 | 152 | UR003 | S37R | DL003 | S37T |
| C0034 | 152 | UR007 | S37R | DL007 | S37T |



|       |     |       |      |       |      |
|-------|-----|-------|------|-------|------|
| C0035 | 152 | UR011 | S37R | DL011 | S37T |
| C0036 | 152 | UR015 | S37R | DL015 | S37T |
| C0037 | 152 | UR003 | S43R | DL003 | S43T |
| C0038 | 152 | UR007 | S43R | DL007 | S43T |
| C0039 | 152 | UR011 | S43R | DL011 | S43T |
| C0040 | 152 | UR015 | S43R | DL015 | S43T |
| C0041 | 152 | UR003 | S45R | DL003 | S45T |
| C0042 | 152 | UR007 | S45R | DL007 | S45T |
| C0043 | 152 | UR011 | S45R | DL011 | S45T |
| C0044 | 152 | UR015 | S45R | DL015 | S45T |
| C0045 | 152 | UR003 | S48R | DL003 | S48T |
| C0046 | 152 | UR007 | S48R | DL007 | S48T |
| C0047 | 152 | UR011 | S48R | DL011 | S48T |
| C0048 | 152 | UR015 | S48R | DL015 | S48T |
| C0049 | 152 | UR003 | S54R | DL003 | S54T |
| C0050 | 152 | UR007 | S54R | DL007 | S54T |
| C0051 | 152 | UR011 | S54R | DL011 | S54T |
| C0052 | 152 | UR015 | S54R | DL015 | S54T |
| D0001 | 152 | UR004 | S06R | DL004 | S06T |
| D0002 | 152 | UR008 | S06R | DL008 | S06T |
| D0003 | 152 | UR012 | S06R | DL012 | S06T |
| D0004 | 152 | UR016 | S06R | DL016 | S06T |
| D0005 | 152 | UR004 | S08R | DL004 | S08T |
| D0006 | 152 | UR008 | S08R | DL008 | S08T |
| D0007 | 152 | UR012 | S08R | DL012 | S08T |
| D0008 | 152 | UR016 | S08R | DL016 | S08T |
| D0009 | 152 | UR004 | S09R | DL004 | S09T |
| D0010 | 152 | UR008 | S09R | DL008 | S09T |
| D0011 | 152 | UR012 | S09R | DL012 | S09T |
| D0012 | 152 | UR016 | S09R | DL016 | S09T |
| D0013 | 152 | UR004 | S10R | DL004 | S10T |
| D0014 | 152 | UR008 | S10R | DL008 | S10T |
| D0015 | 152 | UR012 | S10R | DL012 | S10T |
| D0016 | 152 | UR016 | S10R | DL016 | S10T |
| D0017 | 152 | UR004 | S15R | DL004 | S15T |
| D0018 | 152 | UR008 | S15R | DL008 | S15T |
| D0019 | 152 | UR012 | S15R | DL012 | S15T |
| D0020 | 152 | UR016 | S15R | DL016 | S15T |
| D0021 | 152 | UR004 | S19R | DL004 | S19T |

|       |     |       |      |       |      |
|-------|-----|-------|------|-------|------|
| D0022 | 152 | UR008 | S19R | DL008 | S19T |
| D0023 | 152 | UR012 | S19R | DL012 | S19T |
| D0024 | 152 | UR016 | S19R | DL016 | S19T |
| D0025 | 152 | UR004 | S30R | DL004 | S30T |
| D0026 | 152 | UR008 | S30R | DL008 | S30T |
| D0027 | 152 | UR012 | S30R | DL012 | S30T |
| D0028 | 152 | UR016 | S30R | DL016 | S30T |
| D0029 | 152 | UR004 | S31R | DL004 | S31T |
| D0030 | 152 | UR008 | S31R | DL008 | S31T |
| D0031 | 152 | UR012 | S31R | DL012 | S31T |
| D0032 | 152 | UR016 | S31R | DL016 | S31T |
| D0033 | 152 | UR004 | S41R | DL004 | S41T |
| D0034 | 152 | UR008 | S41R | DL008 | S41T |
| D0035 | 152 | UR012 | S41R | DL012 | S41T |
| D0036 | 152 | UR016 | S41R | DL016 | S41T |
| D0037 | 152 | UR004 | S42R | DL004 | S42T |
| D0038 | 152 | UR008 | S42R | DL008 | S42T |
| D0039 | 152 | UR012 | S42R | DL012 | S42T |
| D0040 | 152 | UR016 | S42R | DL016 | S42T |
| D0041 | 152 | UR004 | S51R | DL004 | S51T |
| D0042 | 152 | UR008 | S51R | DL008 | S51T |
| D0043 | 152 | UR012 | S51R | DL012 | S51T |
| D0044 | 152 | UR016 | S51R | DL016 | S51T |

**FEDERAL COMMUNICATIONS COMMISSION**  
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S11. DIGITAL MODULATION PARAMETERS For each digital emission provide:

| (a) Digital Mod. ID | (b) Emission Designator | (c) Assigned Bandwidth (kHz) | (d) No. of Phases | (e) Uncoded Data Rate (kbps) | (f) FEC Error Correction Coding Rate | (g) CDMA Processing Gain (dB) | (h) Total C/N Performance Objective (dB) | (i) Single Entry C/I Objective (dB) |
|---------------------|-------------------------|------------------------------|-------------------|------------------------------|--------------------------------------|-------------------------------|--|-------------------------------------|
| 1                   | 27M0G1W                 | 27000                        | 4                 | 36000                        | 0.5                                  |                               | 4.2                                      | 17                                  |
| 2                   | 2M00G2D                 | 2000                         |                   |                              |                                      |                               | 8  | 35                                  |
| 3                   | 316KG2D                 | 316                          |                   |                              |                                      |                               | 8  | 35                                  |



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S13. TYPICAL EMISSIONS For each planned type of emission provide:

| Associated Transponder ID Range<br>(a) Start    (b) End |       | Modulation ID           |                        | (e) Carriers per Transponder | (f) Carrier Spacing (kHz) | (g) Noise Budget Reference (Table No.) | (h) Energy Dispersal Bandwidth (kHz) | Receive Band (Assoc. Transmit Stn)      |   |      | Transmit Band (This Space Station) |      |  |                                |
|---|-------|-------------------------|------------------------|------------------------------|---------------------------|--|--------------------------------------|---|---|------|------------------------------------|------|--|--------------------------------|
|   |       | (c) Digital (Table S11) | (d) Analog (Table S12) |                              |                           |  |                                      | (i) Assoc. Stn. Max. Antenna Gain (dBi) | Assoc. Station Transmit Power (dBW)<br>(j) Min.    (k) Max. |      | EIRP (dBW)<br>(l) Min.    (m) Max. |      | (n) Max. Power Flux Density (dBW/m <sup>2</sup> /Hz) | (o) Assoc. Stn Rec. G/T (dB/K) |
| US001   | US032 | 1                       |                        | 1                            |                           | Noise budget re                        |                                      | 60.47                                   | 4.93  | 13.1 | 54.7                               | 54.7 | -103.8   | 11.44                          |
| A0001   | A0064 | 1                       |                        | 1                            |                           |  |                                      | 60.8                                    | 11.7  | 42.4 | 49.9                               | 59.4 | -103.1   | 11.44                          |
| B0001   | B0056 | 1                       |                        | 1                            |                           |  |                                      | 60.8                                    | 11.7  | 42.4 | 49.9                               | 59.4 | -103.1   | 11.44                          |
| C0001   | C0052 | 1                       |                        | 1                            |                           |  |                                      | 60.8                                    | 11.7  | 42.4 | 49.9                               | 59.4 | -103.1   | 11.44                          |
| D0001   | D0044 | 1                       |                        | 1                            |                           |  |                                      | 60.8                                    | 11.7  | 42.4 | 49.9                               | 59.4 | -103.1   | 11.44                          |

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**Page 10: TT and C**

S14. Is the space station(s) controlled and monitored remotely? If Yes, provide the location and telephone number of the TT and C control point(s): Yes

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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

|  |                                   |   |
|--|-----------------------------------|---|
| S15a. Mass of spacecraft without fuel (kg):<br>3612              | Spacecraft Dimensions<br>(meters) | Probability of Survival to<br>End of Life (0.0 - 1.0) |
| S15b. Mass of fuel and disposables at launch (kg):<br>3114       |                                   |   |
| S15c. Mass of spacecraft and fuel at launch (kg):<br>6756        | S15f. Length (m):<br>3.7          | S15i. Payload:<br>0.9                                 |
| S15d. Mass of fuel, in orbit, at beginning of life (kg):<br>3632 | S15g. Width (m):<br>3.7           | S15j. Bus:<br>0.9                                     |
| S15e. Deployed Area of Solar Array (square meters):<br>148       | S15h. Height (m):<br>43.5         | S15k. Total:<br>0.81                                  |

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

| Spacecraft Subsystem            | Electrical Power (Watts) At Beginning of Life |             | Electrical Power (Watts) At End of Life |             |
|---------------------------------|---|-------------|---|-------------|
|                                 | At Equinox                                    | At Solstice | At Equinox                              | At Solstice |
| Payload (Watts):                | (a): 16800                                    | (f): 16800  | (k): 16800                              | (p): 16800  |
| Bus (Watts):                    | (b): 500                                      | (g): 500    | (l): 500                                | (q): 500    |
| Total (Watts):                  | (c): 17300                                    | (h): 17300  | (m): 17300                              | (r): 17300  |
| Solar Array (Watts):            | (d): 24300                                    | (i): 22500  | (n): 20600                              | (s): 19100  |
| Depth of Battery Discharge (%): | (e) 78 %                                      | (j) 0 %     | (o) 78 %                                | (t) 0 %     |

S17. CERTIFICATIONS:

|  |   |                             |   |
|--|---|-----------------------------|---|
| a. Are the power flux density limits of § 25.208 met?  | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A            |
| b. Are the appropriate service area coverage requirements of § 25.143(b)(ii) and (iii), or § 25.145(c)(1) and (2) met? | <input type="checkbox"/> YES            | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |
| c. Are the frequency tolerances of § 25.202(e) and the out-of-band emission limits of § 25.202(f)(1), (2) and (3) met? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A            |

**In addition to the information required in this Form, the space station applicant is required to provide all the information specified in Section 25.114 of the Commission's rules, 47 C.F.R § 25.114.**